INFLUENCE OF SELECT COMPATIBILITY FACTORS ON TEACHER ENDURANCE AMONG SPECIAL EDUCATION TEACHERS OF PUPILS WITH INTELLECTUAL DIFFERENCES

Thesis
Submitted for the degree of

DOCTOR OF PHILOSOPHY IN EDUCATION

By

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Under the guidance of

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Certificate

This is to certify that the thesis entitled "**INFLUENCE OF SELECT COMPATIBILITY FACTORS ON TEACHER ENDURANCE AMONG SPECIAL EDUCATION TEACHERS OF PUPILS WITH INTELLECTUAL DIFFERENCES**" is an authentic record of research work carried out by **Thankam. P.K,** for the degree of **Doctor of Philosophy in Education of University of Calicut,** under my supervision and guidance and that no part thereof has been presented before for any other Degree, Diploma or Associateship in any other University.

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DECLARATION

I, **Thankam. P.K.**, do hereby declare that this thesis, entitled "**INFLUENCE OF SELECT COMPATIBILITY FACTORS ON TEACHER ENDURANCE AMONG SPECIAL EDUCATION TEACHERS OF PUPILS WITH INTELLECTUAL DIFFERENCES**" is a genuine record of the research work done by me under the supervision of **Dr. P. Usha**, Professor, Department of Education, University of Calicut, and that no part of the thesis has been presented earlier for the award of any other Degree, Diploma or Associateship in any other university.

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.07.2019

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Chapter I

Introduction

- Need and Significance of the Study
- Statement of the Problem
- Definition of Key Terms
- Variables Selected for the Study
- Objectives of the Study
- Hypotheses
- Scope of the Study
- Limitations of the Study
- Organization of the Report

Education at all time stood for developing human worth and independence. Besides the values and vocational benefits attached with, Education always help a person to comprehend the world more meaningfully and able to interact with the subjective realities with ease and wisdom. Today's world is advanced, ever changing and techno emphasized, pupils who can savage through the diversities and difficulties benefited so far, the rest, majority end with despair and tranquility while trying to make a meaningful life. The qualities that garnish human behavior more comfortable and sustainable are today's ambitious preferences than ever. An occupation or profession provides a platform to withstand all atrocities and inadequacies and to lead a fruitful life for a common man but any deviation or differences apart from social norms attached with the workplace or related with personal makeup hinder one's success or effectiveness.

Teaching is a human enterprenuered realm of realities engulf with lots of shortages and advantages while comparing with other profession. Pre service and in service experiences make one's teaching manifestations polished and refined, even though present situation as a teacher in schools or educational institutions can influence the outcome or performance standard. In general education, teachers get great exposure to the changes and innovations that supremize today's teaching- learning process and government and other non government organization are keen to dissipate that knowledge/facilities to regular stream regardless of whether the institution is governed by government or private agencies. But teaching in special education sector is going through in a transcendental phase which urgently need recovery and rejuvenation by

addressing the stagnant realities attached with or by empowering the stakeholders engulfed within the process.

Teaching in today's classrooms is not meant solely for exchanging ideas or producing professionals for tomorrow. Schools are social laboratories where human consciousness is constantly validated and tested. As far as special schools are considered teaching is tedious and unimaginary, any shortcoming or inadequacies happened during training or lack of competencies will reflect in classroom. As a human manipulator teachers should be highly efficacious and resourceful. But the differential and vivid nature of student community makes the role of Special Education Teachers more complex and vulnerable (Sary, 2004). Society demands qualified teachers with professional commitment and responsible behavior.

Special education as the name proclaims is a specialized area of education in which teachers teach students who have physical, cognitive, language, learning, sensory and emotional abilities that deviates from that of general populations. In special education, instructions must be tailored or flexible to meet individual needs, as per the quantity and severeinity of difference. After decades of research and legislation, special education may vary in one's outlook by providing services to students in various settings. The special education spectrum now includes students with intellectual impairment, emotional disturbance, learning disabilities, communication disabilities, physical impairment, autism, traumatic brain injury, other health impairment and multiple disabilities. "Intellectual disabilities are characterized by significant impairment in intellectual functioning and adaptive behavior.

Intellectual disability affects about 2 – 3% of the general population, 75 – 90% of the affected pupil have mild disability with borderline intelligence or IQ scores between 50 - 70% and a quarter of cases are caused by a genetic disorders" (Dailey et al., 2000). Ninety five million people become intellectually disabled around the world by unknown reasons as per global burden of disease study conducted in 2013. People with severe or profound intellectual differences need more support and supervision throughout one's life. Moderate intellectual differences (I Q 38 - 49) can learn only simple health and safety skills, need adequate support in school, home and in the community to lead a comfortable life in the society. Mild or educable intellectual differences (I Q 50 - 70) may not be obvious at infancy and identified only at school because of poor academic performance (Diagnostic and Statistical Manual-5, 2013).

In educational settings especially in school, pupils with mild intellectual differences are common and teachers need expertise, perseverance and determination to handle those pupils effectively and efficiently. Expert assessment is essential to distinguish mild intellectual difference from learning disability or emotional/behavioral disorders and those pupils are capable of learning in reading and practical skills (Dailey, et al., 2000) Besides the shortage of resource persons, lack of productive educational interventions and wrong way of identification and referrals or labeling make the Special Education programs more controversial and corrupted (Idea, 1998) Another unfortunate reality is that when one conduct research to improve a particular aspect in education usually set apart or keep it asides lots

of adjacent realities as unlinked or unattended. This world is not always meant for linear combinations or linear relationships or differences between two phenomena whether the reality is conceived as single or multiple. In teaching too, these notations are so far untouched. Essential Factors necessitated for teaching deduced from cognitive, affective and behavioral spectrum of human behavior are termed as Compatibility Factors in teaching. In spite of the complexity and distinctive character, special teacher education programmes put forward some models which precisely define teacher actions to specific student outcomes. Although some propelling factors that determine one's capability to do something in any field, the Compatibility Factors in teaching - a cluster term encompasses personal, societal and institutional factors in teaching- become more important as these things reveal one's potential as a teacher in any educational enterprise.

Compatibility Factors in teaching is a construct vehemently used, to project four essential factors needed for effective teaching in special school classroom. Socio Emotional Competency Factors in teaching deal with socio emotional make up of teachers which facilitate a comfortable social and emotional environment in educational settings. The pro social class room model put forward by Jennings and Greenberg (2009) proclaimed that teachers socio emotional competency influence students general outcome behavior. In special education sector, teacher's socio emotional connectedness is critical to avoid burnout and promote teachers well being (Martinez, 2018). Recent researches suggest that teacher's socio emotional well being not only influence students behavioral outcomes but also helpful to discharge or to

sustain ones commitment to students, society and oneself as a teacher at large. Socially and emotionally sound teachers can make responsible decisions and supporting interactions and good relations with others (Birch and Ladd; 1998). Evidences from the literature related with teacher's Socio-Emotional Competency reveal that teacher's Socio- Emotional Competency act as a vicarious experience to students to confront with social and emotional setbacks amicably and being a responsible human in future.

The collective experiences from the institution that make quality and character to school life- School Climate- appears to be a salient feature that promote teachers as well as students well being inside school (Thapa et al., 2013). Good School Climate enforce positive interpersonal behavior, connectedness, students achievement and display a pro social atmosphere (Das et al, 2010). In Special Education, teachers navigate through unpredicted behavioral outcomes of students. Definitely School Climate play a vital role in shaping a teacher behavior that is successful and progressive. A number of studies had highlighted the importance of positive staff perceptions of School Climate for high work productivity, staff efficiency and focus on student's success (Bevans, et al., 2007). In teacher education, understanding School Climate is an unprecedented area for better teacher involvement rather overlooked as a factor which stood for student's achievement. Appropriate decision making capabilities, autonomy, open communication with staff and students and higher levels of commitments are aroused out of School Climate Factors in teaching. Definitely School Climate acts as a propeller in successful and efficacious teacher behavior outcomes.

Cognitive and Meta Cognitive Factors in teaching decorates a persons intrapersonal abilities and qualities. Cognition represents one's mental processes related to acquire knowledge and to perceive outside reality and to acknowledge external impulses in a productive way. Whether thinking and reasoning make sense of all human experiences, definitely cognitive and meta cognitive parameters could have an ardent effect on all human activities. Cognitive and Meta Cognitive reasoning abilities are not limited to perceive something or to learn something but to influence collective behavior of an individual in social settings especially in schools. Cognitive and Meta Cognitive research revolves around student's learning and learning difference. Actual teaching is an ongoing learning process in which teachers face situations, involve in processing information and at the same time actively internalize the experience one should meet with, deal with or indulge with. In special school, each student character must be viewed as unique and pre learned theory that should confront with grounded realities, may be later these things will emerge as a grounded theory of one's own, but at the moment teacher has to choose various methods, strategies and techniques to move ahead or overcome. Apart from general education where the whole system is meant for common pupil, even though inclusive ideologies are implemented, very few alternations from normal behavior are expected from pupil. But in special education, the teacher has to learn new behavior patterns, extreme learning styles and to impart life skill techniques to students in order to keep the process of learning forward. Meta cognitive abilities provide self regulation and monitoring habits in teaching and thus cognitive and meta cognitive competencies are an added advantage to work with or handle pupils with intellectual differences. The study focuses on Cognitive

and Meta Cognitive Factors in teaching because that enables a teacher to deal and comprehend well in all sorts of differences related with a person (Flavell, 1979 &1987, Sokha, 2010; Fleming et al., 2012).

Motivation refers to the inner need that drives individual to accomplish personal and organizational goals. It is a psychological process that gives a purpose, direction and a pre disposition to behave in a particular manner to achieve a specific target. Teacher motivation has a distinctive role and unique position while considering employee motivation. The research regarding motivation have had three major stages of development in history: a period of behaviorist paradigms labeled as a period of instrumental motivation (1959 up to 1999), a period marked by cognitive and socio cognitive views in which self determination and self worth theories of motivation emerged (during 1990's) and a period marked as humanistic approach to motivation that examines the idea of possible selves and self actualization (Pintrich, 2003). Teacher motivation has been viewed as an offspring coming out from all the three perceptions and characteristics derived from the stages regarding the idea of motivation. In special education, teacher motivation plays a crucial role in teacher satisfaction. "Teacher motivation essentially depends on the way teachers are deployed, working conditions, teacher status, career advancement, and salaries" (Adelabu, 2008) "Employee motivation is the willingness to exert high level of inspiration to reach organizational goals conditioned by the efforts and the ability to satisfy some individual need" (Robbins and Coulter, 2005). As far as teacher motivation in special school setting is taken into account, self worthiness and governance play a crucial role to sustain one's efforts and deeds against all odds and stigmas. In a diverse, unpredictable

classroom, teacher motivation is an essential thing to uphold and continue, and a corner stone in Compatibility Factors in teaching

Teacher competence can be viewed as one which emerges from three broad domain's of competence: cognitive, inter personal and intra personal. Cognitive and inter personal qualities help a person to hold different career aspirations while intra personal competencies determine the success and effectiveness in any profession. In teaching profession too intra personal qualities provide occupational advancement and sustained commitment to with stand and progress, that is, endurance which is closely associated with intra personal characteristics of a person than cognitive make up, even though inter personal qualities build a frame work to behave in a socially accepted manner in all human settings. In teacher behavior also, enduring factors like grit, tenacity and resilience have vital role to accomplish

Non cognitive elements in one's behavior are the threshold qualities to accomplish success and satisfaction in one's profession. In educational settings especially in special schools, pupils with intellectual difference are treated separately. Teacher's perseverance, determination and commitment are predictable factors that allow teaching learning process more conducive and fruitful.

Need and Significance of the Study

Special education has a long history and always stood for effective learning intervention in dealing students with disabilities or differences. But from the beginning till date, special education undergoes changes in one's level, realm, kind and form of service. Thus special education teacher preparation may include and provide different nature of concepts and ideology related to student

behavior and classroom adaptation including tapering or tailoring the content or strategies in tune with historical views regarding special education. History reveal that major ideological shift in viewing disabilities from a medical model by viewing person with disabilities as a problem, to an environmental model by observing circumstances as the problem to social model by suggesting societal attitude and beliefs have to change in viewing the disability or differences, proclaimed that situational or contextual changes is necessitated while approaching disability. The change in the outlook doesn't pave way for handling the situation with ease or excellence is the darkened side of specialties of Special Education (Idea, 1998).

In the early years, special education revolved around certain goals such as education for students, professional assistance for parents, to cope up with the situation, etc. are some of the targets. But having secured these aims, the allies departed into several advocacy groups, each fighting for varied issues. The issues include school reform, full inclusions, and standard evaluation and disability classifications etc; which are viewed in different ways and in varied degrees. Implementation of ineffective educational intervention is another hurdle to pass through. The place where the instruction, was the major concern regarding special education in eighties and nineties. Little attention was given to which type of education was to be provided. In twentieth century too, instructional strategies adopted was outdated and intervention chosen had little to no empirical support and repeated the ineffective practices in special education and thereby repeated the mistakes of history (Sasso, 2001).

A person's success in any realm not only depends on the intellectual perspective but also the result of one's individual difference in handling

situation. There is a growing movement to explore the potential of the "non cognitive" factors attributes dispositions, social skills, attitudes and intra personal resources independent of intellectual ability, that high achieving individuals draw up to cherish success. Teaching is an art and privilege and cannot be done well by someone who doesn't possess flexibility, insight, creativity and perseverance. Special education teachers are more vulnerable to extreme conditions of teaching because of the complex unrecognized difference among students in a special school. So professional competencies not only include academic excellence but also necessitated psychological and emotional qualities.

National research council, (2012) in America released a report entitled "Education for life and work : developing transferable knowledge and skills in the 21st century, which laid out a research based frame work of critical competencies and recommended for research, policy and practice and pointed out three board domains of competence; cognitive, intra personal and inter personal". Grit, tenacity and perseverance are in the centre of the intra personal domain, which involves "the capacity to manage one's goal". U S Department of education in a report entitled "Promoting Grit, Tenacity and Perseverance: Critical Factor for success in 21st century" envisioned that these non cognitive factors are to be integrated with curriculum and teacher development. Ensuring that students are adequately prepared to succeed in today's world is one of the most important responsibilities of an educator. To gain better understanding of why some people are better prepared and more fruitful than others is growing concern now, even though they have same talent, reveal the importance of non cognitive qualities in life (Duckworth et al, 2007;2009).

Galton (1892) collected biographical information on eminent judges, states man, scientists, and poets and realized that talent alone didn't hold victory in any field and believed that high achievers are blessed with grit. Grit is a measure of one's ability to perceive in the pursuit of a long term goal without changing interests or priories along the way (Duckworth, et al., 2009). Some teachers are more effective than others with same intellectual capability and the teacher- effectiveness is the most important factor that affect student learning. Thus girt is a trait level transferable quality that make teaching an enduring phenomena.

Tenacity is what turns talents into result and a term closely associated with Grit. Tenacity enables a special education teacher to stick with the profession, in that sense; it is also an enduring factor in teaching. Teacher tenacity is actually a term borrowed from academic tenacity that is about working hard and working smart for a long time. Shea (2010) in a study revealed the connection between teacher tenacity and leadership role of teacher, also suggested the necessity of a strong internal locus of control among teachers in special education sector. The study proclaimed that teacher's Tenacious behavior was an outcome of effective leadership qualities and teacher commitment and posited that teacher retention and attrition are associated with the qualities mentioned above (Shea, 2010).

Resilience, a progressive psychological term stood for adaptive functioning is an enduring factor in teaching among special education teachers. Teacher resilience is a term defined by Day and Gue (2008) as, "the capacity to manage the unavoidable uncertainties inherent in the realities of

teaching". A flood of research examined how teachers maintain resilience despite facing challenges in the school (Day & Gue, 2008; Johnson et al., 2012). Teachers works in a stressful or difficult environment are unable to effectively cope and adapt will find the workplace to be uncomfortable. Teacher Resilience is essential both to teachers and students success in the classroom, as well as the retention of teachers. Bobeck (2002) described the importance of Resilience in teachers in order to cultivate that quality in students.

From the historical data and also from various studies, it is evident that special education especially special education preparation programmes are revolving around the cognitive aspects of handling disabilities or differences which are relevant to a certain extent rather than the non cognitive aspects of teacher preparation which is an area that needed proper consideration while voyaging toward teacher efficiency. Special education teacher's empathy, grit, tenacity and resilience are out most important when handling pupil with intellectual disabilities because these constitute non cognitive competencies of a teacher which endure a harmonious coexistence within the classroom.

Special education sector in Kerala is an emerging enterprise but lack of organized functioning as that one can see in the general education sector. Special schools for pupil with intellectual difference are largely found in private unaided sector apart from the buds schools and BRC'S (Block Resource centres) in government sector. As far as special education is considered, most of the studies conducted were pupil oriented learning strategies and teaching methods than teacher qualities or preparation. A study

meant for connecting Compatibility Factors in teaching on Teacher Endurance intent to hold the following research questions.

1. What are the emerging ground realities or present conditions of special education?
2. What are the professional makeovers of special education teachers in Kerala?
3. How can Socio- Emotional Competency factors in teaching influence student's behavioral outcome?
4. What is the role of School Climate Factors in Teaching especially in special education field?
5. How can Cognitive and Meta Cognitive factors in teaching enable a teacher to deal with differences in students?
6. What is the role of Motivational factors in teaching?
7. Is there any influence of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance factors?
8. Which variable selected will be contributing to Non- Cognitive traits in teachers for successful teaching?
9. Whether there will be any Multivariate effect of each of the selected independent variable on Non Cognitive factors like Teacher Grit, Tenacity and Resilience?
10. Whether there will be Multivariate interaction effect of combination of selected Independent variables on Teacher Grit, Tenacity and Resilience.

11. Is there any difference in Grit, Tenacity and Resilience for Special Education teachers while considering different levels of Independent variables selected for the study.
12. How Non- Cognitive traits among teachers can be improved for effective and productive teaching experience in Special Education Sector?
13. What are the things to be implemented while modifying special education preparation program in future?
14. What are the main aspects to be put forward when revamping special education sector in Kerala?

In special education, learning is meant for survival than an earning in future. Pupil's success and satisfaction depends largely on positive psychological qualities than specific and general abilities. Even though a person's abilities and processed information pave way for systematic adaptation to environment, non cognitive qualities like girt, tenacity and resilience empower human to withstand all shortcomings. Pupils with high intellectual differences are detected with lifelong deficiencies, in each developmental stage while the circumstances are varying from pupil to pupil and from one level to another. Any interventions from outside can only reduce the complexity and impact of difference in one's life. Definitely teachers with passion, commitment, enthusiasm, talent and adaptive mannerisms are the torchbearers in the lives of pupil with intellectual difference than any other professionals or parents. The investigator being a teacher educator is interested in the teaching learning process of pupils with differences and hence the study.

Statement of the Problem

The present study is stated as INFLUENCE OF SELECT COMPATIBILITY FACTORS ON TEACHER ENDURANCE AMONG SPECIAL EDUCATION TEACHERS OF PUPILS WITH INTELLECTUAL DIFFERENCES.

Definition of Key Terms

The key terms used for stating the problem are operationally defined.

Operational Definitions

Compatibility

Ability to exist together without trouble or conflict (Webster's Dictionary, 2013)

Compatibility factors in teaching.

Compatibility Factors in teaching, for the present study encompasses personal, societal, and institutional factors in teaching. In the study Compatibility Factors in teaching comprises of Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive, and Motivational Factors in teaching.

Socio-Emotional Competency Factors

Socio – Emotional Competency Factors include "self awareness, self management, social awareness, social orientation and decision making". (Jenning's & Greenberg, 2009)

In the study Socio-Emotional Competency Factors are measured from the scores obtained by administering the Socio-Emotional Competency Inventory among special education teachers in Kerala.

School Climate factors

School Climate is the "norms, values and expectations that support people feeling socially, emotionally and physically safe" (The National School Climate Council, 2007).

In the present study School Climate factors in teaching is teachers perceptions regarding school climate dimensions such as safety, teaching and learning, relationship and environmental / structural which will be assessed using a Scale on School Climate.

Cognitive and Meta Cognitive Factors

Cognitive factors in teaching.

In the present study cognitive factors in teaching include teachers perception regarding nature of teaching process, understanding the goal of teaching and appropriate construction of pedagogical knowledge.

Meta cognitive factors in teaching.

In the present study Meta Cognitive Factors in teaching are teacher consciousness towards meta cognitive awareness, regulations, strategies and socially shared meta cognition in teaching contexts. Cognitive and meta cognitive factors in teaching will be measured using a Scale of Cognitive and Meta cognitive factors in teaching and the scores obtained will be its index.

Motivational Factors in Teaching

Motivation is the process by which goal directed activity is instigated and sustained (Pintrich, 2008).

In the present study Motivational Factors in teaching is the scores obtained for teachers by administering the scale of Motivational Factors in teaching.

Teacher Endurance

Endurance.

The quality to do something difficult for a long time (Webster's Dictionary)

For the present study, Teacher Endurance encompasses Teacher Grit, Tenacity and Resilience which are the three non cognitive qualities essential for successful teaching

Grit.

"Perseverance and passion for long term goals". (Duckworth, 2007).

Teacher grit.

In the present study Teacher Grit is Teacher's opinion regarding consistency of interest and perseverance of effort in teaching. Teacher grit will be measured using a scale prepared for the purpose.

Tenacity.

Tenacity means the quality of being able to grip something firm (Oxford Dictionary, 2013)

Teacher tenacity.

In this study Teacher Tenacity means teacher determination to overcome obstacle, which will be measured using a scale.

Resilience.

Resilience is the ability of people, communities and systems to maintain their core purpose and integrity among unforeseen shocks and surprises (Zolly & Healy, 2012)

Teacher resilience.

Teacher Resilience is the capacity to manage the unavoidable uncertainties inherent in the realities of Teaching (Day & Gue, 2008). For the present study it will be measured using a scale.

Intellectual difference.

Intellectual difference is a difference characterized by significant limitations in both intellectual functioning and in adaptive behavior and the difference originates before age of 18(Diagnostics and Statistical Manual of mental disorder-5, 2013).

Special Education Teachers.

Special education teachers for the present study means teachers from special School meant for pupil with intellectual differences and also from teachers who are handling such students in Government sectors, viz., teachers from BRC's and Buds schools in Kerala

Variables Selected for the Study

The following are the independent and dependent variables selected for the present study

Independent Variables

- Compatibility Factors in Teaching
  - Socio-emotional competency
  - School Climate Factors

- Cognitive and Meta cognitive Factors.
- Motivational Factors

Dependent Variables

❖ Teacher Endurance towards pupil with intellectual disabilities

- Teacher Grit
- Teacher Tenacity
- Teacher Resilience

Objectives of the Study

The Objectives of the study are

1. To find out the multivariate effect of Compatibility Factors in teaching (Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors) on Teacher Endurance (Grit, Tenacity and Resilience) of Special Education Teachers for total sample and subsamples based on locality, type of management, experience and qualification of teachers.

2. To find out the multivariate interaction effect of Compatibility Factors in teaching (Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors) on Teacher Endurance (Grit, Tenacity and Resilience) of Special Education Teachers for total sample and subsamples based on locality, type of management, experience and qualification of teachers.

Hypotheses

The study is carried out to test the following hypotheses.

1. There exists significant multivariate effect of Compatibility Factors in teaching (Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors) on Teacher Endurance (Grit, Tenacity and Resilience) of Special Education Teachers for total sample and subsamples based on

   - Locality(Urban and Rural Sample)
   - Type of management(Government and Unaided)
   - Experience(Up to 5 years and 5 years and above)
   - Qualification of teachers (Under Graduation and Graduation and Above)

2. There exists significant multivariate Interaction effect of Compatibility Factors in teaching (Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors) on Teacher Endurance (Grit, Tenacity and Resilience) of Special Education Teachers for total sample and subsamples based on

   - Locality(Urban and Rural)
   - Type of management(Government and Unaided)
   - Experience(Up to 5 years and 5 years and above)
   - Qualification of teachers.(Under graduation and Graduation and above).

Methodology in Brief

Method

Survey method was chosen to collect data from Special Education Teachers across Kerala in order to find out the influence of compatibility factors in teaching on Teacher Endurance towards pupil with Intellectual differences among special education teachers in Kerala.

Sample

The population considered for the study is Special Education Teachers who handles pupil with intellectual differences in Kerala. The present study included 520 special education teachers from special Schools, Block Resource Centers, RMSA (Rashtriya Madhyam Siksha Abhiyaan) and Buds School across Kerala. Samples were selected using random sampling method by giving due representation to South (Thiuvanthapuram, Kollam, Pathanamthitta, Kottayam Idukki), Central (Alappuzha, Eranakulam, Thrissur and Palakkad) and Northern Kerala (Kasargod, Kannur, Wayanad, Kozhikode and Malappuram). Proper weightage was also given to sub samples based on locality, type of management, experience and qualification of teachers.

Tools Used for Data Collection

The following tools were used for the study

- **Socio-Emotional Competency Inventory (Usha & Thankam, 2018)**

Socio-Emotional Competency Inventory consist of 30 items, is a three point inventory, comprised of five emotional and social competencies viz., self awareness, social awareness, responsible decision making, self management and relationship management. Initially the inventory consisted of 44 items and was standardized after pilot testing.

- **Scale of School Climate Factors in teaching (Usha & Thankam,2018)**

The scale of School Climate Factors in teaching is a three point Likert type scale which consisted of 40 items from four major dimensions of School Climate, viz., safety, teaching and learning relationship, environmental and structural factors (Cohen et al., 2006). These dimensions are viewed in teaching contexts rather than learning aspects while constructing the scale. Initially the scale consisted of 50 items and was standardized after pilot testing.

- **Scale of Cognitive and Meta Cognitive Factors in teaching (Usha & Thankam, 2018)**

The scale of cognitive and meta cognitive factors in teaching consisted of 30 items, representing teacher consciousness towards one's own cognitive and meta cognitive characteristics. The three point scale comprised of cognitive factors in teaching which were identified from "Learner Centered Principles" put forward by the American psychological Association's Board of Education (1997). The sub components included are the nature of teaching process, Goals of teaching and construction of pedagogical knowledge. The meta cognitive Factors in teaching included meta cognitive knowledge/ awareness, meta cognitive experience/ regulations, meta cognitive strategies and socially shared meta cognition (Flavell, 1976; Brown, 1987; Iiskala et al., 2004). After pilot testing the scale was standardized.

- **Scale of Motivational Factors In Teaching (Usha & Thankam, 2018)**

The scale of Motivational Factors in Teaching is a Likert type scale with three levels of responses comprised of 28 items deduced from the following sub elements of motivational factors in teaching, viz., responsibility and autonomy, leadership style, advancement and growth opportunity, institutional philosophy,

working environment, leisure time utilization, respect and recognition, tactful disciplinary machinery and fringe benefits and good wages. Initially the scale consisted of 40 items and was standardized after pilot testing.

- **Scale on Special Education Teacher Grit (Usha & Thankam, 2018)**

Scale on special education teacher grit is a 3 point 30 items scale comprised of qualities associated with Grit that are consistency of interest and perseverance of effort. Consistency of interest encompassed sustained commitment, Cognitive framing, consciousness and long term goals in teaching while perseverance of effort comprised of courage, optimistic confidence, use of differentiated strategies, hard work in practice and persistence in the face of challenge. The scale was standardized after pilot testing.

- **Scale on Special Education Teacher Tenacity (Usha & Thankam, 2018)**

Scale on special education Teacher Tenacity is a 26 items scale represented by the characteristics associated with tenacious behavior of teachers and the sub components included were mindset, goal orientation, belonging, value affirmation and self regulation. Initially the scale consisted of 38 items and was standardized after pilot study.

- **A Scale on Special Education Teacher Resilience (Usha & Thankam, 2018)**

The Scale on Special Education Teacher Resilience is a 3 point Likert type Scale composed of Emotional, Motivational, Social and Profession related dimensions of resilience of teacher. The sub components /elements in emotional dimensions were the quality of bounce back keeping a sense of humor, manage emotions and cope with job demands. Motivational dimensions

of resilience comprised of the qualities, viz., set realistic expectations, being positive and optimistic, having confidence and self control. Social dimensions of resilience comprised of qualities such as seeks help and take advice, build support and relationship, and solve problems. Profession related qualities of resilience included commitment to students and flexible and adaptive behavior. The 30 item Scale was standardized after pilot testing.

Statistical Techniques used for the Study

The following are the statistical techniques used for the study

- Preliminary Analysis
- Assumption Testing for MANOVA
- MANOVA
    - One way MANOVA
    - Factorial MANOVA
- ANOVA
    - One way ANOVA
    - Factorial ANOVA
- Scheffe's Post Hoc Comparison

Scope of the Study

The present study is to find out the influence of select Compatibility Factors in Teaching (socio emotional competency, school climate, cognitive and meta cognitive factors and motivational factors) on Teacher Endurance (grit, tenacity and resilience) towards pupil with intellectual disability among Special Education Teachers in schools of Kerala. The study can be instrumental to forecast the comprehensive teacher behavior in special education settings and

also predicting non cognitive traits level qualities which are necessary for quality assurance and effective learning outcome of students. In teaching, a holistic approach toward teacher behavior is essential for prescribing any changes in the curriculum of teacher preparation programs. Furthermore, non cognitive qualities like grit, tenacity, perseverance and resilience are transferable qualities and pupil can acquire these capabilities from teacher's vicariously.

Special education sector in Kerala is in the developing stage, most of the researches stood for student's development through strategy changes or counseling or diagnosing and referral elements than to intervene in the contextual aspect of interaction. As far as teachers in special schools are concerned, almost all studies linearly found out relationship between teacher burnout, stress, retention and attrition and teaching abilities like attitude, aptitude etc. Hence the overall improvement in teaching or learning is eroded and focus goes to a particular aspect only. Through this study, different elements in teaching on teacher endurance provide a platform to other teachers and students simultaneously because self reliant, resourceful, better equipped and self regulated teachers can foster these qualities to students. In a world of difference, success and satisfaction comes not only from cognitive aspects but also absorbed from contrived experiences inside the school. Definitely any suggestion from the study can improve teacher behavior in special school settings as well as student's aspirations as an individual in this world, which may pave way for more studies in this regard and thus define teacher preparation and student outcomes in special education sector more meaningful. A well designed, properly organized and future oriented interventions are the necessities of the present educational system prevailed in special education in

Kerala. The study is an earnest attempt to explore various elements in special education and try to understand the ground realities attached with education of pupil with intellectual difference

Limitations of the Study

The present study has some limitations also, even through maximum care was taken to make the study authentic, wholesome and informative, some shortcomings are noticed and presented below

- The study is limited to four independent variables, socio emotional competency, school climate, cognitive and meta cognitive factors and motivational factors in teaching.
- Teaching is a complex process, but other variables associated with teaching (intelligence, aptitude) are not considered for the study.
- The dependent variables are also limited to three endurance factors (grit, tenacity and resilience).
- Teacher perception and endurance can be affected by teachers age, and socio economic status of teacher, but those things were not considered as a criteria to categorize special education teaching.
- The study is limited to special educators working in educational institutions only, teachers who are working in hospitals and counseling centers are not included
- Special educators of other categories of student disabilities are not considered.
- Only one variable from each cognitive, affective, social and institutional factors of teacher domains are taken as independent variables. Cognitive

qualities associated with teacher endurance among teachers were not selected as outcome variables.

Organization of the Report

The report of the study is provided in five chapters namely introduction, review of related literature, methodology, analysis and interpretation and summary of findings and suggestions. The details of organization of the report are described below

Chapter I. Chapter one deals with a brief introduction of problem under study, need and significance, statement of problem, definition of key terms, variables of the study, objectives of the study, hypotheses, a brief description of the method of study, scope of the study and limitations of the study

Chapter II. This chapter provides a detailed theoretical over view of the variables, socio emotional competency, school climate, cognitive and meta cognitive factors, motivational factors in teaching, teacher grit, tenacity and resilience and the review of related studies associated with the variables mentioned

Chapter III. Through this chapter, description of an account of the methodology adopted for the study in detail by including description of variables, objectives of the study, hypotheses, tools employed for data collection, sample selected, data collection procedure and the statistical technique used for analyzing the data.

Chapter IV. This chapter describes details of preliminary analysis, assumption testing, investigation of multivariate, main and interaction effect of socio emotional competency, school climate, cognitive and meta cognitive and motivational factors in teaching on teachers endurance (grit, tenacity and resilience) among special education teacher in Kerala

Chapter V. Chapter five gives a brief account of the study in retrospect with respect to objective of the study, hypotheses and methodology, the major findings of the study, educational implications of the study and suggestions for further research in this area.

Chapter II

Review of Related Literature

- Theoretical Framework of the variable
  - Theoretical overview of socio-emotional competency in teaching
  - Theoretical overview of school-climate factors in teaching.
  - Theoretical overview of cognitive and meta cognitive factors in teaching
  - Theoretical overview of motivational factors in teaching
  - Theoretical overview of teacher grit
  - Theoretical overview of teacher tenacity
  - Theoretical overview of teacher resilience
- Review of Related Studies
  - Studies on socio- emotional competency
  - Studies on school climate
  - Studies on cognitive and meta cognitive factors
  - Studies on motivational factors in teaching
  - Studies on teacher grit
  - Studies on teacher tenacity
  - Studies on teacher resilience

The present study deals with seven distinguish characteristics of teaching, which determine teacher behavior manifestations in educational settings. The theoretical details regarding Compatibility Factors in Teaching, namely, Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching, along with Teacher Endurance Factors such as Teacher Grit, Tenacity and Resilience are involved. The chapter is divided into two parts. First part encompasses theoretical background of the selected variables and the second part project the review of recent related studies with the variable in the literature. The major elements of the chapter are organized as follows.

- Theoretical Framework of the variable.
- Review of Related Studies.

Theoretical Framework of the Variables

The theoretical background of variables namely, Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors, Motivational Factors in Teaching, Teacher Grit, Teacher Tenacity and Teacher Resilience are presented in a sequential manner.

Socio- Emotional Competency

Socio-Emotional Competency as a psychosocial element in teaching, maintain the effective utilization and application of knowledge, attitude and skills needed to manage emotions and to communicate effectively. Socio-Emotional Competency theories are rooted from Bandura's (1977) Social

learning theory which explained that human behavior evolved from reciprocal determinism (an interaction between individual, the environment and individuals psychological and mental processes). Socio-Emotional theories are also stemmed from Emotional Intelligence theory put forward by Salovey and Mayer (1990) and the theory proclaimed that Emotional Intelligence involves right perceptions of emotions, role of emotions in humans thought process, proper understanding of emotions in human's thought process, proper understanding of emotions of others and effective management of one's own emotions. As a construct evolved from both social learning theory and emotional intelligence theory, Socio-Emotional learning and Socio-Emotional Competency theories are theories related with humans social and emotional well being. Teachers function as a role model in educational settings by inducing empathy, compassion and gratitude to students through creating a positive, progressive and interactive teaching – learning environments.

Teacher's social and emotional competence.

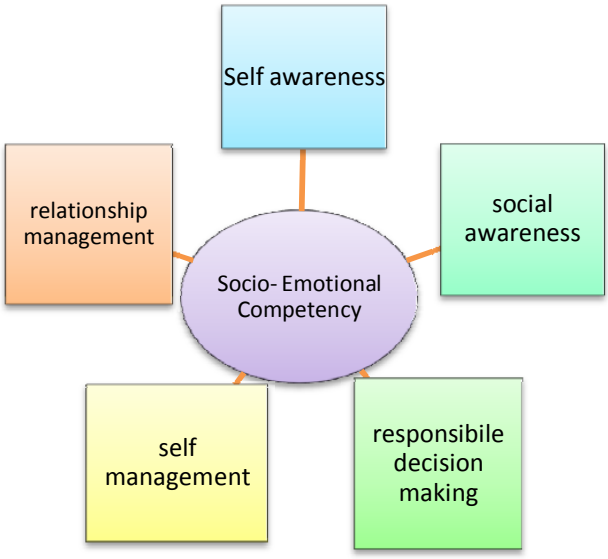


Figure 1. Components of Socio- Emotional Competency by Zins, Wiessberg, Wang, & Wallberg (2004)

Socio-Emotional Competency is a broad concept which include social and emotional make up of a person. In teaching, Socio-Emotional Competency factors encompass social, personal and emotional elements in teaching. The pro-social classroom model (Jennings & Greenberg, 2009) project the role of Teacher's Socio-Emotional Competence and well-being in cultivating teacher's ability to foster social, emotional and academic support to students in class rooms. Argyle (1998) put forward seven components of social competencies which were assertiveness (expressing emotions without hurting others), gratitude and support (inter personal belongingness and acceptance), non–verbal communication, verbal communication, empathy and cooperation.

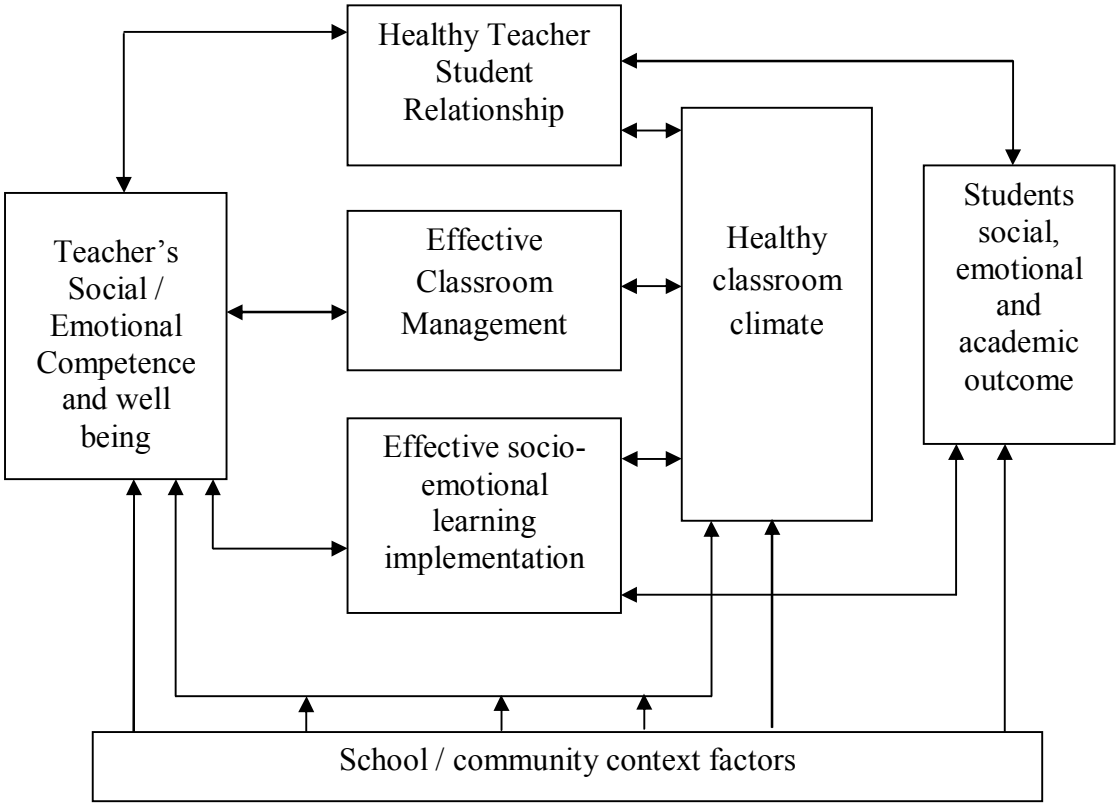


Figure 2. The pro social classroom model of teacher's Social and Emotional Competence and classroom and student outcomes (Jennings & Greenberg, 2009)

Socio-emotional competency factor's in teaching.

Teachers with high Socio- Emotional Competencies are outstanding role models. Through proper behavior manifestations, teachers could generate effective classroom management and appropriate social and emotional atmosphere. When teachers manage social and emotional issues wisely, teaching become more interesting and efficacious (Goddard, Hoy & Woolfolk, 2004). Warm and cordial student–teacher relationships are offspring of teacher's better accommodation of social and emotional abilities. The following are the competencies associated with one's socio-emotional competency.

Self–awareness. Identify and recognize emotions, recognize one's own interests and strengths, keep realistic self-confidence.

Self management. Regulate emotions, control impulses and motivating oneself to persevere in overcoming difficulties, setting and monitoring progress toward the achievement of personal and academic goals; express emotions appropriately.

Social awareness. Being able to take the responsibilities of one's own actions and empathize with others; recognize and appreciate individual and group similarities and differences.

Relationship management. Establish and maintain healthy and rewarding relationships, keep resistance to inappropriate social pressures, preventing, managing and constructively resolving inter-personal conflict, seeking help and providing help when the situation warranted.

Responsible decision–making. Making decisions based on a consideration of all relevant factors, including applicable ethical standards, safety concerns and social norms; the likely consequences of taking alternative courses of action; evaluation and reflection (Collaborative for Academic, Social, and Emotional Learning (CASEL, 2008).

Characteristics of socially and emotionally competent teachers.

- High self awareness.
- High social awareness
- Culturally sensitive
- Exhibit pro social values and make responsible decisions
- Take responsibility for one's decisions and actions.
- Know how to manage one's emotions and behavior
- Know how to manage relationship with others

(Goddard & Woolfolk, 2004; Jennings & Greenberg, 2009).

Relevance of Socio–Emotional Competency in Teaching Contexts

The ideal teacher behavior was researched in a large – scale from 1970 onwards in order to produce desired students outcome. As a part of that classroom management had undergone a shift from external regulation to self regulation nurturing healthy mutual relationship inside educational institutions (Weinstein, 1999). Weinstein (1999) put forward four changes in teaching approach, the first change was from a fixed management pattern to a set of flexible practices, the second alteration was implementing self regulation among students through teachers vigilant interaction, the third change was the need for caring and trusting relationship between students and teachers in order

to solve conflict situations amicably (Weinstein, 1999, Jennings and Greenberg, 2009) and the fourth change demands teachers ability to shift management strategies from teacher – directed work to student – oriented experimental learning contextual activities. In order to accomplish the fourth change, teachers need high Socio-Emotional Competencies to recognize the boundaries and limitations of one's decisions and actions with adequate respect to all.

Teacher training program like 'The Emotionally intelligent Teacher Training' was designed to promote teacher's socio-emotional competencies which dealt with recognize and label emotions, understand and express emotions properly and regulate emotions in educational institutions (Brackett & Caruso, 2006). In organizational contexts, usually the cognitive abilities are more pivotal and anticipated element to achieve optimum performance and professional development (Izquierdo, 2001). "Socio– emotional competencies also had influence in individual's process of adapting to the working environment, managing stress, and occupational pressure. socio-emotional competencies were considered as the basic criteria for predicting work behavior and occupational success" (Bar-On, Brown, Kirckcaldy & Thome, 2000). In the area of socio-emotional competency, the most relevant career guidance program is guidance program for socio-emotional competence (POCOSe in Spanish) and the program would provide training in Socio-Emotional Competencies and consisted of 7 modules regarding emotional self-awareness, empathy, emotional control, motivation, assertiveness, team work and conflict resolution (Repetto, Pena, Mudarra & Uribarri, 2007).

Socio – emotional competency factors in teaching rest upon a person's interaction of intra personal elements with social relatedness, emotional control or tolerance towards social pressures or environmental demands

which are the criteria for better teacher performances and retention. In special education, socio-emotional regulation on the part of teachers would disseminate into students through modeling and scaffolding. Thus Socio-Emotional Competency Factors in Teaching are embodiment of making conducive teaching learning experiences in special education sector.

Measuring Socio-Emotional Competency

Literature provided various tools that measure socio- emotional competency of teachers and students. Forcina (2012) constructed 7 point Likert type tool for measuring teachers SEC which included items from 5 major components of SEC. Zins et al. (2004) measured SEC with a scale containing 55 items along with a feedback table. Worku et al. (2018) used a socio- emotional working scale named as Teacher–child Rating Scale (T-CRS) which assessed four domains of behavior viz., behavioral control, task orientation, assertiveness, and peer social skills which was oriented toward teachers version of students socio- emotional abilities and constructed by Hightower et al. (1986). Frenzel et al (2010) constructed a questionnaire to measure teachers socio-emotional well being inside classroom. The tool measured teachers anxiety, anger, and joy and involved 7 items named as Achievement Emotions Questionnaire for Teachers (AEQ-Teachers).

School Climate Factors in Teaching

School Climate is a Compatibility Factor in the multidimensional process of teaching. A conducive school climate is the backbone of any effective educational enterprise. Climate was viewed in different perspectives in literature, the most important explanations regarding school climate were the following “quality and character of school life” and “patterns of people’s

experience of school life" (Cohen, McCabe, Michellii & Pickeral, 2009) while Hoy and Woolfolk (1993) attributed school climate as "personality of school". School climate also stood for norms, values and relationship along the physical and psychological structure that contributed to the effective environment needed for Teaching and Learning (Cohen, McCabe, Michelli & Pickeral, 2009). Teachers who perceived norms and values attached with school were incompatible with one's own personal views resulted in contextual dissonance and teachers who could accept the norms and beliefs situated in school contributed to contextual consonance (Rosenberg, Zhang & Robinson, 2008; Skaalvik & Skaalvik, 2011) and both will impact immediate well-being among stakeholders inside school.

Various conceptualization and elements regarding school climate in literature are the following.

- Hoy and Miskel (1991) dichotomized school climate as authoritarian and humanistic as per the factors like openness, organisational health and pupil management (Hoy & Miskel, 1991).
- Winter (1987) described factors that affect school climate as satisfiers which include recognition, progressive relations and achievement while negative aspects contributing to diminishing climate are poor interpersonal relationship and institutional policy (Winter, 1987).
- Albert (2002) proclaimed that typical and permanent interpersonal relations and mutual communication resulted in people's well being (Albert, 2002).
- Van-Horn (2003) posited that positive School Climate was "an agreeable relationship among everybody" (Van-Horn, 2003).

- Van Houtte (2005) defined that "total environmental quality of the organization, shared beliefs, physical surroundings and characteristics of individuals constitute school climate" (Van-Houtte, 2005).
- Cohen (2006) listed out four factors that influence school climate as safety, teaching and learning, relationships and physical environment (Cohen, 2006).
- National School Climate Council, US (2007) identified five subcomponents of school climate as safety, teaching and learning, interpersonal relationships, and institutional environment and staff relationships**.**
- Wang and Degole (2016) categorized school climate into four distinct concepts such as safety, academic, community, and institutional environment with sub themes attached with main concepts.

Various authors provided different classification of factors in school climate studies in accordance with design and nature of sample selected for the study. Majority of the studies included some common factors like safety, physical environment, aspects of teaching or learning, relationship etc which can be viewed as core dimensions of school climate. An important model described as safe and supportive school model (Thapa et al., 2013) by US department of education ascribed the following elements in school climate which are as follows.

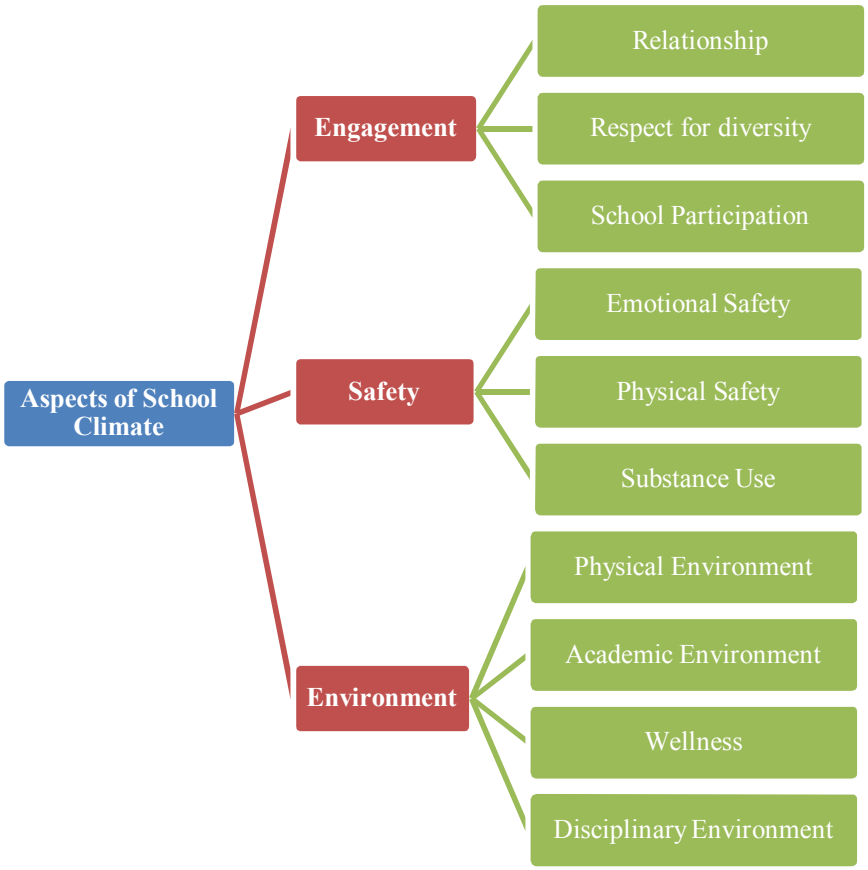


Figure 3. Aspects of school climate by US Department of Education, Safe and Supportive School Model.

The core components evolved from the literature of School Climate are:

Safety.

Different factors associated with School Climate by different authors have some common characteristics and the studies on climate had long history in research. First element is safety which dealt with physical safety, clear regulations to avoid bullying and adversities, clear norms to safeguard teacher's emotional and social well-being and rendering support to teachers while executing academic, social, and emotional responsibilities and duties to the students (Freiberg, and Stein, 1999; Cohen, 2006; Cohen, et al., 2009;

Zullig, et al., 2010). Safety feeling among teachers was hindered by student atrocities as a result of lack of clear and supportive rules to curtail adverse situations (Gregory, Cornell & Fan, 2012). The notion of physical safety included common community feeling and togetherness, any unsafe feeling regarding physical environment arises out of aggressiveness, assertive behavior and conflicts which inflict insecurity both to students and teachers inside school. A clear framing of behavior expectations, preventive measures to overcome atrocities and a well balanced and fair rules /regulations can foster environmental safety (Blum, 2007). Academic safety (Blum, 2007) means a conducive environment for performing academic task without any prejudice or rating success. Students and teachers are free to indulge in new academic tasks irrespective of the outcome and interference from authority which is a necessity in special schools. Emotional safety eroded when there were disparities and irregularities in dealing persons inside institutions without following a code of ethics or values concerning conduct. Emotionally safe institutions are free from inequalities arises out of cast, creed and any form of differences (Blum, 2007; Muller, 2001).

Relationship and connectedness.

The second and most relevant element is relationship /connectedness between school stakeholders like teachers, students, parents and paraprofessionals (as far as special schools are concerned). As a primary social agency, educational institutions are backbones of a healthy and progressive society. Caring relationships and enhanced communication and interactions are positive attributes to favorable climate (Blum, 2007; Thapa et al., 2013). High relational trust and social relationship (Bryk & Schneider,

2002; Furlong et al., 2005), and model appropriate and supportive interactions color teacher behavior in collaborative settings (Bandura, 1977; Blum et al, 2007). A welcoming approach, approval and appreciation from authorities, mutual respect and belongingness from students and their parents are other corner stones for teachers while indulging in teaching process (Libbey, 2004; National School Climate Council, 2007; Cohen, et al., 2009; Guo, 2012). Gou (2012) studied the relationship between teachers work environment and peer relationship and reached the conclusion that a positive peer relationship contributed to conducive school climate (Guo, et al., 2011; Guo, 2012). The adult relationships between school personals: teachers, staff, parents and administrators predict better accommodation of diversity in educational institutions (Cohen, 2009; Gangi, 2010; Guo, 2012).

Teaching and learning.

Teaching and Learning is another element associated with School Climate that stimulate teacher performance and student learning. A democratic civic climate is essential for a positive environment for teaching and learning. Professional development and students achievement are the by product of democratic school climate (Shann, 1998; Finnan et al., 2003; Cohen, et al., 2006; National School Climate Council., 2007). Cohen (2009) underlined the importance of quality of instruction in school climate research. Teachers perceptions/expectations on students learning outcome, utilizing life centered and experiential teaching/learning methods, techniques and strategies in classroom and chance for exfoliating partnership in teaching /learning are the few virtues associated with quality of instruction (Zins, et al., 2004; Adelman and Taylor, 2005; Cohen., 2006). Authentic way of implementing leadership

responsibilities, mutual respect and trust between head staff and faculties and administerial supports for better teaching/learning determine effective institutional outcome (Ghaith, 2003; Comer, 2005; Blum, 2007). A consistent and vibrant school leader (principal, head teachers or teachers) not only enhance student learning outcomes but also pave way for better teacher accountability.

Environment (Physical and Academic)

The structural facilities, that is, curricular and co- curricular material and space availability are other elements attached with school climate. Conceptualization of school climate primarily focuses on academic offerings both to teachers and students but structural school resources stood as a facilitating agent for better functioning. Clean and tidy classrooms and motivating circumstances (adequate library, convenient laboratory, spacious classrooms and play ground) were the aspects under physical environment (Cohen, et al., 2009; Zullig, et al., 2010) which determined a positive School Climate. Academic environment include teacher accountability, resource support for teaching (Griffith, 1995; Hoy and Hannum, 1997), students/ teachers attitudes toward academic engagement and academic satisfaction through proper reinforcement, reflection and feedback (Winter, et al., 1987; Shouse, 1996; Blum, 2007). School discipline and classroom management are also factors that establish a conducive School learning environment (Gregory, et al., 2010).

School climate and teacher.

The studies found in literature reveal that school climate related factors in teaching influence teacher attrition and retention (Cohen, et al., 2009). Teachers role in decision making and implementation of rules in school

enhance teachers efficacy and self worth. A progressive school climate was not only fostering student wellbeing but also enhancing teacher's job satisfaction (Oder & Eisenschmidt, 2018) and professional development (Day, et al., 2006). Ingersoll (2001) in a study connected teachers attrition with teachers dissatisfaction in school culture and issues related with autonomy and there were lots of research conducted in that manner (Suarez & Wright, 2019; Wang et al., 2018; Ingersoll & May, 2010).

Wang and Degole (2016) described six theories related to school climate study, the first theory was Bio- ecological theory which the authors claimed as the theoretical pillars of climate research in educational institutions and constituted multi contextualistic views, progressive outlook and proximal processes which would stand for better learning environment and student growth. The second theory was Risk and Resilience perspective theory which dichotomized the factors into protective and risk factors associated with school climate and stood for better adaptability among stakeholders without specifying or narrowing any particular domain. The third theory that stood for social elements in school climate named as attachment theory which elaborated the psychological and physical connectedness and interpersonal relationship existed within educational institutions. The fourth theory social control theory dealt with a community orientation and disciplinary aspect of climate research by focusing the norms, values and conventional quality in maintaining commitment and involvement among personals within school. The fifth theory was social cognitive theory which emerged from Bandura's social learning theory (1986) and Pintrich and schunk's socio-cognitive theory of Motivation (2002) and stood for goal directed activities and

influence of expectations in achievement and often researched in school climate studies as school climate models to analyze achievement goal structure. The sixth theory, stage- environment fit theory focused on psychological needs, aspirations and emotions of person in contextual situations and mostly related with student transition from elementary to secondary, and secondary to higher secondary, hence largely comprised of student oriented studies in school climate.

Rudasill et al. (2017) described the traditions, themes and assumptions behind school climate research. The traditions were organizational (researches relied on teachers/students perception on school climate and its manifestations on teacher/student behavior) and, psychological (instruments assessed students or teachers perceptions based on references from established research models) and school effects (researches focused on effectiveness of school paradigms). The themes on school climate put forward by Rudasill et al. (2017) were relationships or interpersonal interactions, shared values, beliefs, and goals, safety, teaching, leadership, and physical environment. The assumptions described in the paper were associated with how one groups views were generalized into others, the selection of components of school climate based on outcome oriented existential connections and the inappropriateness in one dimensional research designs to evaluate a multi dimensional construct. The assumptions went further to evaluate the definitions, taxonomies, and conflicts among the related ideas in the literature of school climate studies. In the light of theoretical overview, Rudasill (2017) defined “school climate is composed of the affective and cognitive perceptions regarding social interactions, relationships, values, safety, and

beliefs held by students, teachers, administrators, and staff within a school" (Rudasill, 2017).

Measuring school climate.

Literature provided an enormous account of school climate measures with distinguishable domains. Majority of studies included order, safety and discipline under a category safety, academic outcome, schools physical environment, social relationship, connectedness/belongingness. Zullig et al. (2010) listed some measures of school climate which were San Diego Effective School Students Survey (ESSS) with 57 items, National Education Longitudinal Study (NELS) with 29 items, California School Climate and Safety Survey (CSCSS) with 33 items, Comprehensive Assessment of School Environment (CASE) with 33 items and School Development Program (SDP) contained 31 items.

Durham, Bettencourt, and Connolly (2014) sorted out various tools regarding school climate which were The School Survey, The School Effectiveness Review, Climate Walk and Student Surveys on Teacher Practice (SSTP). Rathore (2013) used Organisational Climate for descriptive Questionnaire (OCDQ) which was capable to identify six different types of school climate. Magen-Nager and Azuly(2016) measured school climate by using MEITZAV test which was intended to measure school efficiency and growth factors and the test contained items from feelings of belonging, security at school, friendship among students, and teacher –student relations.

Cognitive and Meta Cognitive Factors in Teaching

Cognition and Meta Cognition are words usually coined with humans thought processes, information processing and learning than teaching in literature. Teaching is a complex and multidimensional process which demands teachers Cognitive and Meta Cognitive behavioral output for smooth functioning and effective outcomes. As per Bloom's (Bloom, 1956) and Revised Blooms (Anderson and Krathwolh, 2001) taxonomy human thinking levels are categorized into a hierarchy and stipulated specific learning outcomes corresponding to each level. The framework of learner oriented psychological principles along with elaboration of different thinking levels from Bloom's Taxonomy pave way for determining Cognitive Factors that facilitate Teaching. Teaching is an ongoing learning process on the part of teachers which need changes, organization and makeover throughout (Bloom, 1956). Cognitive Factors in Teaching include knowledge regarding" nature of teaching process", "understanding the goals of teaching", and appropriate construction of pedagogic knowledge or meaningful representation of pedagogical content. Meta cognitive Factors include Meta cognitive knowledge and regulation (Flavell., 1976; Flavell., 1987).

Cognition.

Cognition meant for a person's internal conscious /unconscious mental processes connected with information processing mechanism which include perception, understanding, thinking, and remembering (Garner, 1987) The word "cognition" in Mariam Webster's dictionary is "Being or involving conscious intellectual activity" (Mariam Webster's dictionary.com). The important terms associated with Cognition are

- Cognitive functioning stood for internal mental processes which are the way of perception, memory, judgment and reasoning. As per Piaget's Genetic Epistemology, Cognitive functioning involves assimilation, accommodation, adaptation and internalization of outside reality into the human mind (Piaget, 1972).
- Cognitive strategies include a wide variety of individual tactics that teachers and students used to improve teaching and learning (Oxford, et al., 2004).
- Cognitive efficiency denotes faster recognition, connection and perception of ideas or concepts without making many errors (Kirsh, 2005).
- Cognitive workflow means meaningful coordination of mental and physical activity along with the teacher and environment in order to secure teachers specific target in Teaching (Kirsh, 2005).
- Cognitive Control include an internal mechanism that provide direction to human behavior/thought, based on present situational priorities (Shea, 2014).

Cognitive factors that facilitate Teaching include

- knowledge regarding Teaching Process
- Understanding the purpose of Teaching
- Appropriate construction of pedagogical Knowledge

(The American Psychological Association, 1997; McCombs, 2000; Sokha, 2010)

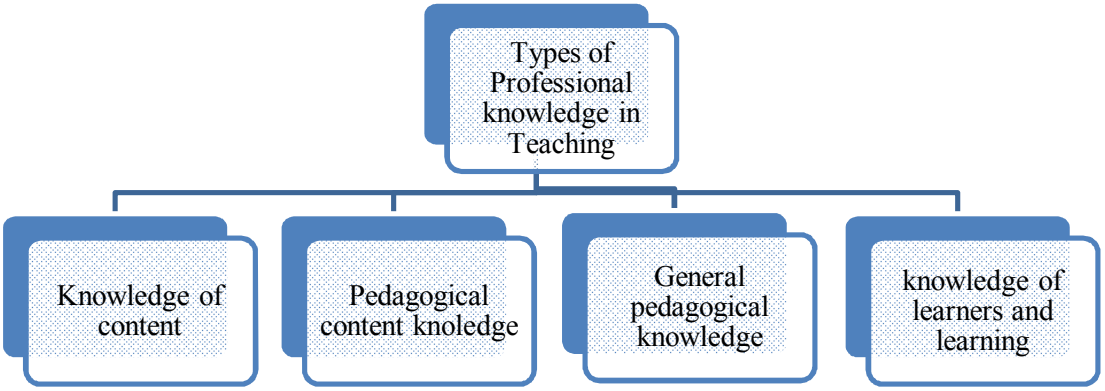


Figure 4. Different types of Professional Knowledge in Teaching (Sokha, 2010; Fox-Turnbull, 2018)

Different types of Professional knowledge in teaching include all information related to effective transaction of content in classroom along with knowledge of strategies, techniques, and method appropriate for producing meaningful experiences within classroom. The major components are the following.

- Content Knowledge: Knowledge regarding any topic in concerned content area. The basic awareness on what to teach and how to teach content in classroom (Sokha, 2010; Fox-Turnbull, 2018; Gudmundsdottir & Shulman 1987).
- Pedagogical Content knowledge: Ways of representing content in classroom, the understanding of easy methods of transaction and the ability to analyze the content in the point of view of a pedagogue in order to make teaching /learning effective and purposeful (Sokha, 2010; Fox-Turnbull, 2018; Gudmundsdottir & Shulman 1987)
- General Pedagogical Knowledge: A realm of professional knowledge that involves an understanding of instructional strategies and classroom

management that applies to all topics and subject matter areas (Sokha, 2010; Fox-Turnbull, 2018; Gudmundsdottir & Shulman 1987).

The above three categories are associated with Knowledge related with Teaching process

- Knowledge of learners and learning: this is the awareness regarding exceptionalities and differences found in students and different learning methods and styles associated with each learner. A knowledge regarding this is an essential criteria for expert teaching. The knowledge regarding learners and learning determines the goals and strategies predominant during each teaching venture.

All the four different types of professional knowledge facilitate appropriate construction of pedagogical knowledge in teaching context. Apart from this, teachers reasoning abilities, problem solving strategies, critical and creative thinking abilities are other elements coming under Cognitive Factors in Teaching (American Psychological Association, 1997; Schraw, et al., 2006).

Metacognition.

Meta Cognition, a controlling factor of human thought/ behavior have several definitions in literature since 1977. The most accepted definitions are given below

- "The knowledge, understanding and regulation of one's own Cognitive processes" (Garner, 1987)
- "Cognitive control and monitoring of all sorts of Cognitive processes" (Flavell, 1987).

- "Meta- level representation of an object level cognition" (Fleming, et al., 2012).

Flavell's typology.

Flavell (1979, 1987) in a formal model of Meta Cognition described four classes of phenomena which are given below

- Meta Cognitive Awareness
- Meta Cognitive experience/regulation
- Tasks/goals
- Strategies or activities

Meta cognitive awareness.

Flavell outlined three sub components under Meta Cognitive knowledge factor: Knowledge of person, task and strategy variables. Personal variable dealt with intra personal knowledge representing an individual's meta level thinking and learning awareness (Flavell, 1979). Knowledge regarding task variable elaborated a person's total awareness toward a task in hand including management, judgement and self evaluation of the task. Knowledge of strategy variables portrayed the Cognitive and Meta Cognitive strategies along with appropriateness of using these strategies in learning and teaching situations. Cognitive strategies are primarily reasoning, organizing and recollecting things while Meta Cognitive strategies stood for person's conscious and unconscious efforts related to task management and self regulation (Flavell, 1987; American Psychological Association, 1997).

Meta cognitive experiences.

As per Flavell, Meta Cognitive experiences are the "subjective internal responses" accompanied by a cognitive task, which act as a self regulatory mechanism in human being (Flavell, 1987). This information enable a person to choose whether continue or not in a specific process in similar and different situations in future (Flavell, 1979; Flavell, 1987).

Meta cognitive goals and tasks.

Through this element Flavell's typology projected the purposeful nature of cognitive tasks and processes. All cognitive processes encompassed stipulated outcomes. Teaching is a complex task in which the planning, implementation and reflection stages require goal orientations and reflections (Flavell, 1987).

Meta Cognitive Strategies

Meta Cognitive Strategies are "ordered processes" (Flavell, 1979) intend to monitor information processing and cognitive tasks. Meta cognitive strategies pave way for autonomy in teaching. Reflective processes and monitoring conscious and unconscious internal processes determine sequencial and excellent performance of teaching behaviour (Flavell, 1987).

Meta cognitive functioning.

Martinez categorization of Meta Cognitive Functioning included three elements: Meta memory/ Meta comprehension which is an insightful organisation of cognitive discrimination and evaluation. In teaching context purposeful decision making is a meta process. The second element is problem

solving, Martinez defined problem solving as an attempt to follow uncertain paths in order to reach goals and found similarities with scientific inquiry (Martinez, 2006). Teaching is as complex as a problem which demands constant intervention and scientific/ authentic solutions. Third element is critical thinking which is one form of constructive strategy and associated with scientific inquiry (Martinez, 2006).

Socially shared meta cognition.

Meta Cognition in social setup should produce social mode of regulation. Inter personal reflective practices are the offspring of shared cognition. Synergic mediation influences one's own cognitive and rational feelings which resulted in collaborative and co-operative strategies in teaching/ learning (Volet, et al., 2009). The quality of satisfaction and similar feelings, brought out of social and cognitive mediation develop interest in individuals to indulge in a task. Teaching is an interpersonal enterprise, which weighs self regulation and co-regulation in equal aspects to obtain anticipated performance outcome (Efclides, 2008).

Maggioni and Parkinson (2008) described epistemic cognition (cognitive processes in which people engaged in different tasks after understanding the consequences) and teachers individual epistemology (tried to unravel level of subject taught, interpretation and analysis of content to be delivered and evaluation of teaching –learning process). The study explored further by combining epistemic cognition with teaching practice in order to improve meta level and epistemic monitoring by analyzing the difference between believing and doing through reflective practices (Maggioni &

Parkinson, 2008). Song et al. (2011) elaborated different aspects of meta cognition such as meta cognitive knowledge (a self evaluation of one's own cognition), and explained the relation between meta level abilities with a person's intelligence and consciousness (Song et al, 2011, Fleming et al, 2010). Iiskala et al. (2010) explained the concept of socially shared meta cognition, a meta level cognition in social settings which would be viewed as a social mode of regulation originated from a common goal of tasks. In teaching contexts, the social mode of regulation had great significance because teaching was a collaborative and cooperative phenomena which need collective cognition (Iiskala et al., 2010; Hogan, 2001) or socially mediated meta level regulation (Iskala et al., 2010; Goose et al., 2002).

Measuring cognitive and meta cognitive factors in teaching.

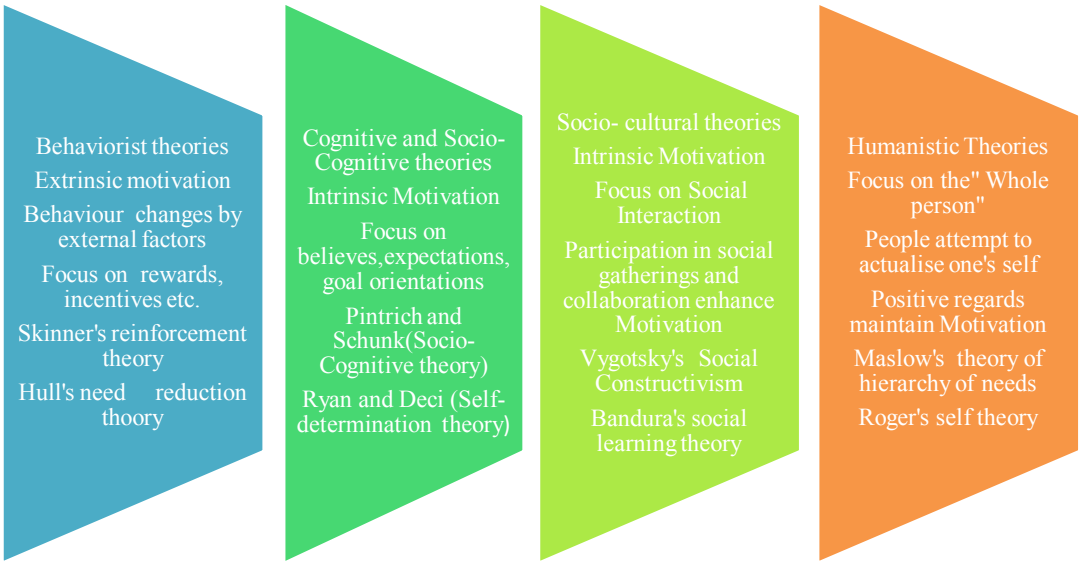
Several tools were found in literature related with cognitive and meta cognitive factors in learning. Tools were developed either focusing one particular aspect of cognition or meta cognition. Strategy inventory for language learning (SILL), scale of perceived cognitive apprenticeship were examples for measures of cognitive elements while meta cognitive performance inventory (Kuhn, 2004), Executive process questionnaire(Hall, 2005), meta cognitive awareness inventory and meta cognitive teaching inventory (Gopinath, 2014) were measures found in meta cognitive factors in human behavior.

Motivational Factors in Teaching

Motivation, a stimulating agent in human behaviour acts as a catalyst in Teaching. Motivation is often viewed as extrinsic and intrinsic based on the

way of manifestation in behavior (Schunk, et al., 2008). In extrinsic Motivation, motivators are external agents which satisfy either needs or inadequacies of people, examples are rewards, reinforcement etc, but intrinsically motivated beings sustain in an activity by internal strength such as beliefs, expectations and value affirmation (Pintrich and Schunk. 2002; Ryan and Deci, 2000), propriate functional autonomy (Bandura, 1986) and self- actualization (Maslow, 1970; Rogers et al. 1990).

Theoretical view of motivation.



(Skinner et al., 1998; Hull, 1943; Pintrich and Schunk, 2002; Ryan and Deci, 2000; Vygotsky, 1986; Bandura, 1997; Maslow, 1970; Rogers et al., 1990)

Figure 5. Major concepts attached with Motivation in various theoretical approaches.

Major theories of Motivation were classified into three groups: Need theories, Cognitive theories and Reinforcement theories. The need theories proclaimed need reduction/gratification leads to human motivation while different approaches suggested different manifestations for personal needs. Maslow's hierarchy of needs asserted a sequential order to fulfill ones psychological

demands from physical needs to higher order needs like self-actualization while Ryan and Deci put forward competence, autonomy and relatedness are innate needs (Maslow, 1970; Ryan & Deci, 2000). Cognitive theories considered human beliefs (expectations, value structure, goal aspirations and self worth) are energizing factors to exert continuous effort (Pintrich & Schunk, 2002). The reinforcement theories by Skinner and Hull highlighted external and overt increments boost human performance and appropriate reinforcement strategies were essential for proper regulation of behavior (Skinner, et al., 1998; Hull, 1943).

Teacher motivation: One aspect of employee motivation.

Steers et al. (2004) described that "Motivation is a process" in which human efforts are inspired to attain a specific goal. The definitions in literature underlined the characteristics of motivated behavior which are persistence, enthusiasm and goal orientation (Steers et al., 2004). Employment demands person's efforts in a sustainable manner. Employee motivation is the willingness to exert energy to reach organizational demands with continuous effort but without sacrificing innate needs (Robbins & Coulter, 2005). The major theories associated with Employee Motivation are given below.

- Two Factor Theory by Herzberg (1968). By making a distinction between lower needs (hygiene factors) and higher needs (potential satisfiers), the theory put forward two categories to interpret motivation in work place. Hygiene factors are pay, supervision, working load etc. which act as primary structure to energize people and

lack of these things result in dissatisfaction while potential satisfiers are achievement, recognition, development etc and the presence of these elements motivate people to pursue professionalism in work (Herzberg, 1968).

- ERG theory by Alderfer (1972): The three levels are existence, relatedness, and growth needs. Existence denoted physical conditions, Relatedness related to social aspects of working environment and Growth needs symbolized Maslow's higher needs such as self- esteem and actualization, the intra personal interests to continue in a profession (Alderfer, 1972).

- Equity theory by Carrell and Dittrich (1978) : The theory assumed that employee's belief on equitable and democratic distribution of benefits correspond to personal contributions, common reality existence in work place, and fair and equal treatment from authority were the contributing factors in employee Motivation (Carrell & Dittrich, 1978).

Motivational factors in teaching.

Teacher inspiration depends mainly on teacher's perceptions and beliefs on school functioning along with benefits secured in return to one's contribution to teaching. Factors related with teacher motivation emerged from monitory benefits like salary, working conditions, advancement, job security, pride in teaching, autonomy in decision making etc (Adelabu, 2005; Nzulva, 2014). The factors related with personal and social elements are more valued than money as far as teachers are concerned. Motivation plays an important role in the productivity and professionalism of employees (Nzulva,

2014). The unavoidable elements that contribute a motivated behavior among teachers found in the review are described as follows.

Responsibility and autonomy.

Autonomy impart freedom to work with no external influence and compulsion from authorities while responsibility entail freedom to people to fulfil one's duties with certain obligation. . The responsibilities entrusted upon teachers by authorities would encourage teachers self worth and performance. The feel of an agency in school would drive teachers to work strenuously in unfavorable situations. Oppressive judgment and objectification by administers often demoralize teachers actions and ultimately lost interest in job. Responsibility and Autonomy were key elements in teacher motivation as per different findings in literature (Lee, 1997; Pintrich & Schunk, 2002; Tashi, 2014; Praver & Quint, 2008).

Leadership style.

Supportive leaders are best tranquilizers in any organizational situation. Head Teachers /principles authentic, democratic and trustworthy leadership pave way for synergy in teaching. Similarly senior mentor's considerate and empathetic leadership in school would motivate young/novel teachers to work without fear and to discharge one's obligation without any ambiguity. Thus leadership styles are corner stones of teacher motivation (Mehta, 2003; Bellois, 2003).

Advancement and Growth opportunity.

Opportunity to develop professional abilities and skills improve teaching. Institutions which provide ample opportunity for teachers to participate in

academic extension works such as participation in national and international level professional workshops/seminar and in service courses promote professional capabilities and inspiration to work. Well equipped staffs are better motivated to exert efficacious teaching behavior. If the opportunities are poor, teachers become doubtful while discharging duties (Blanchard, 2001).

Institutional philosophy.

A positive philosophy would hold democratic values and norms, secure autonomy and provide equal chance for participation in schools overall practice. Institutional philosophy reflects upon teachers thoughts and actions and would contribute to teacher motivation (Cherry, 2000).

Working environment.

Factors related with environment enhance/diminish teacher performance. A conducive teaching experience generated from teachers beliefs, expectations, and expertise in utilizing the resources availed in institution. A flexible and clear psychological environment and adequate infrastructure was indeed a necessity to instigate teachers duties and obligations in a progressive manner. Working conditions would determine clear and transparent communication patterns, exchange of views and shared vision in all matters related with teaching. Collaborative and cooperative working environment provide direction and energy to all staff irrespective of any limitations in structural possibilities. (Blanchard, 2001).

Teaching as interesting and challenging job.

Teacher's perceptions regarding profession were instrumental to teacher's commitment and satisfaction towards teaching. If teachers think

teaching was a tribute to society that would follow a positive regard to teaching which would cater splendid and enduring performance. A minimum level of task complicity would sustain energy and spirit in teaching. If teachers internalize the fact that teaching is a prestigious occupation in society and community that will reflect in teacher behavior (Crocker & Wolfe, 2001).

Leisure time utilization.

People need relaxation and comfort after a prolonged discourse of action (teaching). This aspect of motivation projected that teachers would need to spend quality time with family and friends. Furthermore teachers would need to participate in community gatherings and social dialogues in order to sustain interest in teaching profession. A close relationship with immediate community and surrounding reality was an added advantage while executing teachers duties and responsibilities (Alderfer, 1972). Also the studies revealed that teachers workload had a negative impact on teacher satisfaction (Spear et al., 2000).

Respect and recognition.

Social acceptance and cordial and respectful interactions were the backbone of human motivation. Authorities' recognition and appraisal were the prime satisfiers in teaching. Appreciation from head of institution would sustain interest to indulge in hectic tasks like dealing pupil with intellectual differences in inclusive and special education settings. Respect from students, parents and school staff were detrimental to efficacious behavior of Teachers. Societies and government organizations approval and encouragement would direct and modify teacher's actions and goals (Herzberg, 1968; Bellois, 2003).

Tactful disciplinary machinery.

Rules and norms prevailed in institution to monitor and guide teachers and students actions were another factor that influences teacher motivation. From external regulation to self regulated behavior of working community arised out of institutional policies and human nature. Flexible disciplinary framework were suitable for self regulated persons while strict measures were needed to regularize lazy persons. In educational institutions, disciplinary measures were needed to maintain pupils well being as well as to provide teachers directions to handle demanding situations. Clear and fair disciplinary measures would create stamina and direction to teachers (Blanchard, 2001).

Fringe benefits and good wages.

Monitory benefits could have a role in teacher motivation. Benefits like leave, health insurance, salary etc. determined teacher's retention in schools. Some studies proclaimed that teacher motivation and retention were less connected with monitory benefits rather more associated with socio-cognitive elements like social recognition, status, autonomy and expectations (Blanchard, 2001; Adelabu, 2005; Nzulva, 2014).

Emo (2015) projected two theories while explaining teacher motivation, first theory was control-value theory which attributed the idea of agency among teachers. Teachers who felt themselves as professional agents become self regulated, self-intuitive, and innovative in teaching. When teachers could perceive value added control over the tasks, they become involved in new and creative tasks and should able to take risk in unfavorable and unfamiliar conditions. The second theory was the self determination theory by Ryan and

Deci (1985). When teachers confronted with autonomy, competence, and connectedness in teaching which would result in optimum performance standard and express a sense of belonging. The paper further explored the ideas like identity crisis or identity interaction among teachers. Teachers' professional, personal and contextual/ situational identities would interact and create either tensions or development with respect to how teachers manage these elements in life (Emo, 2015; Day, et al., 2007).

Measuring Motivational factors in Teaching.

Measures on motivational factors in teaching included several questionnaires measuring employ and teacher motivation. Akilli and Keskin (2016) constructed a scale with sub dimensions–extrinsic, intrinsic, mercenary, and altruistic elements of motivation in teaching. The scale consisted of 32 items and administered to teachers to understand the perception regarding teacher motivation. Dorji (2014) developed a questionnaire on different levels of motivation among teachers which included several factors and 18 items. The questionnaire was a five point rating tool used among secondary school teachers in Thimpu.

Special Education Teacher Grit

Grit is a non-cognitive quality or characteristic emerged from positive psychology. Duckworth researched this concept largely and found the possibilities and influence of Grit in human behaviors. Duckworth et al. (2007) defined Grit as '*Perseverance and passion for long term goals'*. Gritty persons are hard core workers and keep continuous effort to achieve aims and goals in life. The stamina attached with Gritty people entailed them to pursue

long term priorities and found that those persons are successful in one's occupational field. Galton (1892) studied the characteristics of eminent personalities and found some common elements which are "*Ability combined with zeal and capacity for hard labor*" (Galton, 1892), the characteristics one could observe among gritty persons. Apart from high intelligence, one's strength for success or achievement eructed from a person's constant effort for survival (Duckworth et al., 2007).

The concept Grit coined with other non cognitive qualities persistence, confidence, perseverance and conscientiousness (Duckworth et al, 2007). Gritty people gain more than others even if the circumstances are equal and the qualities associate with this peculiar characteristics are the long term priorities and stamina associated with Grit. The sub components of Grit, as per Duckworth's finding are:

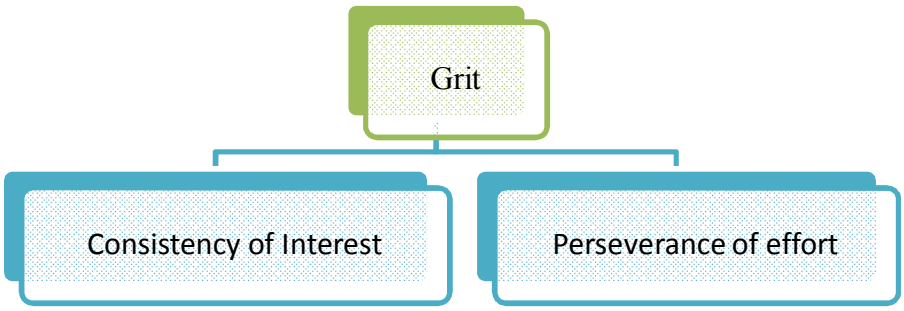


Figure 6. Duckworth's classification of Grit (Duckworth et al., 2007).

Five Characteristics of Grit. Perlin (2013) based on Duckworth's studies put forward five distinguishable characteristics related with Grit which are shown in the diagram.

Figure 7. Characteristics of Grit (Duckworth et al., 2007; 2009).

Courage. Gritty people view difficult tasks as an opportunity to Grow and conceive the problem as part of an experience in life. High gains obtained from ability to handle risk with perseverance in life (Duckworth et al 2007)

Conscientiousness. Success oriented or dependable**.** Conscientiousness is one of the five personality traits: openness, neurotic, agreeableness, introversion and conscientiousness. In which Grit is more connected with conscientiousness (Duckworth et al, 2007). Success oriented persons struggle hard to gain the target in all possible ways while dependable persons reluctant to take a step ahead, against the conventional methods. The persons who are more self controlled fail to accomplish the target while the painstaking counterparts touch the target (Duckworth et al, 2007).

Long term goals and endurance. Webster's definition of Grit in the context of behavior is "firmness of character and indomitable spirit" (Mariam Websters.com). This definition projected perseverance as one of the characteristics of Grit. Duckworth's research substantiated the notion

that Grit need long time commitment along with desire to struggle in order to perceive a goal. A successful person reach the goal by taking time but that is entirely different for a person's involvement in long duration without proper purpose in mind. Purposeful targets are keeping one's energy, passion and stamina, then only the perseverant effort become part of Grit (Duckworth, et al., 2007).

Optimistic control. Optimism, confidence and creativity ⇒ Hardiness = (+/-) Grit. The equation provided the relation between optimistic control and grit which are closely associated with non cognitive traits. Resilience is the combination of a person's optimistic outlook, confidence to do something firmly and innovative ideas to lead a task in hand. In that sense optimistic control is a measure of Hardiness which is either positive or negative aspect of Grit (Duckworth, et al., 2007;2009) .

Excellence versus perfection. Gritty people strive for excellence but not seek perfection. Perfectionists often face barriers to success. Excellence is an attitude or virtue which enable a person to forgive or to embrace failure and make a person to continue one's struggle for betterment (Duckworth et al., 2007;2009).

Grit – An essential quality in teaching.

The role of intellectual ability in achievement corresponds to professional domains is well established but rare to discuss about non-cognitive qualities that predict success. Grit in psychology is a positive trait, based on people's hard work, firmness, passion and stamina to achieve a

distant aim with patience and perseverance. Some teachers are more effective than others with same intellectual capability and teacher effectiveness is most crucial in students learning outcome. Gritty people strive for sustaining commitment when dealt with adversities and setbacks (Robertzen-Craft & Duckworth, 2007).

In special schools, teaching is confronted with many challenges and changes, persons with synergy, striving mentality and support seeking skills are more successful. Gritty teachers tend to work hard and continue to maintain one's effort for a prolonged period. Such qualities in teaching gravitate to student learning vicariously. Personal characteristic like grit could forecast novice or less experienced teacher's commitment, engagement and sustainable performance. Gritty teachers are also equipped with confidence and adaptive skills which are essential for survival in special education sector (Goddard et al., 2004; Gu & Day, 2007).

Duckworth suggested that people can learn to be gritty. Even personality traits were affected by experience and environment. Educators must design environment that promote grit and through purposive modeling teachers could foster grit. Five steps to foster grit were ; modeling a difficult task, view mistakes as opportunities to learn and did not devalue mistakes, Authentic task should be provided, revise and reflect teaching/ learning processes, and celebrate success (Duckworth et al, 2007; Gu and Day, 2007). Grit's role in educational field was the most considered aspect now because of the elements of success and hard work related to the concept. Satisfaction and

success were mostly debated and compared concepts in human life, but grit enabled a person to hold these virtues together in one's workplace. Hard work toward an attainable target would maintain satisfaction in work but long term orientation would enable a person to withstand immediate setbacks and march toward an ambitious goal, a tendency observed in highly successful persons in the world. In educational field like any other virtues, grit should be learned by students either through observing models or to indulge in activities purposefully designed to promote grit. Grit was an embedded quality in Bandura's views on self efficacy. In character education, human character was dichotomized into two which were core ethical value oriented character (norm based character manifestations) and performance value oriented character (value affirmed activity orientation in human behavior). Grit by researchers had viewed as a performance value oriented quality in human behavior (Duckworth et al., 2007; Gu & Day, 2007).

Grit was a distinct combination of optimistic control, passion, determination and focus that allows a person to maintain the discipline and to keep a positive outlook to pursue ones goals in the face of rejection, discomfort, and lack of improvement for years or even decades. The special education teachers often confronted with setbacks, anomalies and discomfort while teaching pupils with intellectual differences. Dweck et al. (2011) provided the psychological resources which could foster grit in humans. The psychological determinants that could build up grit was given in the figure.

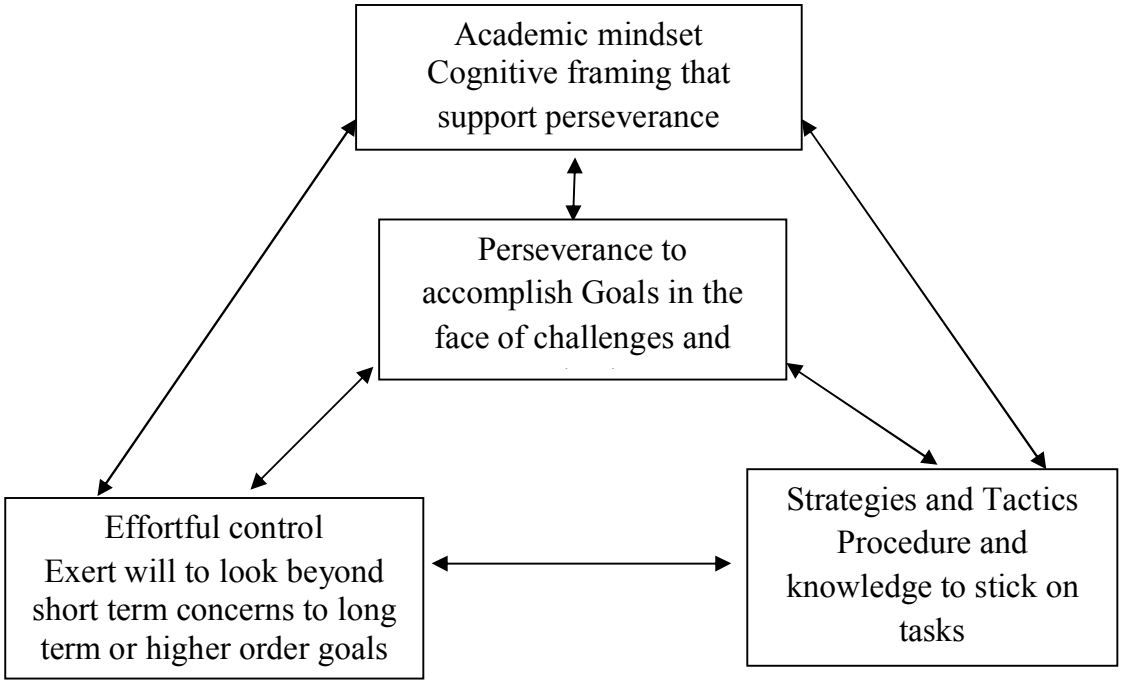


Figure 8. Psychological resources which foster grit (Dweck, et al., 2011).

The psychological resources put forward by Dweck et al. (2011) dynamically instigate each other during performance. Academic mindset entailed persons to choose strategies and tactics in order to achieve goals or targets in learning or teaching. Mindset would provide directions to seek options while stuck with difficulties in any process. Perseverance or exertion of effort would originate from a person's mindset as well as the familiarity of the strategies and tactics in hand to follow a target (Dweck et al., 2011).

Perseverance toward an unattainable target or working hard to attain nonrealistic goal often would make dissatisfaction among students. Supervision and direction from an authority to continue in a task would make humans more traditional than innovative in outlook. To pursue a task under thorough external control would hinder intuitive thinking abilities was a negative aspect of grit interventions. Promotion of self initiated working

patterns would seek in educational institutions to promote non cognitive traits like grit among teachers and students for success and satisfaction (Easton, 2012; Dweck et al, 2011).

Measuring grit.

Duckworth was the first researcher who constructed a tool to measure grit. The tool consisted of 12 items from two dimensions: consistency of interest and perseverance of effort and usually named as Grit-O Scale. Duckworth and Quinn (2009) modified the original scale and named Grit-S Scale which comprised of 8 items meant for measuring student's grit. Clarck and Malecki (2019) developed a 30 item Academic Grit Scale(AGS) which focused on measuring adolescents grit related with academic success. Datu, Yuen and Chen (2017) made a Triarchic Model of Grit Scale(TMGS) which included 11 items after an exploratory factor analysis and the sitems were taken from three dimensions. The third dimension was adaptability to situations besides Duckworth's dimensions of grit and the tool was administered among under graduate students.

Special Education Teacher Tenacity

Tenacity is what turns talents into result and a term closely related with Grit. Tenacity is the quality to stick with a task. Tenacity is also conceived as the intensity with people handles problems and discipline oneself to carry out the task in hand in order to succeed. In working conditions Tenacity often means the intensity with which someone tackles a task. Tough players in sports are called tenacious. Tenacity is defined by Oxford dictionary as the quality or

fact of being able to grip something firm (Oxford Dictionary. Com). Literature reveals that the research related with teacher tenacity is rare and most of the studies were done with academic tenacity and student achievement. The studies related with transferable skills gained momentum since 2007 and most of the research studied Grit, Tenacity and Perseverance under a common platform (Dweck et al., 2011; Ferrington et al., 2012).

Academic tenacity.

The non cognitive factors that stipulate long term learning and students better learning outcome can be together represented by the term, academic tenacity. Academic tenacity is mindsets and skills that promote long- term learning (Dweck et al., 2011). That means academic tenacity is the mindsets and skills that facilitate students to choose long term goals than short term concerns and the quality to face challenges and hurdles while pursuing towards the distant goals. The characteristics of tenacious students were academic and social belongingness towards school, perception of school and learning as essential determinant of one's future life, work hard and work smart for a long pace, set aside short term benefits, seeking challenges and keep engaged for a long haul (Duckworth et al., 2007; Dweck et al., 2011; Yeager and Walton, 2011; National research council, 2012).

Different aspects related with tenacity.

Literature underlined the fact that non Cognitive factors are related with academic success. Students believes about themselves, goal setting, social participation and self monitoring skills are factors which contributed either frustration, or tolerance abilities than other students with equal

intellectual capabilities while facing adversities. A tenacious student would view adversities as a short term phenomena and carry on one's learning responsibilities for achieving a better future. The major aspects of tenacity are as follows (Dweck et al., 2011).

Mind sets and goals.

Mindset matters students/ persons belief about something (for students belief about learning, intelligence, academic ability etc). Beliefs influence tenacity in such a way that whether people value intelligence and other abilities as fixed, possess a fixed mindset (either possess abilities or do not possess) but the peoples notion regarding things, that is, the effort and subsequent learning can improve intelligence, abilities etc can be viewed as a growth mindset. People with fixed mindset ended up with frustration in order to prove that false conceptualization, while people with growth mindset viewed challenges as opportunities for learning/experiencing. Thus growth mindset enable students to surpass momentary failures and to relay upon future aspirations with vigor and vitality (Schunk and Pajarees, 2009; Dweck et al., 2011).

Social belongingness.

An important aspect of academic tenacity is feeling of belongingness: This include the relationship between peer students and student's relationship with teachers and staff of the institution. Belongingness is the social element in tenacity which would enhance fellowship and provide a feel of agency in school. The feel of being a part of institution cultivate confidence, self-worth,

freedom to work, obey the rules and shoulder the responsibilities among stakeholders of school, that would reflect in the form of tenacious behavior (Osterman & Bybee, 2000).

Self regulation and self control.

A concept which is often linked with meta cognition have some influence in tenacity too. Self- regulated behavior was the infrastructure which provides the stamina to continue in long term goals and to withstand immediate setbacks with ease, and propel one's actions with a growing mindset. This aspect of tenacity was closely associated with grit. Both grit and tenacity required self determination to shield short term difficulties in order to accomplish distant aspirations (Duckworth, 2009; Duckworth and Kern, 2011).

Things that foster academic tenacity.

Tenacity is a quality or property of students that can be measured and instilled through Psychological interventions. The things to foster student Tenacity and learning outcome are: 1. Challenge $\Rightarrow$ accept and remain undaunted in the face of challenge is one way of developing tenacity. Teachers must hold high performance standard and expectations regarding student learning outcome, then only pupils' tries to accomplish this with one's full potential. Care should be taken to choose age and level appropriate learning tasks in intervention programs. 2. Scaffolding $\Rightarrow$ a type of support provided by teachers in constructive classrooms which enable students to pursue tasks by one's own. Scaffolding is an experiential way of teaching and learning which provide ample opportunity for creative and innovative learning opportunities to

students. Through scaffolding, healthy motivational orientation could be provided to students to indulge in difficult tasks and to face failure with ease and grow out of the situation to reach higher goals in life. These processes were central to academic tenacity. Supporting student autonomy in learning would develop self regulation in pupils which also foster tenacity. 3. ⇒ Belonging : Belongingness in school would establish through fair and proper norms and discipline, pupils congruence with school's academic standard, peoples self regulatory motives and freedom, and a pleasant and transparent communication patterns. Social interactions and gatherings would create a bond between people inside institutions. Interventions suitable to uphold social interactions would include in the programs to develop belongingness in students (Osterman & Bybee, 2000).

Major intervention programs for developing academic tenacity in literature.

Academic tenacity was the ability or quality to surpass immediate concerns with control and confidence even in the midst of academic setbacks or difficulties. The interventions for developing tenacity in literature were 1. Mindset intervention: most of the interventions stood for growth mindset strategies and skill development. Growth mindset would enable students to handle tough tasks with new neural connections in brain network and thus become smarter to face atrocities in future life with ease and comfort. The second intervention for developing tenacity in literature was school belonging and value affirmation intervention which meant for cultivating a welcoming approach in school among students and avoiding negative stereotyping. By

valuing once virtues like sense of humor and cordial relationship with family would reflect in academic settings irrespective of one's incapability or difference in school was the purpose of these interventions in educational settings. The third program was identity and self-relevance intervention which target student's beliefs and ideas of relevance of institutions meant for learning connected with one's life and to the society at large. Another program, teaching self-regulation intervention was meant for cultivating goal-setting and self- improving strategies among children. The main component of the intervention included training students to opt goals, to monitor the progress towards goals and to handle high pressure situations in life.

Teacher tenacity.

Literature provides information regarding academic tenacity and tenacious behavior in various fields than in teaching. Tenacious behavior while teaching is a necessity rather than a mere quality whether one consider teaching in special schools especially handling pupils with intellectual differences. In narrow sense, teacher tenacity is the mindsets and skills that promote longevity in teaching but in broad sense, teacher tenacity encompass "*teacher's mindsets, goal orientation, social belongingness, value affirmation and self regulation"* in teaching contexts (Duckworth et al., 2007; Duckworth, 2009; Dweck et al., 2011, Shechtman, et al., 2013). People who choose special education teaching as a career may have to work under various situations: at special schools, inclusive classrooms in general schools, institutions attached with medical colleges and in neuro-psychiatric treatment cells in hospitals. The qualifications are same but the working environment is vivid and vague and also society's

expectations are high. In that circumstances teacher tenacity enable a teacher to withstand short term setbacks and challenges in teaching and to move toward higher order goals like better student's performance and an altruistic behavior in one's profession. Marilyn Shea (2010) studied tenacious behavior of special education teachers and found that tenacious behavior was influenced by leadership qualities and teacher commitment and posited that teacher attrition and retention were associated with the above qualities (Shea, 2010).

Measuring tenacity.

Measuring non- cognitive qualities in literature depended upon various strategies and methods, if these qualities were viewed as human dispositions, those things could be measured with human perceptions and priorities toward each characteristic. If the quality was conceptualized as a set of processes in human behavior, measurement would focus on sequence of behavior manifestation and physiological and mental reactions to emotions and setbacks. The measurement of teacher tenacity would rely on the conceptualization of tenacity as an enduring disposition or micro level sequential phenomena. Thus measurement agencies would vary from self- report to observation schedule/ file analysis.

Self-reports were widely used to measure dispositional tendencies in human behavior. Dweck et al. (2011) used a self report scale of intelligence (fixed or growth mindset toward intelligence), Baum and Locke (2004) constructed a 5 point Likert type tenacity scale and Farrington et al (2012) constructed several non-cognitive measures in the form of self-report tools.

Special Education Teacher Resilience

Resilience is the process through which an individual maintains adaptive functioning after experiencing risk or adversity. The term originated from pediatric research where the concept means "a capacity to recover from adverse events". A most common definition of Resilience is the "process of successful adaptation despite from threatening circumstances" (Masten & Garmezy, 1990). Resilience is not an individual trait, but a capacity that flourish through interactions between people within organizational contexts. Resilience is built in children through their relationship with caring parents and teachers and through potential intellectual functioning. Nowadays career resilience become an interested area in research. Within education, researchers found "everyday resilience" to cope with demanding and changing circumstances. Teaching is a social act which demands changes and interventions to accommodate social disparities and human differences. Job related psychological ill health specifically stress, burn out and depression arises in employees working in educational sector because of work overload (Day & Gu, 2010; Brighouse, 2011) and less adaptive mannerisms. Resilience was an interpersonal variable and a socially constructed quality which had several sub factors and encompassed a wide variety of classification. Resilience was not a fixed trait level characteristics but a transferable and a teachable quality which could be developed through educational intervention programs (Padron et al., 1999; Poulou, 2007).

Types of resilience.

Social resilience. The concept evolved from positive psycho-social functioning and had history from 1980 onwards, like in any other field, there

happened a paradigm shift from a pathological approach to sociological approach and focused upon strengths and qualities of individuals that lead to positive adaptation while the presence of risk factors were prevented through interventions (Poulou, 2007).

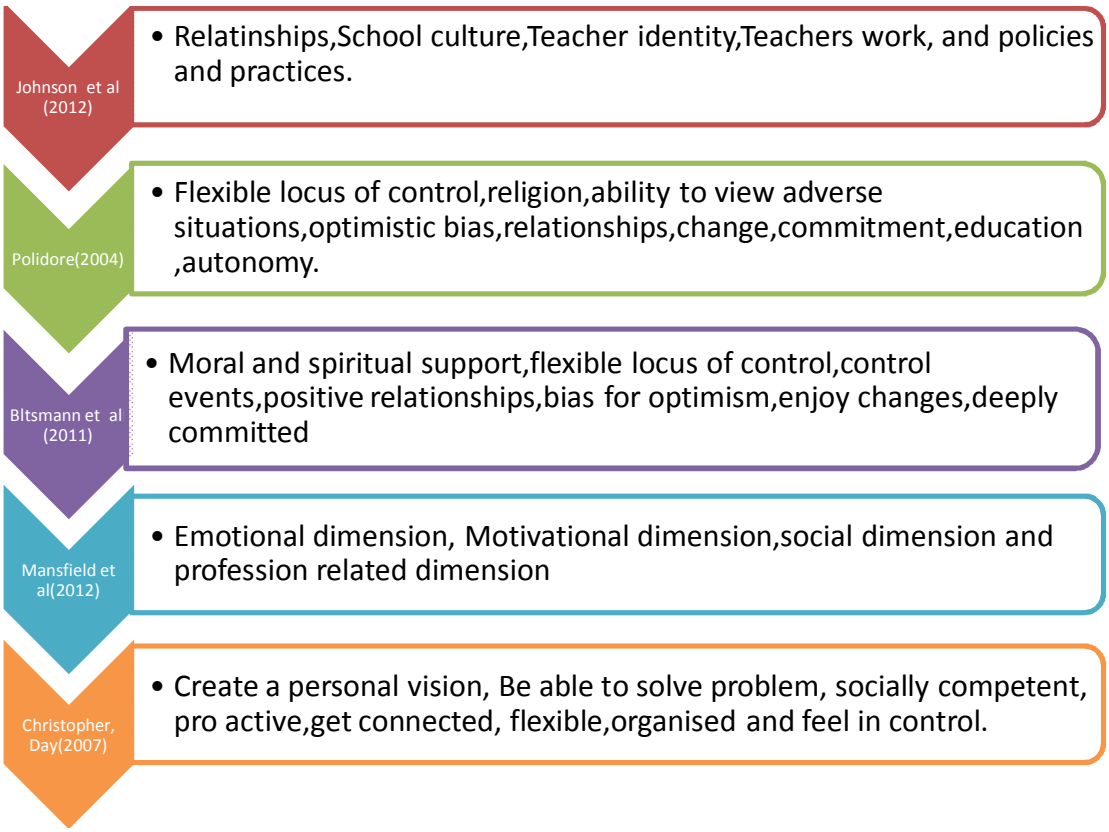
Relational resilience. The core basis of this theory was psychological growth happened through relationships. As a contextual approach, relational resilience rested upon human connectivity which were rooted in mutuality (a positive connection between members), development of courage (prone to choose challenging situations) and empowerment (social support from responsible relations) (Jordan, 2006).

Academic resilience. Deal with academic achievement devoid of day to day risk and complexities in the academic field. The definitions reveal some risk and protective elements and academic resilience can be described as success in school despite of individual shortcomings and difficulties brought out by contextual differences (Mastern, 2001).

Teacher resilience. Teacher resilience is the capacity "to manage unavoidable challenges in teaching" (Day & Gu, 2009). There were two different theoretical approaches in teacher resilience. A multi dimensional approach in which contextual and personal factors combined to describe teacher resilience (Day & Gu, 2009) and the second approach is Strategic approach in which teacher resilience is defined as the process of adaptation using different strategies (Patterson & Abbort, 2004). Castro et al. (2010) which adopted a combined approach in which teachers were viewed as active

agents who manipulate things using various strategies in order to achieve favorable outcome in the face of difficulties, that were aroused out of poor working environment and resources (Castro et al., 2010).

Factors associated with teacher resilience by different authors in literature.



(Johnson et al. (2012); Polidore (2004); Beltmann et al. (2011); Mansfield et al. (2012); Day (2007)).

Figure 9. Factors associated with teacher resilience.

Teacher resilience was a widely studied concept in research literature and had emerged many definitions by different authors. The most acceptable definition by Day and Gu (2009) for teacher resilience was "the capacity to manage the unavoidable uncertainties inherent in the realities of teaching". Johnson et al. (2012) elaborated five major conditions of teacher resilience

which were school culture, interpersonal relationships, teacher identity, teachers work and attitudes and policies and practices embedded in school. Gu and Day (2007) prescribed a multidimensional approach in which personal and environmental factors merged to form teacher resilience. Patterson, Collins, and Abbort (2004) proposed a strategic approach involving teacher adaptation using different strategies and Castro et al. (2010) adopted a position in teacher resilience by combining both aspects, multidimensional as well as strategic and viewed teachers as active agents in employing various strategies to deploy balance and progress in adverse situations with minimum facilities in school (Castro et al, 2010). Henderson, et al., 2018) explained six protective factors that were related with resilient behavior which included " nature and support, purpose and expectations, positive relations, meaningful and authentic participation, life guiding skills and clear and consistent boundaries" (Henderson, et al., 2018).

Teachers work in stressful or difficult environment were unable to cope or adapt would feel school uncomfortable. Bobek (2002) studied the relation between resilience, students achievement and retention of teachers. Teacher resiliency was a critical element in teacher satisfaction and retention. Bobek (2002) enlisted the resilient behavior of teachers which were significant adult relationships, a sense of personal responsibility and commitment, social skills, problem solving abilities, a sense of competence and expectations, sense of humor and a sense of goals and attainment. Beltman et al. (2011) proclaimed that resilience was the outcome element of interaction between individuals risk and protective factors and the classification were given in the table 1.

Table 1

Risk and Protective Factors Associated with Resilience by Benard (2004).

	Individual	Contextual
Risk factors	• Negative self beliefs and confidence (Day, 2008) • Reluctance to seek help (Fentilli and McDougal, 2009) • Conflict between personal beliefs and practices (Flores, 2006)	• Behavior management (Howard and Johnson, 2004) • Unsupportive leadership/staff (Day, 2008) • Time required for non-teaching (castro et al, 2009) • Casual employment (Jenkins et al, 2009)
Protective factors	• Altruistic motives (Sinclair, 2008) • Strong intrinsic motivation (Chong and Low, 2004) • High self efficacy (Day, 2008)	• Collegial support • Strong caring leadership (Howard and Johnson, 2004) • Mentor relationships (Olsen and Anderson, 2007)

(Beltman et al., 2011; Benard, 2004)

Resilience based programs focused on protective factors which were further subdivided into individual, family and community by Place et al. (2002). Teacher resilience would tackle in different contexts like initial teacher preparation program, school leadership (viewing teachers as leaders in institutions), teacher support (programmes like teacher support networks enabled teachers to share problems and concerns related with teaching would improve teacher resilience) (Day & Gu, 2010). Resilience was believed to occur when protective factors suppress risk elements to take out a positive outcome in strenuous situations (Mastern, 2009) The protective factors in teaching were social support and competence, peer teachers and families influence, internal locus of control, coping strategies and intelligence (Eliott et al., 2010).

Measuring resilience.

Measures of resilience vary with focus of the studies in literature. Some research used both risk and protective factors associated with phenomena under study. Connor- Davidson resilience scale derived from five domains, personal competence, tolerance of negative aspects, accept changes and hold relations, self control, and spiritual mannerisms. Another most popular scale was Resilience Scale for Adults (RSA) put forward by Friborg et al., (2003) comprised of both interpersonal and intra personal protective elements in purposeful adaptation to challenges and included 33 items. RSA scale was developed from "five dimensions of resilience: personal strength, social competence, organized style, family cohesion, and personal and social resources (Friberg et al., 2003). Teachers' Resilience Scale composed of 26 items regarding protective factors in teaching which were "Personal competencies and persistence, spiritual make up, family cohesion, peer support and social skills" (Daniilidue & Platsidou, 2018).

Studies Related with
Socio- Emotional Competency Factors in Teaching

Felicia and Elisabeta (2018) conducted a study to find out different socio-emotional competency strategies suitable for handling students with autism. Sample was 50 teachers from primary sector and the study tried to elicit teachers attitude towards social adaptation of pupils with autism. The findings proclaimed the necessity of behavioral\ therapy training to teachers and seeking help from paraprofessionals and medical team in school. The study also recommended life long support to pupils with autism as well as the family members for better understanding and coping.

Chin and Rebecca (2018) investigated teacher support to socio-emotional learning in Singapore schools. The qualitative analysis evaluated SEL interventions at three specific aspects of interactive situations; “group size, types of activities and chances of teaching”. The study concluded that intentional approach in teaching is more beneficial than incidental teaching as far as SEL interventions are concerned. The strategies included sound modulation, providing solutions, accept responses and scheduling tasks. The study also pro crastinated the situations which demand SEL support to students and individuals in kindergarten in future.

Belli and Manrique (2017) studied the necessity of socio-emotional education to teachers for improving the practice of teaching especially in problem solving situations. The authors posited that teacher’s emotional and social skill management would reflect in student’s learning and problem solving abilities in mathematics. Sample selected was recently joined primary teachers and the method adopted was participatory field study method in which teachers familiarized texts on socio-emotional competitions and problem solving. Audio recording and transcripts were utilized for collecting evidences. Teachers reflections revealed that training for teachers in developing socio-emotional competency skills would equip them for better stress and conflict management at school.

Baldacchino (2017) in a paper explained about a study conducted in Australian schools which explored teachers SEL implementation strategies in classroom. The paper also discussed various elements in SEL programme including development in SEC training and SEL programme implementation hazards in schools and viewed that schools should cater mental well being of school community through proper SEL implementation programmes.

Lopez-Mondejar and Pastor (2017) investigated socio-emotional factor's in co-operative learning project of 103 teacher training students. Socio-emotional skills and competency was taken as the dependent variable and co-operative learning methodology was the independent variable. The paper found out a positive outcome in developing socio-emotional skill by administering a co-operative learning method in undergraduate students of teacher preparation meant for pre-primary and primary educational programs and the study underlined the importance of promoting socio-emotional skill's in teaching community.

Taresova (2016) examined the socio-emotional competency (SEC) of students aged 7 to 11 years. Three separate tools were used to collect data from students, teachers and parents. The result revealed that pupils SEC is not age-related while comparing the SEC of 2^{nd}, 3^{rd} and 4^{th} grade students. The self awareness and social component of SEC of 4^{th} grade students shows a hike than other groups and reflection and differentiated self-interventions were suggested.

Hagenauer, Hasher and Volet (2015) investigated teacher emotions in classroom teaching. Students motivational, socio-emotional and relational behavior were chosen as independent variable and teachers self-efficacy beliefs kept as control variable. Hierarchical regression analysis was used to find out the relationship. The findings underlined that teachers joy and anxiety depended upon interpersonal relationship between teachers and students while teacher's anger aroused out of lack of discipline. The study suggested for better teacher student relations along with progressive student engagement in classroom activities in order to enhance positive experiences among teachers

and students and concluded that teacher preparation programs must include SEC ‘training to teachers’.

McCormic, Cappella, O’Connor and McClown (2015) conducted an experimental study in which impact of socio-emotional learning on academic achievement was found out. The quantitative study posited the relationship between social support and math reading ability of first grade students by utilizing a series of models developed by the investigators and found out improvement in classroom organization and in students response.

Through phenomenography, Goh and Wong (2014) studied novel teachers conceptions of competency. As an interpretive research approach, phenomenography would collect beginning teachers awareness of the phenomenon “competence” through interviews which include questions regarding ‘competence’ in order to elicit response in an unstructured manner. Categories included for exploring teacher’s conceptions of the phenomenon were behavior management, knowing different teaching strategies, “understanding students” (Emotions and behavior management component), seeking emotional help from others and support and possessing professional ethics and obligations. The study concluded in such a way that competency based norms would improve quality of the teaching and professional development. The teacher training programs would include reflective practices for better critical awareness among teaches regarding teacher competence.

Supportive learning environment was the creation of teacher’s psycho-social mannerisms and perceptions regarding children at risk. Jennings (2014) conducted a study between teacher’s pro-social characteristics and Attitudes towards children at risk. The sample selected was 35 pre-school teachers and

a special need student. The result indicated that pro-social characteristics contributed to conducive classroom environment, teacher's efficacy and other personal gains were positively correlated with emotional support, and depression, depersonalization and emotional setbacks were negatively connected with emotional support.

Costa and Faria (2013) conducted a study among secondary school teachers in Portugal and investigated teachers views on institution's roles and responsibilities in developing SEC in students. Teacher's responses underlined importance of SEC training in student's success and students become more practical, responsible, self driven and keen to involve in academic work with self confidence and awareness after exposing to SEL interventional approaches. The paper also pinpointed that contextual stress on academic achievements on the part of institutes devalued the non-cognitive aspirations of children.

Forcina (2012) found out the relationship between teacher SEC and teacher stress as well as teacher SEC and teacher attrition. Sample selected was teacher's from Georgia and correlation and multiple regression was used to analyze the data. The result revealed that teacher SEC and teacher stress were inversely proportional. Each component of SEC was correlated with teachers stress by multiple regression analysis and was found weak negative correlation between relationship maintaining and stress and moderate negative correlation was found between self-regulation and stress.

Berger, Alcalay, Torretti and Milicic (2011) conducted a study on Chilean elementary student's individual and social competencies. For collecting data from students "Socio-emotional well being scale was used to assess socio-

emotional elements of students, a self-esteem scale was administered to students as well as teacher's report regarding the students self esteem were utilized to analyze data complementary to each other. Similarly classroom social climate was secured using school climate scale, which also included items for both to students and teachers to respond. Social Integration was taken in the study through "social cognitive mapping and peer social network through "simulation investigation for Empirical networking analysis". Teacher's views on students' self-esteem coincided with academic achievement. Socio-emotional perspectives, deduced from students and teacher's point of view's regarding social climate and interpretation were positively correlated for both genders.

Sharma and Sharma (2011) studied the relationship of teacher performance with teachers age, emotional intelligence and level of aspirations. Sample selected was 320 teachers and data were analyzed using three way Anova and t-test. The paper proclaimed that young teachers would perform better than aged teachers and teachers with high emotional make up would manifest better classroom performance.

A learning program named 'Learning to live together' developed by Rosenthal and Gatt (2010) had provided (research-based knowledge) training to teachers on socio-emotional development and social learning aspects in group activities. The program further exfoliated teachers embedded and expressive behavioral mannerisms like beliefs and attitudes towards development of SEC among students. The program included 12 training sections meant for teachers and a video observation of students with special needs. The program emphasized the need for SEC training both to adult and small children.

Wyman, Cross, Brown, Yu, and Eberly (2010) developed a model for teaching students to enhance "Emotional self regulation" through scaffolding. Strategies included in the model were role play, video coaching and vicarious opportunities for learning through teacher modeling. 226 students of 3rd grade with remarkable behavioral deviations were chosen and 14 lessons had provided to students with adequate reinforcement from mentors. The study proclaimed that teacher's had identified reduction of behavioral outburst in peer social skills and withdrawn behavior mannerisms in student's emotional behavior. Peer social capabilities had improved in girls than boys, disciplinary referrals and suspensions reduced drastically among students.

Jennings and Greenberg (2009) found out a negative relationship between SEC and teacher burnout and suggested a pro-social classroom model and some strategies for reducing stress and positive mental health programs among teachers. Through pro-social classroom model, Jennings and Greenberg put forward the necessity of teacher's socio-emotional competency to improve classroom behavior and students well-being. The study also detailed the things regarding an effective school climate suitable for better teachers and students relationships.

Repetto, et al., (2007) in a qualitative approach studied the socio-emotional well-being of secondary students in multicultural background and implemented a program for enhancing students learning, better social accommodation at school and an antithesis to bullying/risk elements in school named POCOSE (the Guidance Program for SEC). The paper also analyzed cultural diversity, socio-emotional adjustment and relevance of SEC in job oriented environment.

Cohen (2006) in a paper suggested that socio-emotional skill and positive psychological dispositions were needed for a democratic citizenship Cohen tried to explore the gap between socio-emotional interventions happened in the form of SEEAE (Social, Ethical, Emotional and Academic Education) and the lack of proper structure and direction for socio-emotional learning in schools. In the curriculum, Cohen emphasized the need for integrating SEL programs with pedagogical practices for developing a conducive school climate for effective 'school practices' Cohen projected the need for SEL learning in teacher education too.

Fer (2004) conducted a qualitative research in the form of a field study in which 20 school teacher's were opted for an EQ program in Turkey. Focus group interviews were organized for collecting data and the design adopted for the study was praxis based. The study revealed the necessity of EQ programs among in-service teachers and an evaluative of the program by teachers indicated that such programs were beneficial to both teachers and students. The study revealed that socio-emotional make up of teacher's experience in the phenomenological world possessed multiple realities and the study asserted that teachers who would manage negative emotion skillfully were more productive in classroom.

A meta analysis of studies related to socio-emotional competency factors in teaching is presented in Table 2.

Table 2

Meta Analysis of Studies Related to Socio-Emotional Competency

Year	Author	Findings
2018	Rosman & Pota	Different strategies in socio-emotional competency training for handling children with Autism spectrum disorders. Suggested necessity of behavioural therapy training to teachers, seeking support from medical as well as para professional and recommended life long support to pupils and family members for better adaptation.
2018	Ng, Siew. Chin, Bull, Rebecca	International approach in SEL implementation programmes were more beneficial than incidental approach in teaching. Positive sound adaptation, providing solutions to problems, accept responses, scheduling tasks were the strategies suggested.
2017	Belli & Manrique	Teacher's emotional and social skill management would reflect in student learning and better equip them in stress and conflict management at school.
2017	Lopez-Mondejar Thomas Paster	A positive outcome in developing socio-emotional skill among under graduate students of teacher preparation programme by co-operative learning method. Underlined the necessity for SEC training in teacher preparation.
2017	Baldachino, Sara	Explained different socio-emotional learning programmes and underlined the implementation of socio-emotional programs in schools.
2017	Lopez-Montegar & Pastor	Underlined the importance of socio emotional competence in primary teacher preparation programs.

Year	Author	Findings
2016	Teresova	Students socio emotional competence were not age-related and self awareness and social components of socio-emotional competence were more on 4th grade students than lower grade students.
2015	Hazenauer, Hasher and Volet	Explained the importance of socio-emotional competence among teachers and students to improve interpersonal relations and suggested to include socio emotional competence training in teacher preparation programmes.
2015	McCormic, Cappella, D'Connor and McClown	Found out the relationship between social support from teachers and math reading ability in primary students. Different models developed for increasing social support would improve students response and organization.
2014	Goh and Wong	Competency based norms would improve quality of teaching and professional development and suggested reflective practices to improve critical thinking among teachers.
2014	Jennings	Pro-social characteristics contributed to conducive classroom and emotional supports correlated with teacher's efficacy but not related with emotional setbacks and depression.
2013	Costa and Faria	Underlined the importance of socio-emotional competence in students better outcome, while over emphasize on academic matters would devalue non-cognitive qualities among children.
2012	Forcina	Found out a negative relation between teacher's socio-emotional competence and stress as well as between teachers socio emotional competence and maintaining relationships in school.

Year	Author	Findings
2011	Alcalay, Torretti and Milicic	Teachers perception of students self-esteem were correlated with academic achievement. Student's socio-emotional competence characteristics and teacher's views on social climate and interpretation were positively correlated.
2011	Sharma and Sharma	Revealed that young teachers would perform better than aged teachers and teachers with high emotional makeup would show better classroom behavior.
2010	Rosenthal Ghatt	Emphasized the need for socio-emotional learning programmes both to adults and students among school community.
2010	Wyman Corss Brown You Eberly	Emotional self regulation through scaffolding reduced behavioral outburst, suspensions and disciplinary referrals.
2009	Jennings and Greenberg	Posited the necessity of teacher's socio economic competence to improve overall classroom behaviour and found out a negative relation between teacher's socio-emotional competence and burnout.
2007	Rapetto	Implemented a guidance program on socio-emotional competence among students and analyzed cultural diversity, socio-emotional adjustment and relevance of socio-emotional competence in teaching.
2006	Jonathan, Cohen	Emphasized the need for integrating socio emotional learning programmes with pedagogical practices and suggested socio emotional learning in teacher education.
2004	Fer	Teacher's socio-emotional competency was multifaceted and found out teachers who would manage emotions skillfully were more productive.

Studies Related with School Climate Factors in Teaching

Meon (2019) conducted a study to find out the relationship between school climate and improvement in student-teacher relations for young pupil with differences. Sample selected were 267 children and 93 teachers of children with special needs. Findings revealed that better teacher-student relationship derived from emotional support of teachers. Classroom organization had little role in maintaining relations inside school as well as instructional support could not influence student-teacher connectedness. Teacher's emotional support is directly proportional to connectedness and conflicts in relationship reduced in accordance with increase in teacher's emotional backup.

Suarez and Wright (2019) in a study found out the impact of school factors on secondary STEM (Science, Technology, Engineering and Mathematics) teachers retention in the post. Multi-level logistic regression was used to analyze data collected from 920 teachers in the stipulated period. The teacher retention was associated with school differences. The findings summarized as teachers have a principal secured a degree in STEM disciplines had made positive effect on retaining the secondary school teachers.

Oder and Eisenschmidth (2018) conducted a research on the relationship between teacher's perceptions of school climate on effectiveness in teaching of EFL (English as a Foreign Language) teachers in Estonia. One-way ANOVA was used to determine the difference between perceptions of two categories of teacher's on the basis of mother tongue (Estonian versus Russian). Correlation was used to find out the relationship between perception on school climate and teacher effectiveness. Multiple regression analysis was chosen to find out which factor of school climate was predicting affective teaching approaches. The

factors characterized under school climate were: Inclusive leadership (a welcoming approach from authority), inspiring climate (teacher's enthusiasm and innovations in teaching), and cooperative climate (strong relations between teachers). The result revealed that positive relationship between different factors of school climate and effective teaching. The results explored the things that traditional teaching approach related to school climate, but would not integrated, connected and co-operational teacher practices would resulted in hike in students achievement and provided realistic experiences.

Rudasill, et al. (2018) conduct a qualitative research in which school climate had been viewed as a system and analyzed various elements attached with the system. System view of school climate (SVSC) redefined school climate as affective and cognitive perceptions regarding empirically found factors related with school personals within school. The theoretical framework of school climate consisted of school micro system, nano systems (interaction between individual and nano systems) and distal system (ecosystem, chromo system and macro system) and proximal system (roles and subjective reality observed/experienced by personals in school). Thus the study tried to provide clarity in measurement of school climate and a systematic conceptual framework to the construct of school climate. This research provided a direction to school climate studied by enhancing contextual/structural elements than proximal and distal systems which stood for nature or type of school ultimate.

Bellibas and Liu (2018) investigated the impact of teachers especially principles leadership style on perception of school climate. In the study

leadership style was viewed as principles/teachers perception regarding professional and ad ministerial leadership while school climate was measured as their perception regarding school and mutual respect. The result revealed that principal's leadership style had influence on teacher's mutual respect but didn't connect to school violence. School size and socio-economic status were found to be the determinant of school safety. A safe and conducive school climate needed something more than instructional and distributed styles of leadership qualities was the outcome of the study.

Magen-Nagar and Azuly (2016) found out the contribution of school climate and teaching quality to the improvement in students learning. 60 school's were chosen for the study. The findings revealed a negative impact on perception of teacher quality with respect to students grade. School resources and professional development were recommended for quality teaching. A significant differences regarding school climate and teaching quality were found out between grade levels. The paper established that teacher quality and school climate would determine school culture.

A qualitative approach was chosen by Wang and Degol (2015) in order to study the historical aspects of researches conducted in school climate. The study dealt with limitations, strengths and gaps associated with school climate studies in literature. 5 sections of the study were started with theoretical reviews, school climate's impact on student outcomes. Secondly main factors associated with climate was distinguished and plotted as: Community, safety, environmental and scholastic or academic. Further the paper described outcome of the research and summarized benefits and limitations of the study.

The findings projected multidimensional nature of school climate and various manifestations of this construct with student learning, teachers and students well being and community feelings among members. The paper also discussed various methodologies chosen for researchers while studying school climate, Such as surveys, interviews and focus group, observational ratings, shared method variance, caused inferences and baseline studies. The paper elaborated and touched all aspects of the research in the area of school climate in a brief manner.

Ghavifeker and Pillai (2015) investigated the relationship between school climate and teachers job satisfaction. 245 teachers from six Government schools were chosen as sample in a quantitative survey. Organizational climate index and teachers job satisfaction scale's were used as tools in the study. The findings revealed that a positive relationship had been found out between job satisfaction and school climate among teachers in school Sabah. Gender differences were not contributing to job preferences or satisfaction while years of service made a difference in teacher's job satisfaction.

Durham, Court and Faith (2014) investigated school climate in the context of measurement. The study correlated school climate measure outcome with school improvement effort and identified four tools for measuring school climate which were school survey, climate walk, school effectiveness review and student survey on teacher practices. The paper described the strength and gap of each instrument with details of factors which would have been measured by particular tools mentioned and collected evidences regarding school climate and proclaimed that the study would help schools to address various problems regarding school with meaningful intervention.

Rathore (2013) investigated the effect of different types of school climate on teaching behavior. The study revealed that gender, geographical differences and locality didn't produce any change in teacher effectiveness but school climate had impact on academic achievement as far as locality and gender were taken into consideration. The subject of teacher interaction was another category which produced a positive achievement. While strict or closed atmosphere would promote students academic outcome.

Thapa, et al. (2013) reviewed school climate research widely including 206 citation and included qualitative and quantitative studies. The review primarily concentrated on dimensions of school climate and development of climate aspects and provided recommendations. The paper gave directions to future studies on school climate and suggested better options for a comfortable and free institutional environment.

Collie, Shapka and Perry (2012) investigated the influence of teacher's perception of school climate and social-emotional learning on teacher stress, job satisfaction and teaching efficacy. The sample comprised of 664 teachers from Britain and Canada and data was collected through on-line survey. The statistics used was structural equation modeling. The findings revealed that both independent variables school climate and teacher's perception of socio-emotional learning influenced teaching efficacy, teachers stress and job satisfaction.

Zullig, et al. (2010) examined school climate literature and prepared students' school climate tools. Five tools developed for five domains of school climate and items were scrutinized, subjected to factor analysis and

equation modeling techniques. The paper concluded that school climate had impact on student learning and positive socio-emotional development.

Cohen, et al. (2009) conceptualized school climate as a group phenomenon and asserted that a positive climate was essential for acquiring academic as well as democratic experiences. Through the paper, they described the components and aspects related with school climate such as norms, values, safety and participation and developed definitions of school climate. The study examined school climate related researches and school policy, practice and teacher education programs and found that positive school climate leads to violence prevention and teacher retention. The paper proclaimed that the findings of school climate researches in the past and policy perspectives prevailed in state were not congruent to each other. Research-based guidelines were suggested for improving institutional climate.

Blum (2007) studied the impact of school environment in learning. Different types of environmental descriptions were acknowledged and explained different strategies suited for positive school environment. The study revealed that caring, respectful environment evolved from healthy relationships inside institutions and students socio-emotional make-ups and safe environment were established by clear and transparent norms and fair and impartial disciplinary measures. Academic environment had happened through creative teaching methods and high expectations regarding students success on the side of teachers. The paper explained that participatory environment had been created by pupil's engagement and personal involvement in school affairs. The research described different types of school climate with specific characteristics.

Brewster and Bowne (2004) investigated the effect of teacher support on school engagement of students at risk. Teacher support was negatively influencing problem behavior and positively influencing school environment. The sample selected was Latino students in American schools, and hence educational implications dealt with importance of school community to learn Latin culture for better engagement of students with Latin origin. The paper also analyzed adult support at school and asserted that support was sufficient at elementary level but at secondary and high school level adult support found diminishing. Strength based perspective and role modeling by teachers were effective for at risk student facing failure. Teacher support was a teacher contextual factor which was related with teacher burnout and lack of efficacy.

Bowen et al. (1998) studied the students perceptions of safety and teacher support. Different models were discussed in which risk and protective factors combined together to form additive/ compensatory model and immunity model suggested that protective factor reduce risk elements in outcome. Teacher support stood as a positive element influencing school climate irrespective of stipulated models: Compensation and immunity model. School coherence was the criterion variable selected and students views regarding school danger had negative influence on students sense of school coherence.

Table 3

Meta Analysis of Studies Related to School Climate Factors in Teaching

Year	Author	Findings
2019	Meon	Study revealed that better teacher-student relationship derived from teachers emotional support Teacher's emotional support was related with school connectedness.
2019	Suarez and Wright	Found out the impact of school factors on STEM teachers retention and proclaimed that head of institutions secured a degree in STEM subject would help to retain STEM teachers.
2018	Oder and Eisen Schmidth	Found out a positive relationship between different factors of school climate and effective teaching.
2018	Rudasill et al.	Viewed school climate as a system and provided a clarity in measurement of school climate factors. Had give more importance to contextual/structured elements than proximal and distal systems.
2018	Bellibas and Liu	Found the relationship between principals leadership style and teacher's mutual respect. School size and socio-economic status was related with school violence suggested the need for better leadership for a safe climate
2016	Magen-Nagar and Azuly	Exfoliated the contribution of school climate and teaching quality for better student learning and established that teacher quality and school climate would determine school culture.
2015	Wange and Degol	Projected the multidimensional nature of school climate.

Year	Author	Findings
2015	Ghavifeker and Pillai	Found out a positive relationship between teachers job satisfaction and school climate. Years of service would make a difference in teachers job satisfaction.
2014	Durham, Court and Faith	Studied different school climate tools and described the strengths and gap of each tool and studied various problems regarding school and suggested meaningful intervention.
2013	Rathore	Found out the effect of different types of school climate on teaching behaviour and students academic outcome
2012	Thapa et al.	Provided recommendations for improving school climate in schools.
2012	Collie, Shaplea and Perry	Revealed that teachers perceptions on school climate and socio-emotional learning influenced teaching efficacy, teacher's stress and job satisfaction.
2010	Zully et al.	The study posited that school climate had impact on student learning and positive socio-emotional development.
2009	Cohen et al.	Conducted a review on school climate studies and proclaimed the disparities found in the result and policy perspectives prevailed in America and suggested research-based guidelines to improve climate.
2007	Blum	Described different types of environment with specific characteristics and anticipated a participatory environment which enhances student's engagement and personal involvement.
2004	Brewster and Bowne	Teachers support was a contextual factor for students better engagement in school as well as teacher support was related with teacher burnout and lack of efficacy.

Year	Author	Findings
1998	Bown et al.	Teacher support remained a stable factor both in compensation model and immunity model and s revealed that students views on school danger and sense of school coherence were negatively related.

Studies Related with Cognitive and Meta Cognitive Factors in Teaching

Kaplon-Schilis and Lyublinskaa (2019) conducted a factor analysis of Technological Pedagogical Analysis of Content Knowledge (TPACK) of Special Education Teachers. Factor analysis revealed that Technological Knowledge, content knowledge in Mathematics and Science and Pedagogical knowledge were not dependent to TPACK framework and linear multiple regression revealed that K, CK and PK were not predicting TPACK. The study indicated the importance of taking each factor's separately in teacher preparation programs in order to obtain maximum benefit out of the course.

Quintelier, Vanhoof and DeMaeyer (2018) studied teacher's cognitive and affective responses to outside inspection. The result found that credible and authentic inspector's remarks were more accepted and appreciated by teachers. Teachers' perception's regarding inspector's mannerism was the determining factor whether suggestion put forward by inspection team was accepted or not. The paper concluded that both feedback content and source elements were determinant of acceptance of the activity. Teacher's cognitive responses to feedback included credibility of personals involved in the task, fairness of the task (clarity and transparency) and sign of the feedback (positive or negative).

Pitenoee, et al. (2017) investigated the effect of cognitive and Meta Cognitive writing strategies on content of the learner are writing. 75 intermediate students were distributed into 2 experimental group and one control group. The result revealed that there was relationship between cognitive and meta cognitive group. In content writing, meta cognitive group performed well than other groups. The educational implications of the study projected the importance of selecting materials in syllabus and to design curriculum that would promote particular cognitive and non-cognitive strategies in instruction.

Fleming (2016) investigated different outlook of the construct Meta cognition and found out links between various areas of concern (neuroscience, computer science, psychology and philosophy of mind). The qualitative study provided a theoretical sketch in which definitions and different types of meta cognitive judgment like anoetic (objects in world), neotic (mental mapping) and autoneotic (judgement of Agency) concepts were explained. The paper explained the link between meta representation of things and consciousness and asserted that access consciousness, meta-level representation and behavior can be plotted orthogonally in Euclidian space.

Hakan (2016) conducted a research on music teachers abilities to use meta cognitive activities in teaching. MCMCS (Motivational Cognitive and Meta Cognitive Scale) was used to collect data from 131 pre-service music teachers. Findings indicated that meta cognitive skills and academic achievement were negatively correlated, a result deviated from other findings in the literature. Meta Cognitive skill didn’t vary with respect to gender and class grade variable, as per the study.

Shea, et al. (2014) elaborated the concept cognitive control in order to explain the guiding mechanism, that connect sensory motor experiences to human mind consciously and unconsciously which enabled meta cognitive representation or meta level representation of exterior processes. The paper connected cognitive control and meta cognition and proclaimed that meta-level representation were used to improve teaching-learning process as well as individual works.

Gopinath (2014) conducted a study to find out the relationship between the levels of meta cognitive awareness in teaching and meta cognitive competency in teaching among student teachers at secondary schools. The study utilized Meta Cognitive Awareness Inventory and Meta Cognitive teaching competency to collect data from 500 teacher trainees. The basal variables selected are type of management, locality and qualification of teachers. The result revealed that the variables did not show any difference with respect to sub sample selected and there found a significant positive correlation between meta cognitive awareness in teaching and meta cognitive competency in teaching.

Ashoori (2013) found out the relationship between cognitive and meta cognitive learning strategies, perceived goal concepts and spiritual intelligence of 180 nursing students. Correlation and stepwise regression were utilized for data analysis. The tools used were Pinterage Motivation Questionnaire, Midgley's Perceived Classroom Structure and Farsi version of spiritual intelligence. The result revealed that meta cognitive factors like mastery goal structure, critical thinking, self-regulation and spiritual intelligence had a positive relationship with academic outcome.

Mujarad, et al. (2013) studied the effect of cognitive and meta cognitive strategies on self-regulation in school guidance cells and orphan girl students. An experimental study, in which cognitive and meta cognitive strategy training were provided to students. Equal number of students (10 each) were assigned to both experimental and control group. Standardized MSLQ (Motivational Strategy Learning Questionnaire) was used to collect data through a post-test and pre-test design. Both groups did not show any difference in self-regulated learning, test anxiety and using cognitive and meta cognitive strategies in learning. The findings suggested the need for motivation to orphan students before providing cognitive and meta cognitive strategy training in order to improve students achievement and to reduce anxiety and tension.

Khezrlou (2012) examined the use of cognition and Meta Cognitive strategies in learning among junior and senior high school students. The finding's indicated that there was a positive relationship between different strategy types and reading performances. Junior and senior students preferred cognitive and meta cognitive strategies differently while learning and teachers' role is crucial in Junior category while acquiring a foreign language than senior category.

Iiskala, Vauras, Lethinen and Salonen (2011) studied metacognition as a social variable or "socially shared phenomenon" among gifted students in mathematics problems solving abilities. The paper elaborated the terms inter-individual metacognition, socially mediated metacognition and shared regulation in collaborated activities associated to problem-solving at maths classroom. Eight students in the age group of 10 years were chosen as sample. The study conducted in a field observation techniques using video tapes. The

dyads formed out of the sample taught children of the same group and the study proclaimed that there were evidences for shared meta cognitive learning of moderately difficult and easy problems.

Song, et al. (2010) studied the effect of human being's Meta cognitive ability on performing tasks. Meta cognitive functioning was different for different persons and for different tasks. The study correlated inter-individual differences across two different perceptual task using meta cognitive abilities. The paper found that peoples' Meta cognitive knowledge related performance remains same across two different tasks irrespective of the variance in performance happened in between the tasks. This indicated that a general mechanism exist in human beings to organize Meta cognitive functions that would be independent of primary cognitive processes.

Kim, et al. (2009) studied the effect of meta-cognitive strategies on the academic/gaming achievements. Three meta cognitive strategies namely self recording, modeling and thinking aloud were taken as independence variable, social problem ability was the intermediate variable and academic achievements and scores in the game were output variables. The result found that there was connection between independent, intermediate and dependent variable. The intermediate variable influence both academic and game performance abilities in a positive manner and the study put forward that a commercial game playing along with met-cognitive strategy intervention was effective in order to produce better learning and gaming outcomes. Thinking aloud and modeling, two observing strategies were more productive than writing processes for better achievement in learning or gaming as per the research.

Maggioni and Parkinson (2008) investigated the role of teacher's education and professional progress in teaching. The paper explored theoretical backgrounds of epistemic cognition and beliefs, Meta cognition and self-regulation. Through a qualitative study, the paper described various aspects of cognitive and meta cognitive aspects of teaching-learning process and concluded with the suggestion that there were no clear cut formulae's for pedagogical strategies which would governing teacher training and learning situations. Pedagogy was a flexible entity shaped from teachers and learners understanding of the content, limitations of the personals and environment. Epistemic knowledge and beliefs different for different discipline regarding the individual and posited that integration of self regulation and meta cognition found in Flavell's typology was a topic which demand empirical research's in developing or describing teacher preparation programs in future.

Schraw, et al. (2006) investigated reviews regarding self-regulated learning and found out the implications of the study for science learning. The paper consolidated science education literature along with instructional strategies and meta cognitive understanding. The instructional strategies included were inquiry based instruction, collaborative support to learning, problem-solving method, models of teaching, blended learning strategies and personal beliefs and values (self worth and epistemological world concepts).

Trainin, and Lee-Swanson (2005) compared cognitive and Meta Cognitive performance of college students with LD (Learning Difference) and without LD in language learning. The result indicated that LD students cognitive and meta cognitive abilities found lower than their peers with no LD and the groups showed marked differences in self-regulatory behavior and

number of hours of learning. Extra effort in the form of learning strategies or seeking help from others helped pupils with learning differences to remunerate one's difficulty in learning.

Kirsh (2005) in a qualitative research conducted a theoretical explanation of the relationship between, Meta cognition, visual design and distributed cognition. The paper dealt with cognition and meta cognition as inner interactive processes which were part of a continuum in its functioning. The paper elaborated the impact of visual stimulus in one's learning process especially in meta cognitive activities and the effectiveness of cognition and meta cognition relied on the structuring of visual cues and the way, the interactions were designed. The paper projected the importance of construction of visual diagrams in learning through computer technology, by intimating the importance of using various markers, fond preferences and headings in order to enhance content comprehension in students.

Kuhn and Dean (2004) described various aspects of Meta Cognition that determine the thinking abilities in students. The paper discusses various points of views regarding meta cognition. Educators related meta cognition with critical thinking in students where as researches had developed other constructs to define Meta processing in human. The paper proposed a connection between both approaches which would be beneficial to teacher's to know the mechanism behind the construct meta cognition and the way of fostering that quality in students for better teaching and learning. The paper elaborated levels of epistemological understanding on meta cognition as per various philosophical paradigms.

Wen, et al. (2004) conducted a LISREL confirmatory analysis in which student's preferences for constructivist on-line learning environment. Survey was conducted among less high school students and the tool used was CILES (constructivist Internet based Learning Environment which comprised of two aspects cognitive and meta cognitive aspect and the contextual and technical aspect. The findings revealed that internet facilitated appropriate learning environment suitable to cater different academic needs of students.

Krischner (2002) explained Cognitive Load Theory (CLT), which can be utilized to assist prevention of content over load that would enhance students learning by stimulating intellectual outcome. The theory provided a framework for information processing through CLT-based instructional design. As a cognitive approach in multimedia learning, worked out examples on CL environment and multimedia visuals were provided to manage CL in computer assisted collaborative classroom.

In a qualitative study, Schraw and Moshman (1995) described the theories related with cognition and meta cognition in educational practice. The paper explained facet, informal and formal theories regarding meta cognition and found out difference between each theory. The study exfoliated different kinds of meta cognitive knowledge and regulatory skills and its influence on cognitive outcomes.

Table 4

Meta Analysis of Studies Related to Cognitive and Meta Cognitive Factors in Teaching

Year	Author	Findings
2019	Kaplon-Schilis and Lyublinskaa	Conducted a factor analysis of TPACK of special education teachers and found that factors were independent of TPACK framework and suggested separate programs for each factors of TPACK for optimum results.
2018	Quintelier and DeMaeyer	Revealed that both feedback content and source elements were determinant of acceptance.
2017	Pitenoee et al.	Studied the effect of cognitive and meta cognitive strategies on students content learning and found that meta cognitive group performed well than control group in content writing.
2016	Felming	Explained the link between meta representation of things, consciousness and human behavior and posited that those things can be plotted orthogonally in Euclidian space.
2016	Okey Hakan	Found that meta cognitive skills and academic achievement were negatively correlated among music teachers.
2014	Shea et al.	Paper connected cognitive control and meta cognition and asserted that meta level representation would improve teaching-learning process.
2014	Gopinath	Found out a positive correlation between meta cognitive awareness in teaching and meta cognitive competency in teaching.
2013	Ashoori	The result showed that meta cognitive factors like master's goal structure, critical thinking, self-regular

Year	Author	Findings
		and spiritual intelligence had a positive relationship with students learning outcome.
2013	Mujarad et al.	The study demanded need for motivation to orphan students before providing cognitive and meta cognitive strategy training.
2012	Khezrlou, Sima	The findings indicated a positive relationship between different cognitive and meta cognitive strategies and students reading performances.
2011	Iskala, Vauras, Lethinin, and Salonen	Explained social orientation to meta cognitive learning among gifted students and found out evidences for shared meta cognitive learning.
2010	Song et al.	Studied the effect of human beings meta cognitive abilities on performing task and found a general mechanism exist in human beings which were devoid of primary cognitive process
2009	Kim et al.	Found that thinking aloud and modeling strategies were more productive than writing processes for students academic outcomes in social problem solving abilities.
2008	Maggioni and Parkinson	The role of education and professional progress vary from individual to individual and suggested no common strategies for improvement
2006	Schraw et al.	Described different instructional strategies meant for self-regulated learning in science discipline.
2005	Training and Lee-Swanson	Compared meta cognitive performance of students with learning disabilities and without learning disability and found that marked differences between the two groups.

Year	Author	Findings
2005	Kirsh	Study projected the importance of meta cognitive visual design and distributed cognition and suggested the importance of visual diagrams in learning.
2004	Kuhn & Dean	Described various aspects of meta Scognitive and compared teachers and researcher's notions meta cognition for better teaching and learning.
2004	Wen et al.	Studied the effectiveness of constructivist on-line learning environment among high school students and found out that internet made learning more appropriate which cater all types of students.
2002	Krischner	Explained cognitive load theory which were used to enhance learning through multi media visuals, and worked out examples.
1995	Schraw & Moshman	The study described different kinds of meta cognitive knowledge and regulators skills and its influence on cognitive outcome.

Studies Related with Motivational Factors in Teaching

Eren and Yesilbura (2017) investigated different aspects of prospective teachers' hopes and motivational forces that would contribute to better preparation for teaching profession. The sample size chosen for the study was 851 and statistics used were a series of factor analysis, multiple regression analysis and structural equation modeling. Dispositional hopes included four factors, viz., active hope, passive hope, external and internal sources and teachers specific hope included 7 factors associated with teaching and learning. Dispositional hopes were performed as preventive factors of teacher stress and burnout and would enhance teacher resilience. Sources of

dispositional hope contributed to both motivational and preventive sources for effective teaching, while external sources attached with teachers specific hope contributed only to motivational forces.

Anju and Raman (2017) investigated the impact of motivation on academic performance of management teachers at Lucknow. Explanatory causal research included qualitative ways of building causal structure of the study and a quantitative analysis between the variable selected. The sample comprised of 300 teachers from MBA program and statistical techniques adopted were Chi-square, linear regression analysis Kruskal Wallis and Smart PLS SEM analysis. The findings revealed that six factors of intrinsic motivation were good indicators of better teacher performance and underlined the fact that motivation would influence teacher performance as well as enhance quality of education in management education.

Kumar and Singh (2017) studied the effect of organizationa commitment and job motivation on job satisfaction .The sample selected was 488 higher education teachers. The findings revealed that organizational commitment and job motivation had effect on job satisfaction and Organisational commitment would influence work motivation, that contributed further to teachers satisfaction in profession. The paper asserted that motivational factors like work group relationship, incentives, psychological support and organizational orientation and working conditions had impact upon job satisfaction.

Akilli and Keskin (2016) investigated the motivational factors affecting the preference of teaching profession. The latent variables selected

were altruistic mercenary, extrinsic and intrinsic motivators and found out the relationship between these variables. Altruistic and intrinsic variables possessed a high positive relationship while the extrinsic variable had negative relationship with altruistic and intrinsic motivators. The extrinsic motivators had a positive relationship with mercenary variable. The mercenary motivators had positive correlation with all other type of source of motivation.

Guglielmi et al. (2016) conducted a study on teachers work engagement among different age groups. 537 teachers from elementary, lower and upper secondary were involved in the study. The study found out young teacher were engaged in work while counting the opportunity to develop and share knowledge and for senior teachers engagement in work depended on the acknowledgement of teacher expertise gained through years.

Emo (2015) studied the motivational factors that encourage teachers to involve in innovate strategies in teaching. Teacher's opinion toward innovative ideas in teaching aroused from teacher's professional development and from desire for student's better performance. Teacher's viewed that innovative teaching ventures would reduce the personal boredom. Textbook inadequacies and rift in interpersonal relations were reducing teachers motivation. Teachers would need enough time and autonomy to choose novel approaches in classroom.

Gadera, Williams and Wright (2015) investigated factors influencing student's motivation and engagement in internet based courses. Through a case study the factors which effected students engagement in virtual classroom, tools used in Blended learning situations and students motivation

to engage in online learning environment were researched. The study revealed that community aspects in learning environment were one of the motivational factor in student learning and participation. Purposeful strategies employed in the Moodle design inspired students to foster community learning. Teacher's feedback, interaction and instructional strategies were also contributing to students motivation to engage and learn.

Roman (2014) conducted a study on the student perception of motivational factors in teaching and learning that lead to quality teaching. The study found out good personality traits of teacher's, which were openness to dialogue, teacher's explanatory skills, humanistic outlook and personal expertise in transacting scientific information. These things were treated by students as positive factors in effective teaching while negative factors put forward were subjectivity in evaluation, lack of inter-personal communication, revenge and lack of interest on the part of teaching. To minimize negative aspects were the only thing that leads to productive teaching-learning experience.

Gatsinzi, Jesse and Makewa (2014) conducted a study on work and school based variables in teacher motivation, 267 primary teachers were chosen by systematic sampling and a tool containing 5o Items were administered to elicit responses. The findings revealed that motivation was erupted from work supervision, responsibility and acknowledgement and respect from authorities, and from school related variables, cleanliness and aesthetic elements were correlated with motivation. The study suggested that physical environment along with support needed for achieving effective teaching outcome.

Nadim (2014) found out the effect of extrinsic and intrinsic motivational factors on teacher's job satisfaction. Both intrinsic and extrinsic motivational factors had relationship with job satisfaction. The result revealed that intrinsic motivators had contributed more than extrinsic motivators. 406 teachers from public sector colleges were chosen for the study. The paper explained various theories related with job motivation.

Nzulwa (2014) studied the effect of motivational factors on teacher's professional code of conduct and performance. The paper put forward the necessity to hold ethics and code of conduct in teaching profession and to model effective roles in schools in order to keep a high morale among teachers. The study found that motivational factors become a contributing factor in teacher's better performance and professional make up. Through a descriptive survey among 150 teachers from Nairoby, the paper tried to establish the need for motivating teachers for better teaching outcome.

Shaheen, Sajid, and Badool (2013) investigated factors affecting Faculty motivation at university college, Kotli. Incentives and administration policy/leadership style were chosen as independent variable and motivation was dependent variable. Percentage analysis was done to analyze data and the result revealed that incentives/rewards were the extrinsic motivators which would enhance motivation while administrative policies would decline motivation among teachers.

Manju and Madhu, (2013) investigated the effect of work motivation and job satisfaction on organizational commitment. The interaction effect of independent variables and basal variables on organizational commitment was

found out using three way factorial Anova. Main effects were found significant but triple interaction effects were found not significant.

Alam and Farid (2011) conducted a survey to examine the factors affecting motivation of teacher's at secondary level. 80 teachers were selected from 10 schools and administered a questionnaire. The findings reveal that teachers were not comfortable with socio-economic well being, teaching profession and student's responses. Anxiety from examination and peer involvement were even worsen the interest and teachers opinioned that payment was not adequate with the qualification. Recommended modification in teacher training and benefits in order to keep teachers in the profession.

Kusurkar et al. (2011) studied motivation as an independent and dependant variable in literature with special reference had given to medical education field. As an independent variable, the paper explained motivation would influence student learning, academic outcome, study characteristics, medicine as a career option and choice of speciality while as a dependent variable contextual or environmental elements would contribute to motivation. Motivation as a dependent variable deduced from non-manipulative variables such as age, socio-economic status, ethnicity, etc. while manipulative variables that would influence motivation were autonomy, competence, self-efficacy, assessment/evaluation strategies, value affirmation, relatedness, etc. most of these things connected with institutional climate.

Islam and Ismail (2008) studied the employee motivation in various Malaysian organizations and ranked factors related with motivation using demographic factors like gender, race and education. The study put forward

six effective motivating factors in job: Good working environment, high salary, promotion possibilities, job security, authorities support and enthusiasm in job. The study suggested the guidelines suitable for motivating employees through intervention program in various organization for better performance.

Ololube (2007) investigated the effect of teacher's motivation factors on job satisfaction. A questionnaire was used to collect data from Nigerian teachers and the study revealed that both factor's were influential to job satisfaction but in opposite manner. Hygiene factors like low salary reduced job satisfaction but motivators like interpersonal relationships and job security enhanced teacher satisfaction. The study revealed that leadership styles and working conditions neither satisfied nor dissatisfied teachers.

Pintrich (2003) investigated the role of student motivation in learning and teaching contexts in motivational science. The paper detailed various theories related with human motivation, for example, Attributions, control beliefs, perceptions of autonomy and competence, external motivational processes (external, introjections, identification and integration) put forward by Ryan & Dev, personnel and situated interests, value belief's 'efficacy value, task value, and goal orientation were explained as part of student motivation in learning-teaching context. The paper provided an overview of literature happened in the construct of motivation in educational situations.

Table 5

Meta Analysis of Studies Related to Motivational Factors in Teaching

Year	Author	Findings
1995	Schraw & Moshman	The study described different kinds of meta cognitive knowledge and regulators skills and its influence on cognitive outcome. The study proclaimed that dispositional factors were performed as preventive factors of teachers stress and burnout and would enhance resilience.
2003	Pintrich	Provided an overview of literature on human motivation in educational situations.
2007	Ololube	Studied the effect of teacher's motivation factor on job satisfaction and revealed that leadership styles and working conditions had no effect on job satisfaction.
2008	Islam & Ismail	Studied employee motivation and suggested guidelines suitable for motivating employees through intervention program.
2011	Alam & Farid	Studied teacher motivator and retention possibilities in job and recommended modification in teacher training and increasing benefits in order to keep teachers in teaching profession.
2011	Kusrkar, Cate, Van Asperan & Croiset	Studied motivational factors as independent and dependent variable in medical field and found associated with motivation in both aspects.
2013	Manju and Madhu	Revealed the main effect of work motivation and job satisfaction on organizational commitment while interaction effects were not found significant.
2013	Shaheen, Sajid & Badool	The study found that extrinsic motivation would enhance motivation while administrative policies would reduced motivation

Year	Author	Findings
2014	Roman	Studied students perception of motivational factors in teaching and listed positive and negative aspects of motivation with respect to teaching and learning process.
2014	Gatsinzi, Jesse & Makewa	Investigated work and school based variables in teacher motivation and suggested physical environment along with support from authorities would enhance teaching.
2014	Nadim	Examined extrinsic and intrinsic motivational factors on job satisfaction and found that intrinsic motivators had contributed more on job satisfaction.
2014	Nzulwa, Joyce	The study revealed that motivational factors become a contributing factor in teacher's professional code of conduct and performance
2015	Gadera Williams & Wright	Found out the factors affecting student engagement in virtual classroom and realized the necessity of community aspects in learning environment.
2016	Akilli & Keskin	Studied the motivational factors affecting teaching profession and found out the relationship between external, internal and mercenary type of motivation factors.
2016	Guglielmi, Bruni, Simbula, Fracanli & Depolo	Studied teachers work engagement and found that young teachers sought developmental opportunities while senior teachers expected acknowledgement of expertise from other.
2017	Eren and Yesilbura	Studied different aspect of teachers hope and motivational forces that contributed to better teacher performance

Year	Author	Findings
2017	Kumar and Singh	Found out the main effect of organizational commitment and job motivation on job satisfaction and posited that motivational factors had impact on work satisfaction.
2017	Anju and Raman	Revealed that factors of intrinsic motivation would influence teacher performance and enhance quality of teaching.
2018	Emo	Investigated the motivational factors that involved in innovative teacher behavior. The paper posited for teacher autonomy and sufficient time needed for innovations in teaching.

Studies Related with Special Education Teacher Grit

Vazsonyi et al (2019) tested the validity of Grit as a non-cognitive progressive construct and the distinction of grit from self-control. Structural equation modeling were done to find out the evidence of connection between grit and self-control aspect of behavior and the result revealed that a substantial interlocking observed between grit and self-control were strongly related with high degree of collinearity. Thus the study posited that high self control achieved through grit was beneficial for both academic or behavioral outcomes and professional gain, among adults.

Clark and Malecki (2019) examined psychometric properties of Academic grit scale in order to measure grit among Adolescence and school going students. Exploratory and confirmatory factor analysis revealed high internal consistency and construct validity. The study found out a positive

relation between academic achievement and grit, life satisfaction and grit and school indulgence and grit. Academic grit showed an incremental validity over general grit when connected with academic outcomes.

Lan and Moscardino (2019) conducted a cross-sectional study on students well being, in which compared student learning environment, satisfaction in relative and school appreciation between stay-behind and day-scholar students in China. The study also investigated the relationship between perceived teacher-student relationship and student well being while choosing grit as a moderating variable. There found no difference between students in learning preferences and satisfaction than their peers attended school only at day time. Apart from stay-behind criteria, in the context of poor teacher-student relations, students with high grit engaged more in learning processes and were more satisfied than students who secured low level scores in grit assessment. The study highlighted the protective aspect of grit in students perceptive on teacher-student relationship and student well-being at school and suggested interventions and programs to develop grit in students in order to set long-term goals in learning.

Kim, Jorg, and Klassen (2019) studied the relationship between big five personality domains and two teaching related outcomes (teacher effectiveness and burnout). Three moderators were also considered type of teacher effectiveness (measured through students performance, self-officer, observing the class and academic credibility), personality characteristics (measured through self report verse other opinion) and educational level (primary, secondary and tertiary). Grit was a construct strongly related with

conscientiousness of Big Five traits. The study concluded that Big Five traits except agreeableness were positively correlated with teacher effectiveness while emotional stability, conscientiousness and extraversion were negatively related with burnout. Level of education would not create any difference among selected variables across teachers.

Taspinar and Kulckci (2018) investigated the relationship between Grit and academic success of students in English as a foreign language learner (EFL) in college. The study measured students girt level and collected scores of academic performance in English. The study found that for gradual students grit level and academic achievement had a reverse relationship and for external students, the relatives not significant. The study underlined the fact that academic achievement was more oriented to IQ or intellectual abilities than grit while gritty person's pursue goals in long run.

Datu, Yuen and Chen (2017) in Philippines criticized two-factor model of grit and developed a three factor model namely Triarchic Model of Grit Scale (TMGS) in order to measure personal attributes. The scale consisted of a third dimension "adaptability to situations" along with Duckworkth's two factors: perseverance of effort and consistency of interest. Three phases of the study included exploratory factor analysis, confirmatory factor analysis and cross validity checking. The findings revealed that TMGS was valid and reliable in a collectivist society and grit was invariant across gender. The results of hierarchical regression analysis indicated perseverance and adaptability were linked with different types of efficacious behavior while consistency did not connected with efficacious behavior.

Ion, Mindu and Gorbanescu (2017) conducted a study on grit in workplace. The recent personality related researches focused on non-cognitive trait; grit as a contributor to positive outcome behavior. The paper tried to exfoliate grit's validity in contributing organizational citizenship, role-performance, reflective working mannerisms and job satisfaction over. Big five characteristic traits personality. The correlation found limited connection between grit and FFM (Five Factor Model of Personality). The findings deviated from the result of literature in such a way that grit was less predictive in work-relevant matters and job satisfaction issues as far as 170 working adults are concerned.

Arslan, Akin and Citamel (2013) investigated the relationship between grit and meta cognition. Correlation and multiple regression analysis were utilized. The result revealed that grit was positively connected with Meta cognition, the two dimensions of grit predicted Meta cognition positively.

Akram, Khan and Baby(2011) studied hardiness and problem solving ability of 400 students .Hardiness scale and problem solving ability test were administered to collect data. The result proclaimed that hardiness had strong effect on problem solving ability and boys scored well than girls in problem solving.

Duckworth, Quinn and Seligman (2009) conducted a study on teacher effectiveness which included 390 novice teachers in public schools. The study found out the effect of teachers grit, optimistic dialogue delivery habit and life satisfaction on teacher effectiveness. Academic gains of students were the criteria used to assess teacher effectiveness. Duckworths short grit scale,

Satisfaction With Life Scale (SWLS) and Attributional Styles Questionnaire (ASQ) were administered to collect data from teachers. All three teacher characteristics predicted teacher effectiveness individually while grit and life satisfaction emerged as contributors of teacher performance. The study put forward the necessity of positive interventions in professional development of teachers and suggested that the positive characteristics or traits would be consider while hiring and retaining teacher's in school.

Duckworth et al. (2007) conducted a study on grit which would determine success in all human enterprises. The study proclaimed the importance of grit as a non-cognitive trait and defined. Various measurements were administered to different types of people and found that grit was not positively correlated with IQ. The study revealed that the quality grit was associated with conscientious (One of the big five personality trait) and proclaimed that grit was not emerged from talent but would developed from efficacious applicable of talent for a long time.

Robertson-Kraft and Duckworth (2007) investigated the importance of grit among new teacher's enrolment into profession and the effect of grit on teacher effectiveness and retention. 7-point rubric was utilized to collect data regarding grit, information from college authorities and teachers resumes were also used to collect evidences regarding teacher effectiveness and retention. The study revealed that gritty teachers maintained confidence, would keep a sense of purpose, were not reluctant to seek others help and showed better adaptive coping mannerisms. gritty teachers were more optimistic and possessed high levels of self-efficacy. The study concluded that grit enabled novice teachers to work hard and retain in the job with enthusiasm.

Table 6

Meta Analysis of Studies Related to Special Education Teacher Grit

Year	Author	Findings
2019	Vaznoyi, Krisnan, Jiskrova, Kikusvka and Javakhishvili Cui	Tested validity of grit as a non-cognitive trait and found that self-control obtained through grit were beneficial for better performance.
2019	Clark and Malecki	Found out a positive relation between Academic achievement and grit as well a school indulgence and grit.
2019	Lan and Moscardino	Study highlighted the protective aspect of grit in students and suggested interventional programs to develop grit.
2019	Kim, Jorg and Klassen	Big five traits except agreeableness were positively correlated with teacher effectiveness. Grit was strongly related with conscientiousness among big five traits.
2018	Taspinar and Kulckci	Found out the relationship between grit and academic success and underlines the fact that academic achievement was more oriented to IQ than grit.
2017	Datu, Yuen and Chen	Criticized 2-factor model of grit and developed a three factor model. perseverance and adaptability were linked with efficacious behavior while consistency did not related with efficacious behavior.
2013	Arslan Akin and Citamel	Found that grit was positively connected with meta cognition.
2011	Akram, Khan and Baby	Revealed that hardiness had strong effect on problem solving ability and claimed that boys were scored well in problem solving than girls.

Year	Author	Findings
2009	Duckworth, Quins Seligman	Study revealed that grit and life satisfaction emerged as contributors of teacher performance.
2007	Duckworth, Peterson, Mathews and Kelly	Defined Grit and confirmed the relation between Grit and Conscientiousness and proclaimed that grit originated not from talent but from efficacious use of talent for a big times.
2007	Robertson-Kraft and Duckworth	The study found that grit enabled novice teachers to work hard and retain in the job.

Studies Related with Special Education Teacher Tenacity

Celik et al. (2018) investigated the possible relationships between resilience and Tenacity and motivation of physical education teacher trainees. 154 teacher trainees participated from Agri province. The result revealed that there was positive correlation between tenacity, resilience and motivation while gender-wise and class level-wise differences were not found in selected variable.

Hasan and Hasnain (2014) found out the difference between post graduate teachers and trained graduation teachers mindfulness, commitment and well being. The sample size was 80 teachers from different schools of Delhi. Freiberg Mindfulness Inventory(FMI), Organizational Commitment tool and scale of teacher well being were used to collect data. The result showed that post graduate teachers were better than trained graduate teachers for all variables selected for the study.

Shechtman, et al. (2013) in a paper elaborated the importance of non-cognitive traits - Grit, Tenacity and Perseverance, for success in this epoch.

An extended review was conducted and a hypothesized model for promoting Gril, Tenacity and Perseverence were created. Several types of measurement of non-cognitive traits were also provided (self report, informant report, school records etc.). The paper gave a theoretical framework of academic tenacity and suggested intervention programs for promoting grit, tenacity and perseverance among students.

Farrington, et al. (2012) elaborated a cluster of programs meant for promoting Grit, Tenacity and Perseverance. The paper viewed these qualities as transferable competencies by manipulating contextual elements and promoting psychological resources within the students and formal, informal and technology based digital programs to foster these qualities were detailed. School readiness programs, project based learning, digital learning environment were some of the example provided in the paper. The investigators put forward five broad cluster programs which were suitable to different levels, age groups and different contextual parameters.

Dweck et al. (2011) explained academic tenacity and the components associated with tenacious behavior of students in learning environment. The paper detailed various characteristics of tenacious behavior and interventions to foster tenacity, grit and perseverance. The paper summarized the suggestions for better student outcome which were supportive learning environment, high expectations on the part of teachers for student learning outcome and integrating curricula with interventions that foster academic tenacity.

Shea (2010) investigated special education teacher tenacity of 14 Colorado special school teachers through interviews. The study connected

teacher tenacity with leadership style and teacher commitment. A qualitative study explained need for support from authorities/leaders of school in order to oblige one's duties and commitment to teaching.

Borg (2009) studied tenacious behavior of teachers using a longitudinal case study. Data was collected through observations, document analysis and participant interviews. The analysis of data was performed by theoretical frame work of practices and constant comparative method, usually found in grounded theory approach. The construct teacher tenacity was theorized and many facilitating and constraining factors related with school community of practice were identified. The findings revealed the necessity of cultivating a tenacious behavior among teachers to sustain teacher involvement in school and avoid peripheral participation in order to improve teaching.

Table 7

Meta Analysis of Studies Related to Special Education Teacher Tenacity

Year	Author	Findings
2018	Celik	The result revealed that there was a positive relation between tenacity, resilience and motivation among teacher trainee.
2014	Hasan and Hasnain	Found that post graduate teachers were better than trained graduate teachers in mindfulness, commitment, and well being.
2013	Shechtman, et al.	Provided a theoretical framework for academic tenacity and suggested intervention programs for developing, grit, tenacity and perseverance.
2012	Farrington, et al.	The study put forward five broad cluster programs meant for promoting grit, tenacity and perseverance

Year	Author	Findings
2011	Dweck, et al.	Explained academic tenacity and factors associated with academic tenacity among students for better learning outcome.
2010	Shea, Martinez	The study connected teacher tenacity with leadership style and teacher commitment and suggested authorities support for teachers in order to do their duties and obligations.
2009	Borg	Studied tenacious behavior of teachers and revealed the necessity of cultivating tenacious behavior among teachers for efficacious teacher involvement in teaching.

Studies Related with Special Education Teacher Resilience

Beutal, Crosswell and Broadley (2019) conducted a study to explore the strategies and resources for teacher resilience in eastern Australia. Pre-service teachers were chosen as sample and a socio-ecological lens was used as a structure to explain various contextual and individual resources and strategies in order to develop resilience in teachers. The findings indicated that teaching was perceived as a stressful job and tedious profession which would affect one's personal lives as well as professional make up. Mentor teacher interferences as well as professional contextual experiences would influence teacher resilience and teacher's successful copying in adverse situations in teaching.

Bursch et al. (2019) conducted a research incorporating health professionals' resilience skills training program. An experimental study used two tools: a web based tool, named Brief Resilience Scale (BRS) and

Abbreviated Marlab Burnout Inventory (a MBI). 22 residents participated and satisfied with curriculum and developed positive copying strategies to deal with work-related stress and burnout.

Ellison and Mays-woods (2019) conducted a study on four physical educator's experiences of resilience in schools from poverty-striker areas. A multiple case study approach, the perceptions of teacher resilience of four physical education teacher's were gathered through interviews and teacher shadowing. The study revealed that several protective factors (personality, support, motivation, purposeful activities) supported educators in difficult times and negative elements from the reality were diluted using teachers meta cognitive, self-regulating behavior mannerisms. The teacher's participation in the study hold strong personal and professional dispositions which would enhance the level of resilience and the paper suggested that while selecting teachers into physical education career, authorities must choose candidates with individual capabilities like resilience, at schools situated in socially and economically backward areas.

Sappa, Boldrine and Barabasch (2019) conducted a theoretical overview of teacher resilience in vocational education and training. The paper explained main risk and protective elements in teacher resilience by considering VET teachers. The paper overviewed different resilience studies at different context (regular schools, inclusion school, etc.) and found out factors associated with teacher resilience.

Das (2018) investigated academic resilience among disadvantaged children in India. Data from Indian Human Development Survey (2005) was utilized to find out personal variables. Among disadvantaged groups, students

enrolment was low and dropout rate was high, besides protective factors related with resilience vary across different groups. The paper explained that apart from family support in the form of maternal education and parental income, school (structural) factors also inflicted low academic resilience among disadvantaged students. The paper suggested that schools would expect to take the role of source of resilience and proclaimed the need for government interventions in the form of policies to safeguard academic resilience among disadvantaged students in India.

Henderson et al. (2018) investigated the need for resilience among students and teachers in an alternative education system. The study conducted interviews and observations to gather information on teacher and students capabilities to model resilience in alternative education context. Alternative education program could provide resources, healthy relationship and a sense of self-worth among stakeholders in order to cultivate resilience in students. The paper asserted that these alternatives school systems would be a part of public education system in order to foster resilience.

Allen, Kilgus and Eklund (2018) studied the efficacy of resilience education program (REP) focused at elementary students. REP was an intervention program, integrating small-group-cognitive-behavioral instruction. An experimental study used a multiple-baseline single case design which include 3 student participant at risk. The findings revealed that REP promoted social engagement but reduced internalizing behaviors (Worry and irritability). The study posited that teachers rated REP as an effective, acceptable and feasible program of intervention.

Klassen, et al. (2018) studied non-cognitive characteristics of beginning teachers. The case study revealed some attributes which were critical efficient teaching which is organization support, empathy and resilience. The study was conducted in England, Finland, Malawi and Omen and focused on the views of experienced teacher and teacher educators from four culturally different countries towards the relevance of non-cognitive elements attached with novice teacher's performance. Using a naturalistic comparative research design enabled the investigators to find out similarities, patterns and differences across different environment with a common target. The common attributes evolved from various countries were empathy and communication, planning and organization and resilience. The paper recommended these cluster attributes were critical to teacher effectiveness and success in early career years.

Franzenburg, Ilisko and Verkest (2018) examined a discourse of resilience and remembering historical narratives in a context of teaching and checked the interconnections and its impact upon facilitating or hindering resilience in teaching. Historical remembrance enabled people to familiarize the sources of resilience in the past and the capacity of people to overcome hazards in a meaningful way at that time. The paper argued that critical dialogue around issues foster resilience and shared humanity which would create historically oriented citizens who can actively involve and adapt to any circumstances. At the end paper optimized that students did not repeat mistakes while would prove to keep copying behavior in the face of adversity.

Arnup and Bowles (2015) studied the link between adaptive functioning and resilience in beginning teachers (early career teachers-ECT). The paper

examined strategic process related to resilience and how these process vary in a group of beginning teachers. The study revealed that three groups emerged from the particular groups: stabilizers, adaptors and innovators which were corresponding to low, moderate and high resilient mannerisms. Length of service was not a criteria for resilient behavior of teacher while adaptive functioning were slightly influenced by years of service. The study highlighted that resilience was strongly attached with adaptive capabilities of teachers in school.

Sukhala and Jyotsana(2015) studied the relation between resilience, life satisfaction and religiosity among adults in Rishikesh. The sample was 202 adults. Correlation and regression analysis were done to find out relationship. Resilience and life satisfaction was positively correlated and resilience and religiosity was not related. The study asserted that life satisfaction was contributing to resilience.

Lo (2014) conducted a study on the relationship between stress and burnout levels of teachers and individual and organizational resilience in Hong Kong. The paper explored the characteristics of teachers with students of emotionally behaviorally challenged (EBC), involvement in difficult situations. A mixed-method research, used tools for survey and semi-structured interviews to collect data from 146 teachers. The result indicated that stress and burnout range from moderate to High level among teachers handling EBC students. Individual and organizational resilience characteristics reduced negative effect of stress and burnout among teachers.

Danaher et al. (2014) examined community resilience using data collected from three projects conducted in educational contexts. The paper

incorporated community oriented project, teacher related issues and a university education research findings in order to enhance resilience in educational settings.

Cornu (2013) investigated the interplay among individual, relational and contextual conditions that facilitated early career teacher resilience. The data were collected from 60 new teachers by conducting interviews. A qualitative method focused on relationship aspect of resilience especially relational resilience. In the beginning stage of the career mutuality, empowerment and development of confidence were most considered things while thinking about sustainability in teaching. The paper explained different relationship aspects exist in school contexts and found that positive, caring and supportive relationships were not only benefitting students outcome but also developing teacher career aspirations.

Baum et al. (2013) in quasi-experimental study investigated the effectiveness of resilience-building teacher intervention program in Israel and assessed student's trauma exposure posttraumatic behavior and anxiety in pretest-posttest design. There found significant reduction in posttraumatic symptoms and anxiety level in students whose teachers were participated in intervention programs compared to control group. The study suggested better teacher empowerment and developing resilience fostering characteristics among teachers that would benefit to students mental well-being vicariously.

Sood and Bakshi (2013) found out the relation between resilience, spiritual intelligence and mental well being among 120 students. General health questionnaire, resilience scale, and spiritual intelligence questionnaire were used

to collect data from Jammu. The result revealed that there was positive relationship between all dimensions of spiritual intelligence and resilience and resilience and mental well being was also related. The study put forward that both resilience and spiritual intelligence would contribute to mental health.

Borrero, Lee and Pactilla (2012) conducted a study on academic resilience, in which investigators analyzed Bay Academy's teaching and organizational practices through an ecological perspective of learning which would develop academic resilience in students. Ecological perspectives included: culture of college, structural facilities, community and parental involvement, administrative and academic supervision, and innovative strategies. The paper projected the success of school in order to apply these interventions in similar contexts in future.

Micklejohn et al. (2012) reviewed research and trends in integration of mindfulness training to both teachers and students. Sustained mindfulness program would enhance attention and emotional self regulations (meta cognitive process) and promote flexibility. Three mindfulness program meant for teacher's increased teacher well being and efficacious behavior. Several mindfulness program (both for students and teachers) found in literature were explained in the paper CARE (cultivating awareness and resilience in education) program for teachers, SMART in education (mindful-based wellness education) MBWE program were examples to teacher-training aspects of mindfulness intervention.

Pratsch, Flunger, and Schmitt (2012) tried to project the importance of resilience in teaching profession. The study conducted on 170 teachers and

183 non-teaching employees and provided tools for measuring resilience, neurotic characteristics and well-being. Result indicated that for teacher's resilience provided more general health perception than neurotic elements. While in the case of non-teaching employees neuroticism predicted all better outcomes than resilience. The result emphasized the fact that resilience was most important for the well-being of teachers.

The paper reviewed recent researches related to resilience. Beltsman, Mansfield and Price (2011) explained risk factors and protective factors associated with resilience especially in teacher resilience. Altruistic motives and efficacious behavior of teacher were considered as protective factors while contextual difficulties, pupils misbehavior etc. were regarded as Risk Factors in Teaching. The paper reviewed literature corresponding to Resilience and conceptualized resilience in the context of teaching and suggested interventions to enhance protective factors in order to retain new teachers in profession. In early career, teaching encounter's often proved to stress, attention and burnout due to lack of adaptive mannerisms on the past of teacher's. Protective elements came from peer group authorities and students would enable novice teacher to adapt well into the existing system.

Day (2008) investigated the connection between teacher's commitment, resilience and effectiveness. The study put forward supporting factors for a positive sense of agency, commitment and resilience were leadership (76% teachers admitted), colleagues (63% thought about supportive team), presence of strong leadership, personal (95% teachers sought family support). The negative factors associated with or risk factors associated with teaching were

workload (68% confessed), student behavior (lack of respect from student 64% teachers opinioned) and leadership (58% pointed faulty leadership styles). The paper highlighted the importance of teacher commitment, Resilience and effectiveness at all levels of teaching irrespective of other setbacks to sustain teachers in educational field and thus could reduce teacher attrition.

Maria (2007) conducted a study on social resilience which found out the relationship between social skills, problem solving and resilience. The paper exfoliated social resiliency framework into a broad socio-emotional learning environment, in order to foster social-emotional competencies in students. An individual adaptive mechanism the conceptualization of resilience was elevated to a groups adaptive mechanism through the terminology social resilience in the paper. Investigator treated resilience and SEL frameworks are interrelated constructs than distinctive elements in social setups. Resilience was viewed as a priori requirement for social competence in educational field. The paper described Greek teachers perception of developing SEL skills, resilience and problem solving abilities in students and modifying curriculum to include SEL and Resilience intervention program to students in a daily basis.

Giles (2006) explained in an article, teacher adaptability to the modern world with complex economic, social and demographic change. Viewed through the lens of resilience, the article described data collected from two high schools which stood for change over time study and proclaimed that teachers resilient capacity would enable teacher to cope with changing demands of society in teaching at large school reforms could transform teachers to nurture resilient and self-renewing abilities in children.

Howard and Johnson (2004) investigated teacher stress and burnout in the perspective of why some teachers could survive positively with adversities rather than the common research paradigm which sought for deficit oriented factors that lead to burnout and stress in teaching. The paper approached teacher's burnout and stress in a different manner to seek solutions, stood on positive aspects of teaching while exploring the experiences of teachers who work under uncertain situations. A qualitative study conducted semi-structured interviews to collect data from successful teachers coping strategies in teaching and explained the characteristics of resilience and non-resilient teachers in the face of adversity.

Table 8

Meta Analysis of Studies Related to Special Education Teacher Resilience

Year	Author	Findings
2019	Beutal, Crosswell & Broadley	Investigated strategies and resources for teacher resilience and found out mentor teacher's interference and professional contextual experiences influenced teacher resilience
2019	Bursch et al	A resilience skill development program conducted among health professionals found out a positive influence on copying strategies related with stress and burnout.
2019	Ellison & Mays-woods	Conducted a study on physical education teachers and suggested that authorities would choose resilient teachers at schools situated in socially and economically backward areas.
2019	Sappa Boldrive Barabasch	Conducted a theoretical overview regarding teacher resilience at different contexts and found out factors associated with teacher resilience.

Year	Author	Findings
2018	Das	Studied academic resilience and suggested need for government interventions to safeguard academic resilience among disadvantaged students in India.
2018	Hinderson, Washington, Hamit, Ford and Jenkins	Investigated need for resilience among students in alternative education program and found out the necessity of resources and help to improve student resilience.
2018	Allen, Kilgus, Eklund	Studied the efficacy of resilience education program and found that REP promoted social engagement and reduced student's habit of internalizing negative behaviors.
2018	Klassen et al.	Examined non-cognitive characteristics of beginning teacher and found out common attributes which were critical to teacher effectiveness.
2018	Franzenburg Ilisko & Verkest	Studied a discourse of resilience and historical narratives in the context of teaching. The paper argued that critical dialogue would foster resilience and humanity among teachers and students.
2015	Arnup and Bowles	Found out the link between adaptive functioning and resilience in beginning teachers and proclaimed that resilience was strongly related with adaptive capabilities among teachers.
2015	Sukhala and Jyotsana	Revealed the relation between resilience and life satisfaction while resilience and religiosity was not related and asserted that life satisfaction was contributing to resilience.
2014	Lo	Conducted a study on relationship between resilience and teachers stress and burnout and found that organisational resilience characteristics reduced negative effect of stress and burnout.

Year	Author	Findings
2014	Danaher et al.	Examined community resilience and incorporated community oriented project to deal with teacher related issues and to enhance teacher resilience in educational settings.
2013	Cornu	Explained different inter-personal relationship aspects in school contexts and found that a caring relation were beneficial both to student's outcome and for teachers better career aspirations.
2013	Baum et al.	Found out the effectiveness of resilience-building teacher intervention program and suggested teacher empowerment for students mental well-being.
2013	Sood and Bakshi	Revealed the relation between resilience, spiritual intelligence and mental well being and posited that resilience and spiritual intelligence would contribute to mental health.
2012	Borrero, Lee, Paclilla	Studied academic resilience and formulated ecological perspectives of learning which would develop academic resilience among students.
2012	Mickkjohn, Philips, Freedman, Griffin and Biegel	Conducted mindfulness program to enhance attention and emotional self-regulation among teachers and students and the paper also explained different programs meant for mindfulness.
2012	Prasch, Flunger, Schmitt	The study found that resilience was most important for well-being of teachers than consumption of neurotic medicine.
2011	Beltman, Mansfield, & Price	Explained risk factors and protective factors associated with teacher resilience. Altruistic factors remained as protective factors and contextual difficulties were regarded a Risk factors in Teaching.

Year	Author	Findings
2008	Day	Investigated connection between teachers commitment, resilience and effectiveness and highlighted the importance of teachers commitment and resilience for teacher effectiveness.
2007	Maria	Conducted a study on social resilience and found out the relationship between social skills, problem solving and resilience
2006	Giles	The paper asserted the teacher resilience would enable teachers to cope with changing demands of society and to nurture resilience among students for better adjustment to the society.
2004	Howard Johnson	Investigated teacher stress and burnout and tried to found out the causes behind it. Collected data from successful teachers' coping strategies in adverse situation and defined the characteristics of teacher resilience.

Conclusion

The chapter enclosed a detailed review of Compatibility factors in teaching, viz, Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors, Motivational factors in Teaching and Teacher Endurance factors such as Special Education Teacher Grit, Tenacity and Resilience. An extensive review was conducted and most relevant and recent studies related with selected variables were included. Studies on Compatibility factors were conducted widely in foreign countries except cognitive and meta cognitive factors in teaching and majority of studies were associated with students aspect than teachers. Research conducted on

cognitive and meta cognitive factors were revolved around learning and students achievement than teaching. But Studies related with grit, and tenacity are limited in numbers since the research history of these non-cognitive factors started only recently. Resilience was researched in India and abroad extensively but teacher resilience was comparatively rare. Studies related to Special Education teachers found to be narrow and most of the research on special education sector focused on pupils differences, disabilities, and problems and the studies related with teachers in special schools in literature tried to explore teachers burn out, dissatisfaction and anxiety than the peculiar elements in teacher behavior which contributed to effective teacher performance and students outcome. Differences and constraints are common realities with small variations in any field but the things which are more essential to overcome such hurdles are the concerns of present epoch. Most of studies reviewed were dealing with linear combination of variables related to teaching than multivariate aspect even though teaching is multifaceted and multidimensional Thus the study would be a stepping stone to direct researchers or teachers into the positive aspects of teaching in any educational settings in order to create a conducive, effective, and productive teacher behavior irrespective of the contextual and personal shortcomings. Hence influence of compatibility factors in teaching on teacher endurance among special education teachers of pupil with intellectual differences is most relevant and worthwhile.

Chapter II

Methodology

- Variables
- Objectives of the study
- Hypotheses
- Methods Used
- Tools Used for Data Collection
- Sample Selected for the Study
- Data Collection Procedure
- Statistical Techniques Used

The present study **Influence of Select Compatibility Factors on Teacher Endurance Among Special Education Teachers of Pupils with Intellectual Differences**, attempts to study the influence of select Compatibility Factors in Teaching namely Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors, and Motivational Factors in Teaching on select Teacher Endurance variables such as Teacher Grit, Tenacity and Resilience of Special Education Teachers.

The methodology endorsed for the study is outlined under the following headings.

- Variables
- Objectives
- Hypotheses
- Methodology in brief.
- Tools Used for Data Collection
- Sample Selected for the Study
- Data Collection Procedure
- Statistical Techniques Used

Variables

Independent Variables

The Independent variables selected for the study are 'Compatibility Factors in Teaching' which include

- Socio- Emotional Competency
- School Climate

- Cognitive and Meta Cognitive Factors
- Motivational Factors

Dependent Variables

The dependent variables selected are 'Special Education Teacher Endurance Factors' which comprises of

- Teacher Grit
- Teacher Tenacity
- Teacher Resilience

The variables selected for the study are briefed in the Figure 10

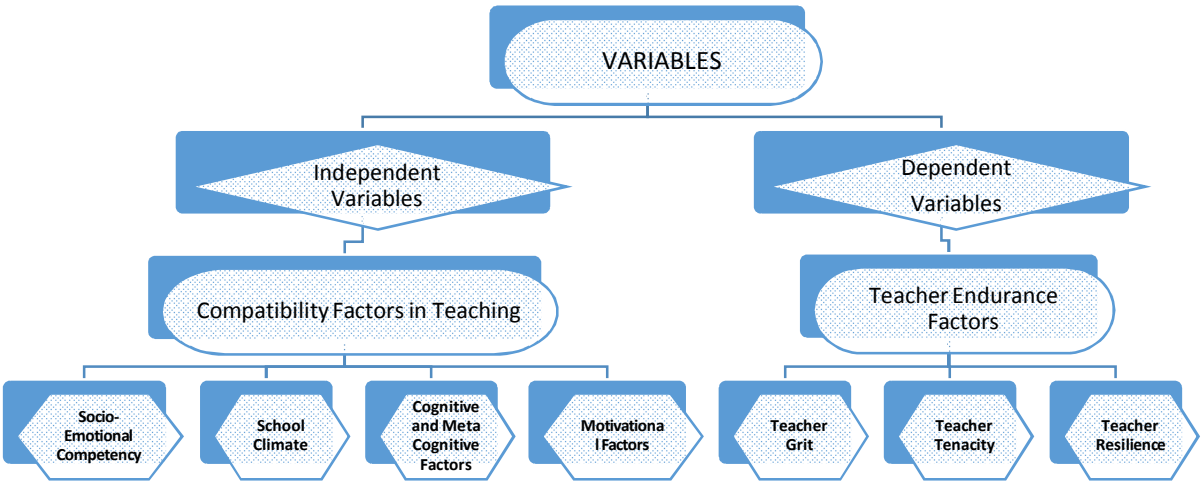


Figure 10. Variables selected for the study

Rationale for selecting variables.

Many factors associated with teaching of pupils with intellectual difference were analysed. Teaching is a multifaceted and multidimensional process which cannot be fully explained by linear combinations of two or more variables attached with the process. More than that the responsibility of

special education teacher is something more than an academician, a guide or a scaffolder, and 21st century demands teachers non-cognitive, positive psychological qualities to withstand the pressures related with teaching especially in special education settings. The independent variables selected, compatibility factors in teaching encompasses personal, societal, and environmental elements such as socio- emotional competency, school climate, cognitive and meta cognitive factors and motivational factors in teaching.

Socio- emotional competency is a societal and emotional variable which establish teachers socio- emotional well being in workplace. The studies related with socio- emotional competency shows that teachers who possessed higher socio- emotional competencies were experiencing low levels of burnout and were demonstrating better classroom management, should be pro-active and skillfully using emotional expressions (Jennings and Greenberg, 2009). Teacher's dissatisfaction and attrition arises out of poor emotional balancing and teacher stress (Montgomery and Rupp, 2005). In troublesome situations, emotion based coping reduce feelings of teacher stress (Kyriacou, 2001). Special education settings need teachers' social and emotional stamina more than any other educational fields because the student's characteristics are unpredictable and varied. Evidences reveal that socio- emotional competency is the best choice while considering Compatibility Factors in Teaching.

School climate factors in teaching is the environmental-bound variable which establish the "social, emotional, ethical, academic and environmental dimensions of school life" (Cohen, Mccabe, Michelli & Pickeral, 2009). The studies related with school climate revolve around students and teachers well

being in school. Poor teacher retention is associated with school climate related factors (Ingersoll, 2001) and different aspects of School life (Safety, relationship, teaching and learning) must color and shape school norms, values and relationships (Cohen, 2009). The teacher along with school head are the most important influencing forces behind student learning (Wallace foundation, 2006) and a goal agreement among teacher community in school could mould the character of school climate (Maranto & Maranto, 2006). The studies related with school climate clarify the importance of school climate factors in teaching as one of the Compatibility element in Teaching.

Cognitive and Meta Cognitive Factors in Teaching is an intra personal variable in teaching that decorates teacher's resourcefulness in dealing with content, context and personals in educational field. Teachers are lifelong learners, the Cognitive aspects of learning of teaching process include understanding of goals of Teaching and appropriate construction of pedagogical knowledge. Meta cognitive factors included meta cognitive knowledge and experiences or regulation (Flavell, 1979; Livingston, 1977) Cognitive strategies are used to help the individual to do a particular task while Meta Cognitive strategies are used to evaluate the task in hand that is whether the objectives of the task met or not. (Swartz & Perkins, 1989; Livingston, 1977). The task category of meta cognitive knowledge included all the information about a proposed task that is availed to a person (Flavell, 1979). Meta cognitive knowledge enable a person to manage a task in hand (teaching) and to determine the success that follow. Meta cognitive experiences are essential components for self-regulation and co-regulation in a collaborative teaching- learning situation (Efklides, 2006, 2008) Teaching is

a social phenomena which demands social mode of regulation or shared views than individual regulation through meta cognitive reflection (Volet, Vauras & Salonen, 2009). Review of studies regarding cognition and meta cognition show that, as an intra personal variable, cognitive and meta cognitive factors in teaching is an appropriate element in teaching.

Motivational Factors in teaching plays an important role in accountability and professionalism in teaching. "Motivation is a set of processes that arouse, direct and maintain human behavior towards attaining some goal" (Pintrich & Schunk, 2002). Long term success and performance of any educational institution depends upon motivated teachers (Filak & Sheldon, 2003). Recognition (Wright, 2001) and professional Growth (Emo, 2015) are fundamental motivators for teachers (Ololube, 2007). Teachers who are given due authority or autonomy feel more confident and self- initiators in teaching/ learning process (Day et al., 2007). Teacher motivation and satisfaction are found to be related with working with children and dissatisfaction arises out of work overload, poor pay and recognition from society (Ololube, 2007). The review of literature regarding teacher motivation underlines the fact that motivational factors in teaching play a significant role as compatibility factors in teaching.

Teacher Endurance, the dependent variable selected for the study comprised of teacher grit, tenacity and resilience. Grit is a quality or characteristics emerging as an indicator of success. Galton (1892) studied the characteristics of successful persons in history and found that perseverance is as important as Intelligence as far as high achievements are concerned. From

the combination of persistence part of self control and conscientiousness emerged the concept, grit (Duckworth et al., 2007). In special education settings, teacher confront with various issues that should be dealt with patience and perseverance than intelligence. Teacher grit is the quality that ensures long term orientation to teacher effectiveness and an essential enduring factor in teacher behavior.

Teacher tenacity stood for determination in teacher behavior along with holding long term goals. Teacher tenacity enable a teacher to withstand short term setbacks and challenges in teaching and to move toward higher order goals like better student performance or an altruistic behavior in one's profession. Informal leadership roles and a strong internal locus of control among teachers in special education sector stem out of teacher tenacity (Shea, 2010). The study by Shea (2010) posited that teacher retention and attrition are associated with teacher commitment and effective leadership qualities which are arisen out of tenacious behavior of teachers in special education Sector. As a non-cognitive, positive psychological quality, teacher tenacity is a major factor in teacher endurance.

Teacher resilience is the capacity to adjust to adverse conditions to increase one's competence, achieve school goals and remain committed to teaching. Teacher resilience is a positive psychological construct related to better adaptation to surroundings. Teacher resiliency was a critical element in teacher retention (Bobek, 2002) and the five main conditions of teacher resilience derived out of the analysis were "relationship, School Culture, teacher identity, teacher work and policies and practices" (Johnson et al., 2012).

Different theoretical approaches to teacher resilience could be found in literature, the major approaches are multidimensional approach (Gu & Day, 2007) and a strategic approach (Patterson, Collins & Abbort, 2004). Castro, Kelly and Shih, (2009) adopted a position utilizing aspects from both multidimensional and strategic approach and identified teachers as active agents who adopt various strategies for making balance and achievement in the face of adversity, with minimum resources and challenging working conditions. Special education sector is viewed as an uncertain place with minimum priority from authorities. The things that make teaching more enduring is none other than the non- cognitive qualities inherent within teaching. The qualities are grit, tenacity and resilience which together make teaching effective and colorful.

Objectives of the Study

The Objectives of the study are

1. To find out the multivariate effect of Compatibility Factors in teaching (Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors) on Teacher Endurance (Grit, Tenacity and Resilience) of special education teachers for total sample and subsamples based on locality, type of management, experience and qualification of teachers.
2. To find out the multivariate interaction effect of Compatibility Factors in teaching (Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational) on Teacher Endurance (Grit, Tenacity and Resilience) of special education teachers for total sample and subsamples based on locality, type of management, experience and qualification of teachers.

Hypotheses

The study is carried out to test the following hypotheses.

1. There exist significant multivariate effect of Compatibility factors in teaching (Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors) on Teacher Endurance (Grit, Tenacity and Resilience) of special education teachers for total sample and subsamples based on
   - Locality (Urban and Rural Sample)
   - Type of management (Government and Unaided)
   - Experience (Up to 5 years and 5 years and above)
   - Qualification of teachers (Under Graduation and Graduation and Above).
2. There exist significant multivariate Interaction effect of Compatibility Factors in teaching (Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors) on Teacher Endurance (Grit, Tenacity and Resilience) of special education teachers for total sample and subsamples based on
   - Locality (Urban and Rural)
   - Type of management (Government and Unaided)
   - Experience (Up to 5 years and 5 years and above)
   - Qualification of teachers. (Under graduation and Graduation and above).

Methodology in Brief

Method

Survey method was chosen to collect data from Special Education Teachers across Kerala in order to find out the influence of Compatibility Factors in Teaching on Teacher Endurance among Special Education Teachers of pupils with Intellectual differences.

Tools Used for Data Collection

The data essential for the study was obtained by administering the tools constructed by the investigator with the help of the supervising teacher. Tools used for collecting data are:

1) Socio-Emotional Competency Inventory- SECI (Usha & Thankam, 2018)
2) Scale of School Climate Factors in teaching (Usha & Thankam, 2018)
3) Scale of Cognitive and Meta Cognitive Factors in teaching (Usha & Thankam, 2018)
4) Scale of Motivational Factors In teaching (Usha & Thankam, 2018)
5) Scale on Special Education Teacher Grit (Usha & Thankam, 2018)
6) Scale on Special Education Teacher Tenacity (Usha & Thankam, 2018)
7) Scale on Special Education Teacher Resilience (Usha & Thankam, 2018)

Description of the Tools

Socio-Emotional Competency Inventory- SECI (Usha & Thankam, 2018)

Socio-Emotional Competency Inventory is developed by the investigator with the help of supervising teacher. It includes five core social and emotional competencies attached with teaching, viz., self awareness, social awareness, responsible decision making, self management and relationship. (Zins, et al., 2004; Jennings & Greenberg, 2009).

Planning of the inventory.

Major Components with sub themes under Socio-Emotional Competency Inventory are:

Self awareness.

Included identifying and recognizing emotions, recognizing personal interests and strength, maintaining a well- grounded sense of self confidence (Zins, et al., 2004; Jennings & Greenberg, 2009). Intra personal beliefs and emotional strength engulfed by a person in social settings which facilitated sound sense of self confidence and emotional maturity are also included in it.

Example. I am capable to withstand all setbacks in any provocative situation.

I feel difficult to manage pupils with individual differences.

Social awareness.

Shows empathy towards others and recognize and acknowledge individual and group similarities and differences (Zins, et al., 2004; Jennings & Greenberg, 2009).

Teaching is a social act which demands extensive social interactions. As a social entrepreneur, teachers should possess empathy, sympathy and tolerance of differences and similarities in pupil than in any other professional settings.

Example. I can recognize and understand emotions of my students.

I give top priority to academic achievements than social well- being of my students

Self management.

"Regulating emotions to handle stress, control impulses and motivating oneself to persevere in overcoming obstacles, setting and monitoring progress towards the achievement of personal and academic goals; expressing emotions appropriately" (Zins, et al., 2004; Jennings & Greenberg, 2009).

In special education settings classroom management is not so easy and trouble free. Expressing and monitoring emotions in proper manner is outmost important, while handling pupils with intellectual differences.

Example. I keep a warm and cordial response to provocative incidents.

I feel nervous when I handle painful situations.

Relationship management.

Maintaining healthy and rewarding relationships based on co-operative and resistance to inappropriate social pressure, preventing, managing and constructively resolving inter-personal conflict, seeking help when needed (Zins, et al., 2004; Jennings & Greenberg, 2009).

A wide platform for interacting with others needs splendid ways of utilizing quality relations. Sometimes resistance to unwanted social interference or to dilute interpersonal dilemmas is subtle subjects to deal with.

Example. I keep respectful communication pattern with others.

Parent's interventions make me often stressful.

Responsible decision–making.

Making decisions based on a consideration of all relevant factors, including applicable ethical standards, safety concerns and social norms; choosing different options for action; evaluation and reflection (Zins, et al., 2004; Jennings & Greenberg, 2009).

Ethical and normative value considerations are fruitful to responsible decision making. Flexible decisions with progressive alterations are suitable to educational settings which are validated and substantiated through continuous evaluation and reflective practices.

Example. I collect evidences before taking decisive actions.

I prefer rigid decisions than flexible options.

Preparation of the inventory.

To measure socio-emotional competency among special education teacher's, it was decided to prepare an inventory. The draft form of the Socio-Emotional Competency Inventory consisted of 50 items, including positive and negative aspects of sub components of socio-emotional competency and the individual items were selected with due weightage to

all sub themes under consideration of the particular construct, socio-emotional competency of teachers. After consulting with supervising teacher, items in the draft inventory were confined to 44. The draft tool consisted of 22 items related to narrow conceptualization of socio-emotional competency and 22 items related to progressive socio-emotional competency. The component wise distribution of items are provided in the table 9

Table 9

Component wise Distribution of Items in Socio-Emotional Competency Inventory

Sl No.	Sub Components of Socio-Emotional Competency	Item Number
1	Self Awareness	1, 7, 12, 15, 22, 23, 24, 25
2	Self Management	2, 4, 8, 13, 14, 16, 17, 26
3	Responsible Decision Making	3, 9, 18, 32, 33, 34, 35, 44
4	Social Awareness	5, 6, 10, 20, 27, 28, 30, 31, 36, 39
5	Relationship Management	11, 19, 21, 29, 37, 38, 40, 41, 42, 43

Scoring procedure.

The inventory comprised of items that can be answered with the options Agree, No opinion and Disagree. One has to mark responses towards each item in the response sheet provided along with inventory. For a progressive statement 3 for Agree, 2 for No Opinion and 1 for Disagree. For a negative statement reverse scoring procedure is adopted. The total score is calculated as per summated rating procedure of Likert Scale.

Pilot testing.

400 Special Education teachers from Central and North Kerala were selected for pilot study and the draft tool was administered. The incomplete response sheets were discarded. Finally 370 samples out of 400 was randomly selected for item analysis.

Item analysis

For selecting items for the final inventory, item analysis suggested by Edward (1969) is adopted. Total scores obtained from 370 samples were arranged in descending order and 27% high scores and 27% low scores were found out. The response of teachers towards each item for upper and lower group were distinguished and 't' values of each item was determined using the formula.

$$t = \frac{\overline{X}_H - \overline{X}_L}{\sqrt{\frac{S_H^2}{n_H} + \frac{S_L^2}{N_L}}}$$

Where, $\overline{X}_H$ = The mean score on a given statement for high group

$\overline{X}_L$ = The mean scores on the same statement for low group

S_H^2 = Standard deviation of the distribution of high group

S_L^2 = Standard deviation of the distribution of low group

n_H = Number of subjects in high group

n_L = Number of subjects in low group

The result of Item analysis of Socio- Emotional Competency Inventory is given in the Table 10

Table 10

Result of Item Analysis of Socio- Emotional Competency Inventory

Sl No.	t- value	Status	Sl No.	t- value	Status
1	1.81	Rejected	23	3.99	Accepted
2	4.11	Accepted	24	0.81	Rejected
3	2.86	Accepted	25	2.11	Rejected
4	2.21	Rejected	26	3.44	Accepted
5	2.58	Accepted	27	2.06	Rejected
6	5.16	Accepted	28	2.42	Rejected
7	0.52	Rejected	29	3.12	Accepted
8	4.04	Accepted	30	2.09	Rejected
9	5.16	Accepted	31	4.04	Accepted
10	3.65	Accepted	32	2.38	Rejected
11	4.33	Accepted	33	2.02	Rejected
12	5.09	Accepted	34	3.06	Accepted
13	2.99	Accepted	35	4.07	Accepted
14	1.95	Rejected	36	4.13	Accepted
15	2.92	Accepted	37	2.86	Accepted
16	3.93	Accepted	38	3.86	Accepted
17	3.58	Accepted	39	2.19	Rejected
18	2.81	Accepted	40	4.00	Accepted
19	8.49	Accepted	41	1.86	Rejected
20	3.58	Accepted	42	2.96	Accepted
21	2.82	Accepted	43	3.05	Accepted
22	2.50	Rejected	44	4.04	Accepted

Items with t- value greater than or equal to 2.58 were included in final Inventory. Thus the final version of Socio- Emotional Competency Inventory

comprised of 30 items. The draft tool, final tool and the corresponding response sheet are presented in Appendix 1, 2 and 3 respectively.

Validity and reliability.

The criterion related validity was established by correlating the scores of Inventory with Forcina Survey Instrument for Socio- Emotional Competence (Forcina, 2012). The tool was administered to 50 special education teachers from Thrissur District. Pearson's Product Moment Coefficient of Correlations thus obtained was 0.78 (N= 50). The index ensure criterion validity.

The reliability of the Inventory was established by test retest method. Administered the same tool after 1 month period for the same sample and calculated coefficient of correlation, the index of correlation thus obtained was 0.74 (N = 50). The value suggested that the tool is reliable.

Scale of School Climate Factors in Teaching (Usha & Thankam, 2018)

Review of literature reveals that one of the compatibility factors in teaching is School Climate. The scale of School Climate Factors in teaching is a Likert type three- point scale constructed by the investigator with the help of supervising teacher. The scale is developed in such a way that the notion of school climate usually found in literature as a factor conducive to learning is bifurcated to teaching. Statements regarding the scale were chosen as per the teaching aspects of school climate.

Planning the scale.

The dimensions of School Climate factors put forward by Cohen and Freiberg (Cohen, 2006; Freiberg, 1999) were chosen while constructing the scale. The selected dimensions of School Climate are:

Safety.

- *Physical as well as Socio-Emotional Safety*

Statement holding ideas related to this dimensions was carefully selected to fit for teacher behavior.

Example. Students feel secure inside school.

Teachers often face situational hazards.

Teaching and learning.

Quality of instruction, professional development of teacher and Leadership qualities comes under this dimension (Cohen, 2006).

Example: Teaching styles are adapted to meet different learning styles of students.

Teachers are unable to engage all students in classroom.

Relationship.

Respect for diversity, co- operative and collaborative work inside school community, moral values and connectedness were the themes under this dimensions as per Cohen (2006).

Example. Members of institution keep a supportive and caring relationship for students.

Teachers feel less attached to the School.

Environmental- structural factors.

Clean and tidy environment, adequate space and size of classroom, library, laboratory, playground and all such types of curricular and co-

curricular activities happened in school is coming under this dimension (Cohen, 2006).

Example. School compound is neat and clean.

Supplementary materials to support curricula are available at school.

Preparation of the scale.

The initial Scale of School Climate factors in Teaching consisted of 64 items based on various dimensions of school climate. After expert opinion the items in the draft scale was limited to 50. Statements regarding narrow and progressive outlook towards school climate were included in the scale. Out of 50 items in the draft scale 25 items had been chosen with narrow outlook toward school climate and 25 items related to broad outlook toward school climate. The distribution of dimension wise items in the scale is presented in the Table 11.

Table 11

Component Wise Distribution of Items in School Climate Scale

Sl No.	Sub Components of School Climate Scale	Number of Items specified under each dimensions
1	Safety	1, 12, 16, 19, 24, 26
2	Teaching and Learning	11, 17, 18, 25, 37, 39, 2, 20, 27, 32, 40, 48
3	Relationship	3, 4, 14, 21, 28, 31, 33, 34, 35, 41, 42, 44, 47, 49
4	Environmental- Structural	5, 6, 7, 8, 9, 10, 13, 15, 22, 23, 29, 30, 36, 38, 43, 45, 46, 50

Scoring procedure.

The scale provides three options to each item as Agree, No opinion and Disagree, while making responses. The scoring of statements corresponding to a broad outlook toward school climate was in such a way that a score 3 is given for Agree, 2 is given for No opinion and 1 for Disagree. For statements regarding narrow outlook toward school climate, scoring was done in a reverse manner such as a sure, 1 is given for Agree, 2 for No opinion and 3 for Disagree. The total score of the scale was calculated by adding individual scores of each item together (Likert, 1932)

Pilot testing.

A preliminary survey was conducted on a sample of 400 special school teachers from Central and Northern Kerala by giving due weightage to all basal variables chosen for the study. After discarding incomplete response sheet, 370 samples were randomly selected out of 400 for the purpose of item analysis.

Item analysis.

Item analysis suggested by Edward (1969) was selected to scrutinize items for the final scale. Total scores obtained from 370 samples were arranged in descending order, in order to find out high group and low group. 27% of high scorers and 27% of low scorers were identified and t- value of each item was calculated.

The result of item analysis of the Scale of School Climate Factors in Teaching are provided in the Table 12.

Table 12

Result of Item Analysis of Items in School Climate factors in Teaching

Sl No.	t- value	Status	Sl No.	t- value	Status
1	1.20	Rejected	26	4.93	Accepted
2	5.09	Accepted	27	1.39	Rejected
3	2.32	Rejected	28	2.86	Accepted
4	3.75	Accepted	29	3.66	Accepted
5	3.95	Accepted	30	4.37	Accepted
6	2.57	Rejected	31	4.24	Accepted
7	9.05	Accepted	32	6.82	Accepted
8	4.76	Accepted	33	2.06	Rejected
9	2.89	Accepted	34	1.36	Rejected
10	2.10	Rejected	35	7.87	Accepted
11	2.85	Accepted	36	3.47	Accepted
12	3.16	Accepted	37	2.58	Accepted
13	2.19	Rejected	38	3.49	Accepted
14	2.86	Accepted	39	3.41	Accepted
15	3.92	Accepted	40	2.06	Rejected
16	3.81	Accepted	41	3.89	Accepted
17	2.87	Accepted	42	6.51	Accepted
18	4.38	Accepted	43	4.18	Accepted
19	5.40	Accepted	44	5.06	Accepted
20	4.43	Accepted	45	6.47	Accepted
21	1.71	Rejected	46	4.54	Accepted
22	4.54	Accepted	47	5.32	Accepted
23	5.32	Accepted	48	6.22	Accepted
24	3.09	Accepted	49	5.32	Accepted
25	2.88	Accepted	50	2.68	Accepted

Statements with t- values greater than or equal to 2.58 were selected for final scale of School Climate Factors in Teaching. The final scale comprised of 40

items. The draft scale, final scale and the corresponding response sheets are presented in Appendix 4, 5 and 6 respectively.

Validity and reliability.

Investigator selected statements for the scale after an extensive review of literature. Experts confirmed authenticity and clarity of each item associated with the dimension selected for the study. Thus the tool ensured content validity of the scale.

The criterion validity was established by correlating the scores of the scale with scores obtained by administering a rating scale of school climate (Durham et al., 2014) to 50 special education teachers in Thrissur district. The value of coefficient of correlation thus obtained was 0.76 (N= 50). The index of correlation establishes criterion validity of the scale.

The reliability of the scale was ensured by performing test- retest reliability. The same scale was re- administered to same sample after one month, Pearson Product Moment Coefficient of correlation between the two test were calculated and the obtained value was 0.75 (N= 50). The obtained value reveal that the scale is reliable.

Scale of Cognitive and Meta Cognitive Factors in Teaching (Usha & Thankam, 2018)

Teaching is a complex process that demands teachers cognitive and meta cognitive behavioral outputs for smooth functioning of teaching process. The various components of the Scale of Cognitive and Meta Cognitive Factors in Teaching are based on the Learner- centered principles by the American Psychological Association (1997).

Planning of the scale.

The dimensions of cognitive and meta cognitive factors in teaching are given below

Cognitive factors in teaching includes

- Knowledge regarding teaching process
- Understanding the purpose of teaching
- Appropriate Construction of Pedagogical knowledge

(American Psychological Association, 1997)

Meta cognitive factors in teaching includes.

- Meta Cognitive knowledge / Awareness (Flavel, 1979; 1987)
- Meta Cognitive Experience / Regulation (Flavel; 1979)
- Meta Cognitive Strategies (Brown; 1987, Flavel; 1979)
- Socially shared Meta Cognition or Inter- Individual Meta Cognition (Iskala et al., 2004)

All sub components under meta cognitive factors in teaching is conceptualized as processes during teaching contexts rather than a common phenomena that occur for a person. All items prepared under this category are the teacher consciousness towards one's own meta cognitive characteristics.

The details of the cognitive factors in teaching are as follows

Knowledge regarding teaching process.

Teacher's awareness towards different types of teaching methods, strategies and techniques for effective transaction of the content are incorporated under the category. Teachers' perception on behaviorist, cognitive, socio- cognitive and constructivist approaches of teaching/learning

and also the knowledge regarding epistemological and psychological beliefs behind the process of teaching are the elements entailed under this section.

Example. Effective teaching stems out from individual characteristics than shared experience.

Understanding the purpose of teaching.

The aims and objectives related with teaching together with effective handling of pupils with intellectual differences in order to satisfy the goals and necessities put forward by the curriculum are the sub components under this category.

Example. Teaching is not instrumental to behavior modification in pupils with less adaptive behavior.

Appropriate construction of pedagogical knowledge.

It means the professional knowledge related with teaching such as knowledge of content, pedagogical knowledge, general pedagogical knowledge and knowledge regarding students.

Example. Teachers try to understand pupil's previous knowledge before teaching a topic in special school.

Meta Cognitive Factors in Teaching are as follows.

Meta cognitive knowledge.

Knowledge concerned with supervising one's own teaching practices with reflection and self evaluation. Flavel described three categories of meta cognitive knowledge as personal, strategic and task variable in cognitive aspects of teaching (Flavel, 1979).

Example. Teachers are keen about the end product of teaching than the procedures that have to follow while teaching differently abled.

Meta cognitive experience.

Teacher's effective responses to a task. The collective experience related with teaching enable teachers to stick on any task without considering the easiness or difficulties attached with. In one way meta cognitive experience regulate teacher's cognitive strategies and future actions (Flavel, 1979).

Example. Any hurdle while teaching will be removed without any difficulty.

Meta cognitive strategies.

This include ordered mental processes to control one's thinking or cognitive activities and to pursue a cognitive goal. Reflective, monitoring and organizing processes of cognitive tasks are prime concern under this category (Brown, 1987).

Example. Teachers should analyze a teaching strategy before it is implemented for better functioning in special schools.

Socially shared meta cognition.

It is a meta cognitive processes required in a social situation. Teaching or learning is a social phenomena, adhered to proper understanding of social goals and aspirations. Socially shared mental capabilities enable a teacher to attain a social mode of regulation in teaching and also to cultivate a shared regulation in the behavior of pupil too.

Example. Shared regulation in behavior is essential for better social functioning in special schools.

Preparation of the scale.

To measure cognitive and meta cognitive factors in teaching a 3- point summated rating scale was chosen and the draft scale comprised of 57 items by providing proper importance to all subcomponents that come under the construct "cognitive and meta cognitive factors in teaching". As per expert discussion and suggestions, the items in the draft scale was confined to 44 in which 22 items were included as high perception regarding Cognitive and Meta cognitive factors in teaching and 22 items were selected as low perception regarding cognitive and meta cognitive factors in teaching. The distribution of sub components wise item specification numbers are provided in the table 13.

Table 13

Component-wise Distribution of Items in Cognitive and Meta Cognitive Factors in Teaching

Sl No.	Sub Components of Cognitive and Meta Cognitive Factors in Teaching		Item Specification Number
1	Cognitive Factors in Teaching	Knowledge regarding teaching process	1, 20, 21, 32, 42, 43, 44
		Understanding the purpose of Teaching	2, 3, 12, 13, 14, 33, 34, 41
		Appropriate Construction of Pedagogical knowledge	4, 15, 16, 22, 24, 35
2	Meta Cognitive Factors in Teaching	Meta Cognitive knowledge	5, 6, 23, 25, 36
		Meta Cognitive Experience	7, 8, 17, 18, 19, 26, 27, 40
		Meta Cognitive Strategies	9, 10, 28, 29, 37, 38
		Socially shared Meta Cognition	11, 30, 31, 39

Scoring procedure.

Three options were provided to respondents to mark the response such as Agree, No opinion and Disagree to each item of the scale. Statements that have high perception regarding cognitive and meta cognitive Factors in teaching was scored as “3” for Agree, “2” for No opinion and “1” for Disagree. Statements with low perception regarding cognitive and meta cognitive factors in teaching were scored in reverse manner. The total score was calculated by adding individual scores together.

Pilot testing and Item analysis.

The draft scale was administered to 400 samples from Central and Northern parts of Kerala with proper weightage given to the categorical variables selected such as Locality, Type of Management and Experience. Item analysis suggested by Edward (1969) was chosen for selecting each item for the final scale. After discarding incomplete response sheets 370 response sheets were selected randomly from 400 and arranged in descending order of the scores to identify High group and Low group. 27 percentage of upper group and 27 percentage of the lower group sample scores were identified and t- value was found out for each item.

Table 14

The Result of Item Analysis of the Scale of Cognitive and Meta Cognitive Factors in Teaching

Sl. No.	t- value	Status	Sl. No.	t- value	Status
1	0.90	Rejected	23	2.87	Accepted
2	2.68	Accepted	24	5.53	Accepted
3	2.39	Rejected	25	4.58	Accepted
4	4.07	Accepted	26	2.92	Accepted
5	1.36	Rejected	27	3.70	Accepted
6	5.94	Accepted	28	3.16	Accepted
7	2.78	Accepted	29	2.29	Rejected
8	2.49	Rejected	30	2.62	Accepted
9	3.98	Accepted	31	3.57	Accepted
10	2.54	Rejected	32	3.28	Accepted
11	2.07	Rejected	33	4.30	Accepted
12	3.89	Accepted	34	3.15	Accepted
13	-0.45	Rejected	35	1.64	Rejected
14	5.26	Accepted	36	5.73	Accepted
15	2.07	Rejected	37	2.88	Accepted
16	5.77	Accepted	38	4.85	Accepted
17	2.60	Accepted	39	3.55	Accepted
18	0.81	Rejected	40	4.13	Accepted
19	1.55	Rejected	41	1.93	Rejected
20	3.64	Accepted	42	2.83	Accepted
21	4.07	Accepted	43	5.87	Accepted
22	3.00	Accepted	44	1.31	Rejected

Items with t- value greater than or equal to 2.58 were selected for final scale of Cognitive and Meta Cognitive Factors in teaching. Thus the final scale had

30 items. The draft scale, Final scale and the corresponding response sheet are presented in Appendix 7, 8 and 9 respectively.

Validity and reliability.

Criterion Validity was established by administering the Scale of Perceived Cognitive Apprenticeship (Thankam & Amritha, 2016) to 50 special education teachers at Thrissur district. The scores obtained for cognitive factors in teaching were correlated with the scores obtained by the scale and the value of coefficient of correlation obtained was 0.80 (N= 50). Criterion validity regarding meta cognitive factors in teaching were found out by administering Meta Cognitive Awareness Inventory in Teaching (Gopinath, 2014) and validity coefficient obtained was 0.73. These indices furnish criterion validity.

Test- Retest reliability was found out by re- administering the same tool, after one month to the same sample, Pearson's Product Moment Coefficient of Correlation thus obtained was 0.75 (N= 50). The value indicate that the scale is reliable.

Scale of Motivational Factors in Teaching (Usha & Thankam, 2018)

Motivation is a process in which goal directed activity is persuaded and continued (Schunk, et al., 2008). This socio- cognitive approach pinpointed the relevance of motivation in teaching, because teaching is always goal oriented or learning outcome based. Also behaviorist, cognitive, socio-cognitive, socio- cultural and humanistic theories of motivation put forward different elements to motivational aspects of behavior. In the study

professional aspects of motivational ideologies were chosen because factors in employee motivation had a distant view in literature related with motivation. The sub elements of the construct, "Motivational Factors in Teaching" is deduced from various theoretical base lines found in reviewed literature. The scale of Motivational Factors in Teaching is a Likert type rating scale with three levels of response, constructed by the investigator with the help of supervising teacher.

Planning of the scale.

The sub elements and examples associated with each sub element in the scale of Motivational Factors in Teaching are:

- ***Responsibility and autonomy*** (Pintrich & Schunk, 2002; Praver & Quint, 2008).

Example. Freedom while teaching makes teachers lazy and less productive.

- ***Leadership style*** (Belloise, 2003; Mehtha, 2003).

Example. Realistic feedback from higher authorities improves teaching.

- ***Advancement and growth opportunity*** (Blanchard, 2001).

Example. Promotion prospects are encouraged in schools.

- ***Institutional philosophy*** (Cherry, 2000).

Example. Institutional stands for the betterment of all its members regardless of gender, caste or any other differences.

- ***Working environment*** (Blanchard, 2001).

Example. Teachers are valued and respected by all in school

- ***Teaching as interesting and challenging job*** (Crocker & Wolfe, 2001).

Example. Teaching provides a platform to interact with society positively.

- ***Leisure time utilization*** (Alderfer, 1972; Blanchard, 2001).

Example. Teachers rarely get time to attend social gatherings or programmes.

- ***Respect and recognition*** (Herzberg, 1968; Belloise, 2003).

Example, Support from head of the institution and other teachers inspire teaching differently abled students.

- ***Tactful disciplinary machinery*** (Blanchard, 2001).

Example. Most of the rules and norms are targeted towards teachers than students.

- ***Fringe benefits and good wages*** (Blanchard, 2001; Adelabu, 2005; Nzulva, 2014).

Example. In special education sector, teachers get less salary when compared with general teachers.

Preparation of the scale.

The draft scale of Motivational factors in Teaching consists of 58 items with positive and negative statements associated with different elements in Teacher Motivation. After scrutiny the draft scale was limited to 40 items

with 20 positive and 20 negative items. The distribution of sub element wise item of the scale are provided in the Table 15.

Table 15

Elements of Motivational Factors in Teaching

Sl No.	Elements of Motivational Factors in teaching	Item Number
1	Responsibility and Autonomy	1, 2, 15, 16, 37, 38
2	Leadership styles	17, 18, 28, 39
3	Advancement and Growth Opportunity	3, 29
4	Institutional Philosophy	4, 19, 30, 31
5	Working Environment	5, 6, 20, 21, 32, 33, 40
6	Teaching as Interesting and challenging job	7, 8, 22, 23, 34, 35
7	Leisure time utilization	9, 10, 24, 25
8	Respect and Recognition	11, 26, 36
9	Tactful disciplinary Machinery	12, 27
10	Fringe benefits and good wages	13, 14

Scoring procedure.

A separate response sheet was provided for securing responses and the three options for response given were Agree, No opinion and Disagree. For positive statements of Motivation Factors in Teaching, scoring was done as per '3' for Agree, '2' for No Opinion and '1' for Disagree. For negative statements the scoring procedure was reversed. Total scores was found out by adding individual item scores together.

Pilot testing and item analysis.

A preliminary data collection was done from 400 samples and after discarding incomplete response sheets 370 samples out of 400 were selected randomly for conducting item analysis.

Item analysis suggested by Edward (1969) was opted to select items for the final scale. The scores obtained were arranged in a descending order and 27 percentage of high scores and 27 percentage of low scores were identified and t-value of each item was found out between high group and low group.

Table 16

The Result of Item Analysis of the Scale of Motivation Factors in Teaching

Sl No.	t- value	Status	Sl No.	t- value	Status
1	-1.40	Rejected	21	4.04	Accepted
2	4.64	Accepted	22	2.87	Accepted
3	5.49	Accepted	23	3.72	Accepted
4	3.84	Accepted	24	2.49	Rejected
5	2..92	Accepted	25	2.85	Accepted
6	4.27	Accepted	26	3.99	Accepted
7	2.68	Accepted	27	3.47	Accepted
8	5.93	Accepted	28	1.93	Rejected
9	3.77	Accepted	29	2.09	Rejected
10	2.04	Rejected	30	2.59	Accepted
11	2.32	Rejected	31	5.71	Accepted
12	1.97	Rejected	32	5.32	Accepted
13	3.70	Accepted	33	4.15	Accepted
14	-2.32	Rejected	34	3.38	Accepted
15	1.59	Rejected	35	3.76	Accepted
16	3.79	Accepted	36	2.41	Rejected
17	2.68	Accepted	37	0.37	Rejected
18	-0.56	Rejected	38	2.58	Accepted
19	3.35	Accepted	39	2.62	Accepted
20	2.86	Accepted	40	3.10	Accepted

Statements with t- value greater than or equal to 2.58 were chosen for the final scale of Motivational factors in Teaching. The final scale had 28 items.

The draft scale, final scale and the corresponding response sheet are presented in Appendix 10, 11 and 12 respectively.

Validity and reliability.

Items for the scale of Motivation Factors in Teaching were selected from authentic and established elements related to motivation from the literature (Blanchard, 2001; Cherry, 2000; Nzulva, 2014). Investigator with the help of experts selected exact and relevant statements associated with each element of Motivation in Teaching. Thus the tool ensures content validity.

The criterion validity was established by correlating the scores of the scale with scores that obtained after administering a questionnaire on Motivational Factors for Teachers (Dorji, 2014) to 50 special education teachers. The value of coefficient of correlation thus obtained was 0.79 (N= 50). The Value ensures criterion validity.

Test- Retest Method was used for ensuring reliability of the scale. The same scale was re- administered to the same sample after one month. Pearson Product Moment Coefficient of correlation thus obtained was 0.73 (N= 50). The index establishes reliability.

Scale on Special Education Teacher Grit (Usha & Thankam, 2018)

Teacher Grit as an enduring factor in teaching is comparatively new in educational research. It is a non- cognitive trait level quality which encompassed a person's personal, professional and social acceptance in any stream of advancement. The literature related with grit primarily originated from Duckworth's studies on *Why some people achieve more than others*

even though all things are equal (Duckworth, et al., 2007). The study made use of the components put forward by Duckworth to Grit as "Consistency of interest" and "Perseverance of effort". The investigator with the help of supervising teacher constructed a scale on Special Education Teacher Grit to measure the qualities associated with grit in special education teachers and list the subcomponents under each category using the information gathered from review of related work regarding grit. The major categories with Sub components are :

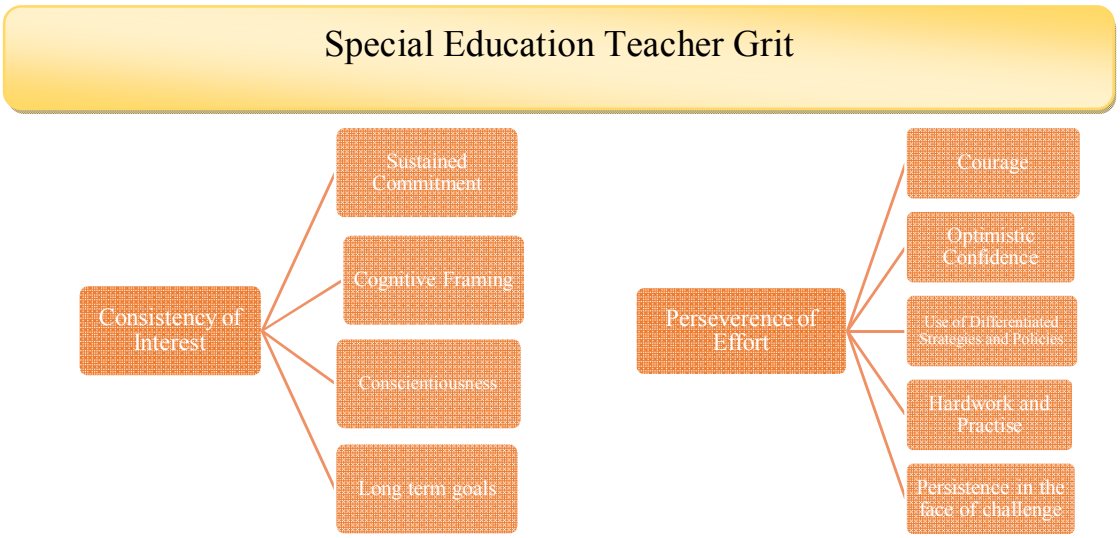


Figure 11. The components of Special Education Teacher Grit

Planning of the scale.

Details regarding major categories and examples from the scale of special education Teacher Grit are as follows.

Consistency of interest.

In this scale, consistency of interest in teaching is measured using statements regarding the subcomponents mentioned

Sustained commitment. This means to withstand immediate distractions.

Example. New ideas should assimilate with previous one in order to perform well in teaching.

Cognitive framing: Means cognitive structuring regarding outside reality. A flexible framing versus rigid prejudice.

Example. Accept the difference and rearrange learning environment are to be followed in Special Education teaching.

Conscientiousness or conscience in teaching: Means careful, meticulous and painstaking ways of teaching.

Example. Teachers must possess tolerance and dedication while teaching pupil with intellectual differences.

Long term goals. Means long term priorities.

Example. Patience and long term commitment are essential qualities in special schools.

Perseverance of effort.

This dimensions of Grit was further divided into subcomponents which are

Courage. means to withstand uncertainties in classroom.

Example. Teachers view difficulties in teaching only as stepping stones in one's career.

Optimistic confidence. Means a progressive outlook

Example. Teachers should possess adaptive Coping skills for better involvement in teaching.

Use of differentiated strategies and policies: Means methods approaches and techniques in teaching strategies.

Example. Ego involved learning takes better options for pupil with less adaptive behavior in special schools.

- ***Hardwork and practice***.

Example. A strange experience with a differently abled child should not reduce determination in teaching.

- ***Persistence in the face of challenge.***

Example. Clear and authentic teaching tasks are needed in problem solving situation.

Preparation of the scale.

In order to measure teacher Grit from special education teachers, investigator developed a Likert type rating scale having 40 items with the help of supervising teacher. Statements regarding strong orientation toward Grit (21 items) and statements with mild orientation toward Grit (19 items) were included in the scale to obtain a saturated or balanced measurement. While choosing items in the scale, due weightage was given to both categories and to the subcomponents mentioned under each category of Grit. The distribution of subcomponent wise item of the scale is provided in the Table 17.

Table 17

Component-wise Distribution of Items in Special Education Teacher Grit

Sl No.	Subcomponents of Scale on Special Education Teacher Grit	Item Number
	Consistency of Interest	
1	Sustained Commitment	10, 11, 23, 24
2	Cognitive Framing	12, 25, 26, 27
3	Conscientiousness	1, 2, 13, 14, 28, 40
4	Long term goals	15, 29, 31
	Perseverance of Effort	
5	Courage	3, 16, 30, 32
6	Optimistic confidence	4, 17, 18, 33, 34
7	Use of differentiated strategies and policies	5, 14, 19, 20, 35
8	Hardwork and Practice	6, 7, 21, 22, 36, 37
9	Persistence in the face of Challenge	8, 9, 38, 39

Scoring procedure.

The scale on Special Education Teacher Grit provide three options for respondents to mark one's choice towards each item which are Agree, No opinion and Disagree. Statements possess high orientation towards Grit, a score of 3 is given for Agree, 2 is given for no opinion and 1 for disagree and for statements regarding mild orientation towards Grit was scored in the reverse manner, that is, a score of 1 for Agree, 2 for No Opinion and 3 for Disagree. The total score of the scale is calculated by adding individual scores

Pilot test and item analysis

The draft scale was administered on 400 samples from Central and Northern Kerala with due importance given to the basal variables chosen for the study. After discarding incomplete response sheets 370 samples out of 400 were chosen randomly for conducting item analysis. Thus the pilot study

included 370 special education teachers from various institutions and item analysis was done by using the data obtained.

Item analysis was done to scrutinize items for the final scale. The scores obtained were arranged in descending order and 27 percentage of high scores and 27 percentage of low scores were identified as per the method suggested by Edward (1969). t- value of each item was found out between high group and low group

Table 18

The Result of Item Analysis of The scale of Special Education Teacher Grit

Sl No.	t- Value	Status	Sl No.	t- Value	Status
1	2.82	Accepted	21	0.49	Rejected
2	1.79	Rejected	22	2.72	Accepted
3	3.70	Accepted	23	2.79	Accepted
4	3.44	Accepted	24	3.58	Accepted
5	4.12	Accepted	25	4.24	Accepted
6	2.14	Rejected	26	1.90	Rejected
7	5.80	Accepted	27	6.34	Accepted
8	2.59	Accepted	28	3.09	Accepted
9	2.38	Rejected	29	3.09	Accepted
10	2.00	Rejected	30	2.58	Accepted
11	3.36	Accepted	31	5.22	Accepted
12	5.26	Accepted	32	3.80	Accepted
13	2.62	Accepted	33	1.72	Rejected
14	5.81	Accepted	34	4.13	Accepted
15	2.38	Rejected	35	3.36	Accepted
16	2.86	Accepted	36	3.23	Accepted
17	1.85	Rejected	37	4.20	Accepted
18	2.63	Accepted	38	2.45	Rejected
19	2.86	Accepted	39	2.76	Accepted
20	2.68	Accepted	40	5.01	Accepted

Statements with t- value greater than or equal to 2.58 were chosen for final scale of Special Education Teacher Grit. The final scale comprised of 30 items. The draft scale, final scale and the corresponding response sheet are presented in Appendix 13, 14 and 15 respectively.

Validity and reliability.

The criterion validity was established by correlating the scores of the scale on Special Education Teacher Grit with the scores obtained after administering 12 item Grit scale by Ducksworth, et al. (2007) to 50 special Education teachers in Thrissur district. The correlation coefficient thus obtained was 0.81 (N= 50). The index establish criterion validity.

The scale of Special Education Teacher Grit was re- administered to the same sample after one month and Pearson's product moment Coefficient of correlation was found out between subjects pre- post scores. The index of coefficient of correlation was 0.70 (N= 50). The value ensures reliability.

Scale on Special Education Teacher Tenacity (Usha & Thankam, 2018)

Tenacity is a non- cognitive factor that promotes endurance and achievement in one's realm of work. Pursue higher order goals in life and show perseverance and withstand pressure from outside in order to attain goals are characteristic of a tenacious person. Tenacious behavior is seldom researched in education and the quality was often coined with grit in most of the literature (Farrington, et al., 2012, Dweck, et al., 2011). Tenacious behavior was often measured with grittiness in reviewed studies. Both are similar in certain aspects which have separate identity as one's own.

Academic tenacity is the quality used in educational fields to stick with long term learning. Dweck et al interpreted academic tenacity as "mindsets and skills that promote long term learning" (Dweck et al., 2011)

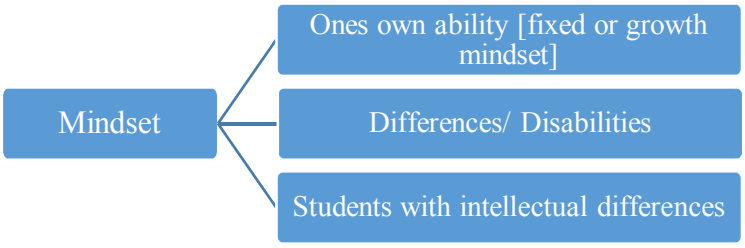
The notion of tenacity or tenacious behaviors of persons are taken into consideration while constructing a scale to measure tenacious behavior of teachers. Academic tenacity is a common phenomenon in educational research because human behavior especially non- cognitive traits or qualities have a common platform/ ground to all sorts of people at any field.

Planning of the scale.

The construct "Special education Teacher Tenacity" comprised of several components and the sub themes under each component are given below.

Components of special education teacher tenacity.

1.



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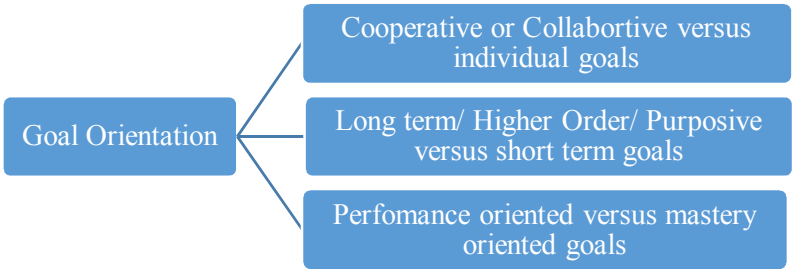

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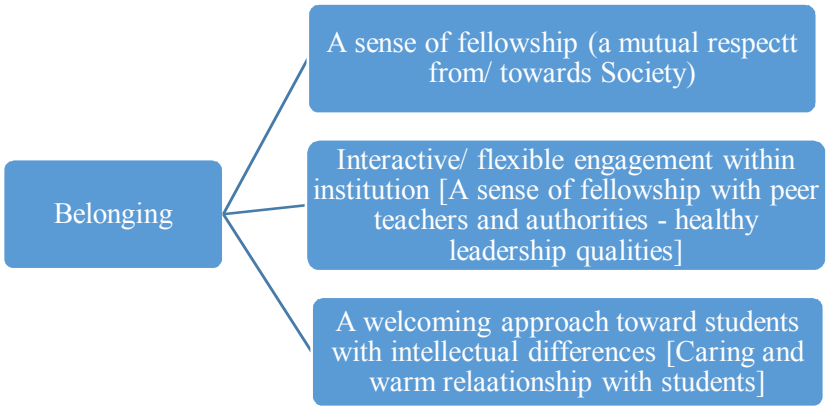

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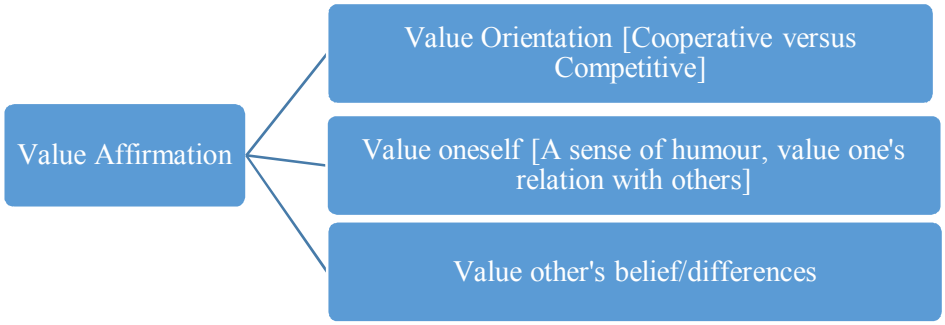
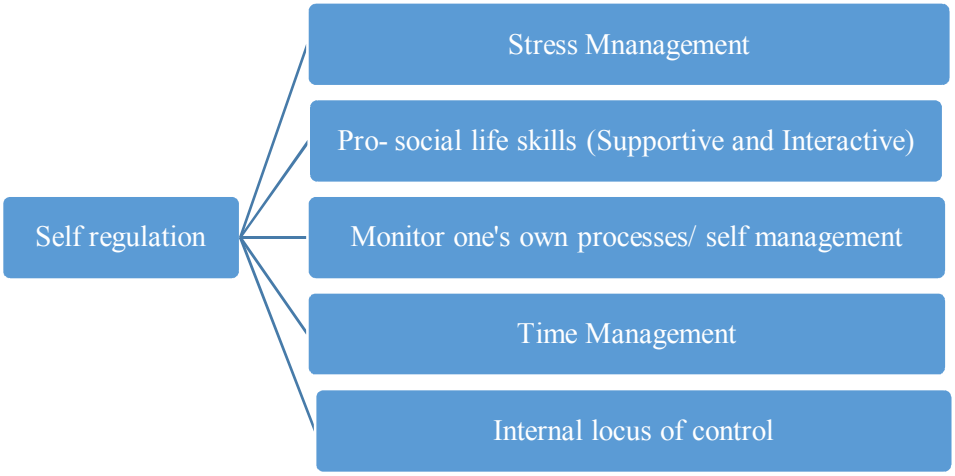


5.



Sub themes under each component are developed as per the tenacious behavior of teachers while teaching.

Examples of statements under each component are

Mindsets.

Example. Successful teachers possess confidence and high self esteem in teaching.

Goal orientation.

Example. Setting ambitious goals in teaching require collaborative effort.

Belonging.

Example. Teachers enjoy flexibility and autonomy within school premises.

Value affirmation.

Example. Teachers must value their relationship with standard.

Self regulation.

Example. Self monitoring would enable teachers to resolve almost all conflicts within themselves.

Preparation of the scale.

For measuring tenacious behavior of teachers in special education sector, Likert type three point rating scale was opted. The draft scale consisted of 38 items regarding components of the construct "Special Education Teacher Tenacity". In draft scale 19 items were included indicative of high tenacious behavior outcomes and 19 items were chosen for indicating low tenacious behavior outcomes among special education teachers. The distribution of component wise item of the scale is provided in the table 19.

Table 19

Component wise Distribution of Items in the Scale of Special Education Teacher Tenacity

Sl No.	Sub Components of Special Education Teacher Tenacity	Item Number
1	Mindsets	7, 14, 15, 25, 26, 34, 36, 37
2	Goal orientation	1, 8, 9, 16, 27, 35
3	Belonging	2, 3, 6, 11, 17, 18, 28, 33
4	Value affirmation	4, 5, 12, 13, 19, 20, 29, 30, 31, 32, 38
5	Self Regulation	10, 21, 22, 23, 24

Scoring procedure.

In "the scale of Special Education Teacher Tenacity" three options were provided to respondents towards each item in the scale for choosing one's response. Statements regarding highly tenacious behavior outcomes were scored as 3 for Agree, 2 for No opinion and 1 for Disagree and statements depicting low tenacious behavior outcomes were scored in a reverse manner, that is the score of 1 for Agree, 2 for No opinion and 3 for Disagree. The total score was calculated by adding individual scores together.

Pilot testing.

A preliminary data collection was conducted on 400 samples in order to select each item in the final scale. Out of 400, after discarding incomplete response sheets 370 samples were selected randomly and proper weightage was given to all basal variables chosen for the study while collecting data.

Item analysis.

Item analysis suggested by Edward (1969) was administered to obtained data, for that scores were arranged in descending order and 27

percentage of high scores and 27 percentage of low scores were identified. t-value of each item in the scale was determined and is presented in Table 20.

Table 20

The Result of Item Analysis of the Scale of Special Education Teacher Grit

Sl No.	t- value	Status	Sl No.	t- value	Status
1	4.89	Accepted	20	2.74	Accepted
2	1.74	Rejected	21	2.92	Accepted
3	3.91	Accepted	22	2.03	Rejected
4	3.24	Accepted	23	5.57	Accepted
5	4.45	Accepted	24	2.62	Accepted
6	1.38	Rejected	25	1.50	Rejected
7	2.74	Accepted	26	1.49	Rejected
8	1.97	Rejected	27	2.84	Accepted
9	2.06	Rejected	28	5.48	Accepted
10	4.18	Accepted	29	3.29	Accepted
11	6.86	Accepted	30	2.82	Accepted
12	2.82	Accepted	31	-0.18	Rejected
13	2.74	Accepted	32	2.84	Accepted
14	1.50	Rejected	33	2.86	Accepted
15	2.15	Rejected	34	2.72	Accepted
16	0.84	Rejected	35	2.86	Accepted
17	2.69	Accepted	36	4.31	Accepted
18	1.56	Rejected	37	2.92	Accepted
19	2.59	Accepted	38	2.68	Accepted

Statements with t- value greater than or equal to 2.58 were chosen for final scale of Special Education Teacher Tenacity. The final scale comprised of 26 items. The draft scale, final scale and the corresponding response sheet are presented in Appendix 16, 17 and 18 respectively.

Validity and reliability.

The criterion validity was ensured by correlating the scores obtained for 50 special Education teachers from Thrissur district to scores obtained by administering Tenacity scale (Baum and Locke, 2004) The correlation coefficient thus obtained was 0.73 (N= 50). The index establishes criterion validity.

The reliability of the scale was found out by test- retest method. The same scale was re- administered to the same sample after one month and Pearson's product moment Coefficient of correlation obtained was 0.78 (N= 50). The value of correlation index ensures reliability.

A Scale on Special Education Teacher Resilience (Usha & Thankam, 2018)

Resilience is a co- factor in teacher endurance, extensively studied in Educational research which is highly relevant in the area of Special Education. In Special Education sector, teachers often face problems or setbacks. Resilience is the quality that prompted teachers to continue in the profession with adaptive behavior. A socially constructed quality Resilience has several definitions and dimensions in literature. The investigator opted the dimensions provided by Mansfield et al, (2012) for constructing the scale of Special Education Teacher Resilience.

Planning of the scale.

The dimensions selected are

- Emotional Dimension

- Motivational Dimension
- Social Dimension
- Profession Related Dimension

(Mansfield et al., 2012)

Examples from the scale associated with each dimensions are:

Emotional dimensions : Includes Coping with teaching demands, keep sense of humour, spontaneous feedback and emotional handling. (Mandsfield et al., 2012)

Example. Teachers should possess a friendly and calm deposition towards teaching

Motivational dimensions of resilience: Include progressive and optimistic teaching expectations, Confidence and self regulation in teaching behavior. (Mansfield et al., 2012)

Example. Intrinsically motivated teacher possess high self- worth.

Social dimensions of resilience: Support seeking and problem solving abilities make supportive relationships. (Mansfield et al., 2012)

Example. Seeking help and taking advice is essential in special school teaching.

Profession related dimensions: Flexible and committed teacher manifestations. (Mansfield et al., 2012)

Example. Reflective evaluation enhances special school teaching.

Preparation of the scale.

The scale of Special Education Teacher Resilience is a Likert type rating scale constructed by the investigator with the help of supervising teacher. The draft scale consisted of 40 items regarding various dimensions of teacher resilience put forward by Mansfield et al., (2012). The statements within the scale were developed from the themes associated with Teacher Resilience. The items in the draft scale was chosen as 40 out of which 21 statements are positive aspects of Teacher Resilience and 19 items are negative aspect towards teacher resilience. The distribution of dimension-wise items of the scale is provided in the table 21.

Table 21

Dimension- wise Distribution of Items in the Scale of Special Education Teacher Resilience

Sl No.	Dimensions of Special Education Teacher Resilience	Number of Items Specified Under Each Dimensions
1	Emotional dimensions	1, 2, 8, 9, 15, 22, 23, 30, 31, 35
2	Motivational dimensions	3, 4, 10, 11, 16, 17, 24, 25, 32, 33, 36, 37, 39
3	Social dimensions	5, 6, 12, 13, 18, 19, 26, 27
4	Profession related dimensions	7, 14, 20, 21, 28, 29, 34, 38, 40

Scoring procedure.

The scale of Special Education Teacher Resilience measure the resilient nature of special education teachers with three levels of responses, Agree, No opinion and Disagree toward each item in the scale. For statements depicting positive aspects towards resilience were scored as 3 for Agree, 2 for

No opinion and 1 for Disagree and for statements with negative aspects of resilience were reversely scored as 1 for Agree, 2 for No opinion and 3 for Disagree. The total score was calculated by using summated rating procedure found in Likert Scale.

Pilot testing.

A preliminary collection of data was obtained from 400 special education teachers with due importance given to all basal variables chosen for the study using the draft scale. Out of 400 samples, after discarding incomplete response sheets 370 samples were randomly selected and used for item analysis.

Item analysis.

Item analysis suggested by Edward (1969) was used to select items for the final scale. Total scores obtained for 370 samples were arranged in descending order in order to find out a High group and Low group. 27 percentage of high scores and 27 percentage of low scores were identified and t- values of each item was determined and are presented in table.

Table 22

The Result of Item Analysis of the Scale of Special Education Teacher Grit

Sl No.	t- value	Status	Sl No.	t- value	Status
1	1.19	Rejected	21	4.24	Accepted
2	4.24	Accepted	22	3.53	Accepted
3	2.01	Rejected	23	4.27	Accepted
4	3.85	Accepted	24	4.26	Accepted
5	3.65	Accepted	25	6.28	Accepted
6	1.37	Rejected	26	2.98	Accepted
7	3.08	Accepted	27	3.22	Accepted
8	2.85	Accepted	28	4.04	Accepted
9	5.47	Accepted	29	3.22	Accepted
10	3.93	Accepted	30	2.32	Rejected
11	3.96	Accepted	31	2.26	Rejected
12	2.03	Rejected	32	4.88	Accepted
13	3.56	Accepted	33	4.12	Accepted
14	2.85	Accepted	34	2.42	Rejected
15	3.60	Accepted	35	2.98	Accepted
16	3.16	Accepted	36	3.16	Accepted
17	0.77	Rejected	37	3.91	Accepted
18	2.62	Accepted	38	2.14	Rejected
19	3.78	Accepted	39	-0.89	Rejected
20	2.86	Accepted	40	2.92	Accepted

Statements with t- value greater than or equal to 2.58 were selected for final scale. The final scale of Special Education Teacher Resilience had 30 items. The draft scale, final scale and the corresponding response sheet are presented in Appendix 19, 20 and 21 respectively.

Validity and reliability.

Each item in the scale was selected with proper review of literature related with teacher resilience. Experts scrutinized each item for its relevance, authenticity and genuinity. Thus the scale ensures content validity.

The criterion validity was established by correlating the scores of the scale with the scores obtained after administering Teachers Resilience Scale (Daniilidue & Platsidou, 2018). The coefficient of correlation obtained was 0.77 (N= 50). The index establishes criterion validity.

The reliability of the scale was found out by test- retest method. The same scale was re- administered to the same sample after one month period, the coefficient of correlation obtained between Pretest scores and Posttest scores are 0.70 (N= 50). The value of correlation reveals that the scale of Special Education Teacher Resilience is reliable.

Sample Selected for the Study

The present study is focused on teachers from special education sector who handle pupil with intellectual differences in Kerala. The sample comprised of teachers from Special Schools, Block Resource Centres and RMSA (Rashtriya Madhyam Siksha Abhiyan). BRC's deploy special educators and trainers to lower primary sections and RMSA provide resource person to High school and Higher secondary education across Kerala. From 2018 onwards both co- ordinates or merge the activities related to special education under a plan "Samagra" and handed over the sole responsibility of deploying resource persons to various levels of schooling to BRC's. So

BRC's are the government organizational element that comes under the field of the present study as well as some buds school managed by local panjayath authorities. The number of resource persons working in different BRC's and buds schools in Kerala fall under 6000. The sample size proposed for the study is 600 teachers from special education sector with due weightage to basal variables based on Locality, Gender, Type of Management, Experience and Qualification of teachers. Sample was collected from all districts of Kerala using random sampling method considering the characteristics and size of the present distribution of teachers in Special Education sector. The breakup of proposed sample are given in the Figure

Break up of the Basal Sample

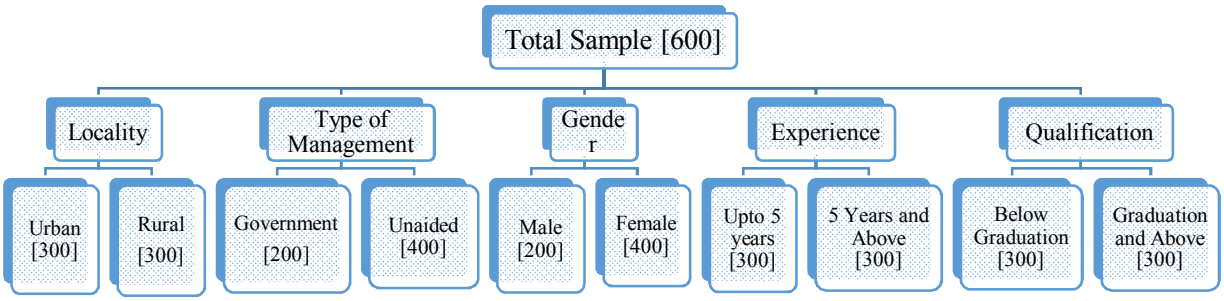


Figure 12. Break up the basal sample

After omitting incomplete response sheet the final sample size was confined to 520 teachers from special education sector in Kerala. A well planned approach and tremendous help from various persons enable the investigator to achieve the proposed sample size. Special education Teachers also co-operated for providing the necessary data. The details of final sample included in the study are given in the table 23.

Table 23

The Details of Final Sample

Sl No.	Name of Schools	Locality		Type of Management		Gender		Experience		Qualification		Total
		Urban	Rural	Government	Unaided	Male	Female	Upto 5 years	5 years and Above	Below Graduation	Graduation and above	
1	CRD special school (TVM)	10	….	….	10	….	10	4	6	4	6	10
2	Rotary (TVM)	7	….	….	7	1	6	….	7	2	5	7
3	Shalom (TVM)	….	10	….	10	….	10	2	8	2	8	10
4	Balavihar (TVM)	….	6	….	6	….	6	2	4	1	5	6
5	Sree Karuna Special (TVM)	….	8	….	8	1	7	7	1	7	1	8
6	SG special school (TVM)	….	2	….	2	….	2	2	….	2	….	2
7	St Peters MCC special schools (TVM)	4	….	….	4	….	4	1	4	3	1	4
8	Thanal special school (TVM)	2	….	….	2	….	2	….	2	1	1	2
9	Sahajeevan special school (TVM)	….	7	….	7	….	7	2	5	6	1	7
10	St Marthas (TVM)	….	11	….	11	….	11	5	6	5	6	11

Sl No.	Name of Schools	Locality		Type of Management		Gender		Experience		Qualification		Total
		Urban	Rural	Government	Unaided	Male	Female	Upto 5 years	5 years and Above	Below Graduation	Graduation and above	
11	BRC South (TVM)	….	5	5	….	….	5	….	5	2	3	5
12	Vimala Hridhaya (Kollam)	9	…+…	….	9	….	9	4	5	5	4	9
13	Pratheeksha special school (Kollam)	….	6	….	6	….	6	2	4	5	1	6
14	Karunya special (Kollam)	….	2	….	2	….	2	2	….	2	….	2
15	T H P Karuna special (Kollam)	13	….	….	13	….	13	6	7	12	1	13
16	BRC (kollam)	5	….	5	….	1	4	1	4	1	4	5
17	Sneha Bhavan (Pathanamthitt)	1	….	….	1	….	1	1	….	1	….	1
18	Deepthi Special school	….	7	….	7	1	6	1	6	1	6	7
19	MCRD Navajyothi (Pathanamthitta)	….	11	….	11	3	8	….	11	4	7	11
20	Francis Memorial (Pathanamthitta)	….	4	….	4	….	4	….	4	2	2	4
21	Prakashadhara special school (Pathanamthitt)	….	6	….	6	….	6	2	4	4	2	6

Sl No.	Name of Schools	Locality		Type of Management		Gender		Experience		Qualification		Total
		Urban	Rural	Government	Unaided	Male	Female	Upto 5 years	5 years and Above	Below Graduation	Graduation and above	
22	Sevanikerhan puthupally(Kotayam)	….	5	….	5	….	5	3	2	1	4	5
23	Sevanikethan Changanassery (Kotayam)	10	….	….	10	….	10	2	8	6	4	10
24	Santhi nilayam Anthinadu (Kotayam)	….	10	….	10	….	10	3	7	7	3	10
25	Sneharam Pala (Kotayam)	5	….	….	5	….	5	….	5	4	1	5
26	Asha nilayam special school (Kottayam)	9	….	….	9	….	9	4	5	4	5	9
27	Anugraha nikethan (Id ukki)	….	7	….	7	….	7	3	4	….	7	7
28	Pratheeksha Bhavan (Idukki)	7	….	….	7	….	7	3	4	2	5	7
29	KVM special School (Alapuzha)	….	12	….	12	….	12	6	6	8	4	12
30	Sanjusadan (Alapuzha)	….	5	….	5	….	5	….	5	2	3	5
31	Jeeva Special School (Alapuzha)	….	5	….	5	….	5	2	3	3	2	5
32	Deepthi special school(Alapuzha)	….	4	….	4	….	4	2	2	3	1	4

Sl No.	Name of Schools	Locality		Type of Management		Gender		Experience		Qualification		Total
		Urban	Rural	Government	Unaided	Male	Female	Upto 5 years	5 years and Above	Below Graduation	Graduation and above	
33	Snehalayam (Ernamkulam)	6	….	….	6	….	6	3	3	2	4	6
34	Mithram (Ernamkulam)	….	6	….	6	….	6	5	1	1	5	6
35	Sneha Bhavan (Ernamkulam)	….	6	….	6	….	6	1	5	3	3	6
36	CSI Karunalayam (Ernamkulam)	3	….	….	3	….	3	1	2	0	3	3
37	Chavara special school (Ernamkulam)	….	9	….	9	….	9	4	5	3	6	9
38	Pratheesha rotary (Ernamkulam)	3	….	….	3	….	3	1	2	2	1	3
39	RMSA (Thrissur)	2	1	3	….	….	3	….	3	….	3	3
40	Swashraya special school (Thrissur)	….	9	….	9	….	9	5	4	3	6	9
41	BRC Wadakanchery	5	2	6	1	….	7	3	4	2	5	7
42	ST Joseph	6	….	….	6	1	5	2	4	2	4	6
43	Pope paul Mercy home (Thrissur)	….	29	….	29	3	26	18	11	19	10	29
44	BRC Cherpu (Thrissur)											

Sl No.	Name of Schools	Locality		Type of Management		Gender		Experience		Qualification		Total
		Urban	Rural	Government	Unaided	Male	Female	Upto 5 years	5 years and Above	Below Graduation	Graduation and above	
45	URC Thrissur	10	….	10	….	….	10	1	9	1	9	5
46	BRC Kotakara (Thrissur)	3	….	3	….	….	3	….	3	1	2	3
47	BRC Thalikulam (Thrissur)	….	6	6	….	….	6	….	6	2	4	6
48	Jyothi Nilayam Muttikulangara (Palakad)	….	8	….	8	….	8	2	6	6	2	8
49	Faith India special school (Palakad)	….	12	….	12	1	11	2	10	7	5	12
50	AWH School for exceptional children Nhanghathiri (Palakad)	….	8	….	8	….	8	2	6	4	4	8
51	Medha special (Palakad)	3	….	….	3	….	3	1	2	2	1	3
52	Ashadeepam convent school (Palakad)	….	5	….	5	….	5	5	….	1	4	5
53	Karunya Bhavan (Palakad)	1	….	….	1	1	….	1	….	1	….	1
54	Mountseena (Palakad)	….	2	….	2	….	2	2	….	2	….	2
55	AWH Kottaikal (Malapuram)	10	….	….	10	1	9	6	4	9	1	10

Sl No.	Name of Schools	Locality		Type of Management		Gender		Experience		Qualification		Total
		Urban	Rural	Government	Unaided	Male	Female	Upto 5 years	5 years and Above	Below Graduation	Graduation and above	
56	BRC Perunthalmanna (Malapuram)											
57	BRC Mankada (Malapuram)	….	5	5	….	….	5	….	5	1	4	5
58	VKM (Malapuram)	….	13	….	13	….	13	5	8	8	5	13
59	BRC Vengara (Malapuram)	….	2	….	2	1	1	1	1	1	1	2
60	URC ponnani (Malapuram)	5	….	5	….	1	4	4	1	4	1	5
61	Spectrum Buds (Malapuram)	….	3	3	….	….	3	1	2	1	2	3
62	Hope MSS special (Malapuram)	4	….	….	4	1	3	3	1	4	….	4
63	Buds school (Kozhikode)	….	4	4	….	….	4	….	4	1	3	4
64	Thanal School (Kozhikode)	….	13	….	13	3	10	12	1	12	1	13
65	VIWA Special school (Kozhikode)	4	….	….	4	….	4	….	4	3	1	4
66	Rahmaniya school (Kozhikode)	….	9	….	9	1	8	2	7	3	6	9
67	JDT Islam school (Kozhikode)	3	….	….	3	1	2	2	1	2	1	3

Sl No.	Name of Schools	Locality		Type of Management		Gender		Experience		Qualification		Total
		Urban	Rural	Government	Unaided	Male	Female	Upto 5 years	5 years and Above	Below Graduation	Graduation and above	
68	BRC Kunnumal (Kozhikode)	….	5	5	….	1	4	1	4	4	1	5
69	RMSA (Kozhikode)	1	….	1	….	….	1	….	1	….	1	1
70	Kripalaya special school (Wayanad)	8	….	….	8	2	6	2	6	2	6	8
71	BRC Vythiri (Wayanad)	4	….	4	….	….	4	1	3	….	4	4
72	Prerana special school (Wayanad)	….	2	….	2	….	2	1	1	2	….	2
73	BUDS Special school (Wayanad)	4	….	4	….	….	4	1	3	4	….	4
74	Nirmal Jyothi Special school (Wayanad)	….	13	….	13	….	13	3	10	1	12	13
75	Ashrayam special school (Kannur)	6	….	….	6	….	6	….	6	3	3	6
76	Shandideepam Special School (Kannur)	….	1	….	1	….	1	….	1	1	….	1
77	JAYCEE Special school (Kannur)	….	7	….	7	….	7	….	7	1	6	7

Sl No.	Name of Schools	Locality		Type of Management		Gender		Experience		Qualification		Total
		Urban	Rural	Government	Unaided	Male	Female	Upto 5 years	5 years and Above	Below Graduation	Graduation and above	
78	Manava special (Kannur)	1	….	….	1	….	1	….	1	….	1	1
79	BRC Kannur South	….	2	2	….	….	2	1	2	….	2	2
80	CAPS Special (Kannur)	3	….	….	3	….	3	1	2	2	1	3
81	BRC Horsedurg (Kasergod)	4	….	4	….	….	4	….	4	3	1	4
82	CHACHAJI Buds (Kasargod)	….	2	2	….	….	2	….	2	….	2	2
83	Mahatma buds (Kasargod)	….	1	1	….	1	….	1	….	….	1	1
84	St Joseph special school (Kasargod)	….	9	….	9	….	9	9	….	7	2	9
85	ROTARY Special school (Kasargod)	….	11	….	11	1	10	2	9	2	9	11

Out of the final sample of 520 teachers from Special Education sector in Kerala, 182 teachers belong to Urban area school and 338 teachers belongs to Rural area school. Out of 520, 78 teachers from Government sector and 442 teachers from unaided sample were chosen for the study. Among 520 teachers, teachers with experience upto 5 years were 224 and 5 years and above category included 296 teachers. Male sample size were 27 and Female teachers were 493 out of 520. The number of teachers with Qualification Below graduation were 256 and teachers with Qualification: Graduation and above category included 264 teachers.

The final break up of sample is presented in figure.

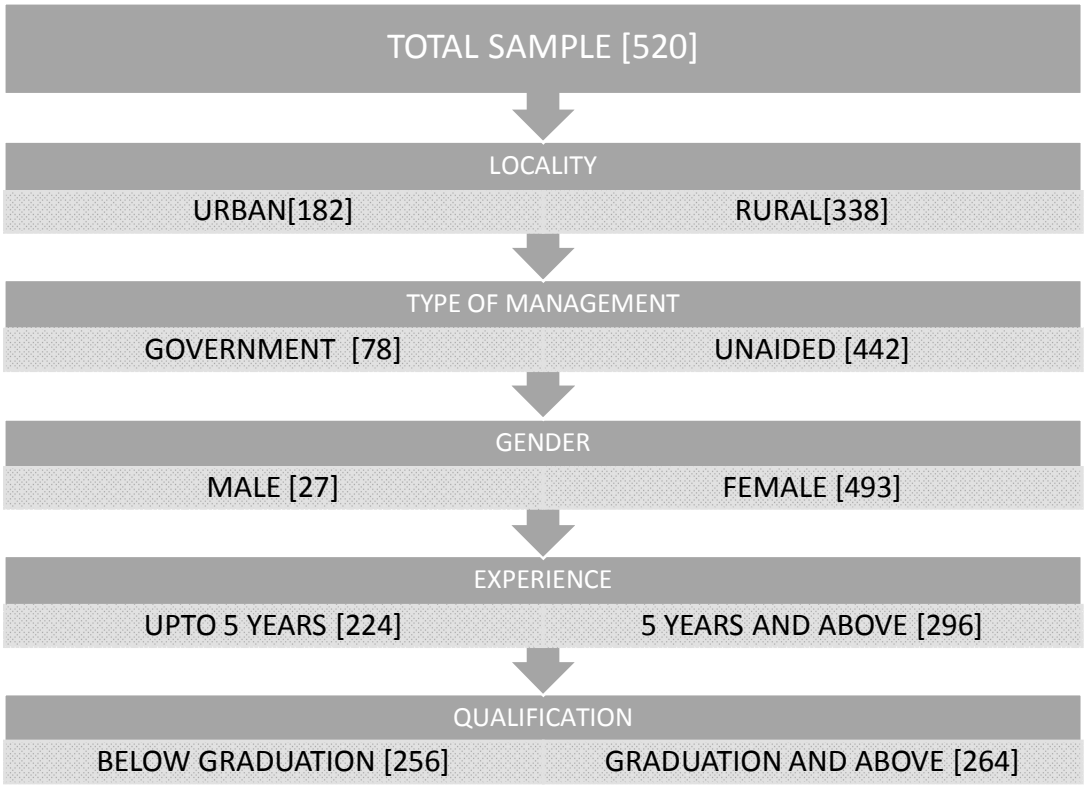


Figure 13. Break-up of the final sample

Data Collection Procedure

To collect data for the present study the investigator with the sanction letter from the authorities, approached various Institutions, throughout Kerala, which stood for teaching pupil with intellectual difference. Response sheets included necessary directions for making responses and also conveyed confidentiality assurance to the respondents.

A booklet of the tools with corresponding response sheets were distributed to different institution across Kerala. Responses were secured either through post or by hand within a duration of 3 months, all responses were collected and duly filled responses were taken for study.

Statistical Techniques Used for the Study

Statistical techniques used for realizing the objectives selected are classified into two: Preliminary analysis help to explore the nature of independent and dependent variable chosen for the study and major analysis exfoliate different dimensions and findings of the study by testing various hypothesis meant for the study.

As a preview, preliminary analysis provide the description of statistics such as mean, median, mode, standard deviation, skewness and kurtosis of independent variables, namely socio- emotional competency factors, school climate factors, cognitive and meta cognitive factors and motivational factors in teaching and dependent variables namely, special education teacher grit, teacher tenacity and teacher resilience. Descriptive statistics were calculated for total sample and all sub samples based on

Locality, Type of Management, Gender, Experience and Qualification of teachers from special education sector. Preliminary analysis not only enable to explore univariate normality conditions associated with a distribution but also help to categorize each independent variable in different levels for efficient ways of data classification technique.

For conducting major analysis, the four independent variables: Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive factors and Motivational Factors were classified into three levels: High, Moderate and Low based on $m \pm \sigma$. Statistical analysis was done by IBM Statistical Package in SPSS version 24.

A Summary of Major Analysis are given in Figure 13.

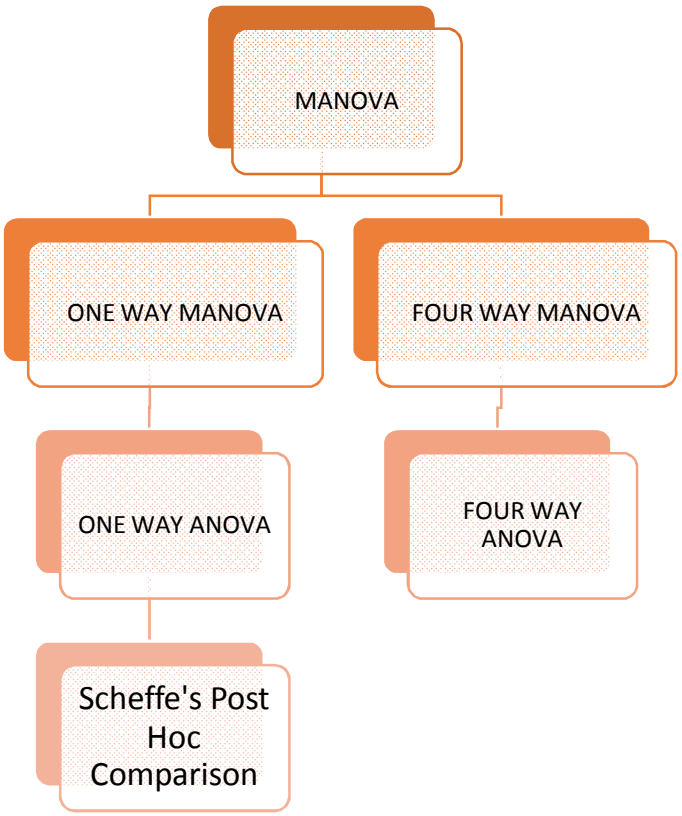


Figure 14. Summary of major analysis techniques.

Multivariate Analysis of Variance (MANOVA)

Multivariate Analysis of Variance or MANOVA is an extension of ANOVA.

ANOVA is used to assess group differences on a single metric dependent variables together.

$$H_o = \begin{bmatrix} \mu_{11} \\ \mu_{12} \\ \mu_{13} \\ \mu_{14} \\ \vdots \\ \mu_{P1} \end{bmatrix} = \begin{bmatrix} \mu_{21} \\ \mu_{22} \\ \mu_{23} \\ \mu_{24} \\ \vdots \\ \mu_{P2} \end{bmatrix} = \begin{bmatrix} \mu_{31} \\ \mu_{32} \\ \mu_{33} \\ \mu_{34} \\ \vdots \\ \mu_{P3} \end{bmatrix} = \cdots\cdots = \begin{bmatrix} \mu_{K1} \\ \mu_{K2} \\ \mu_{K3} \\ \mu_{K4} \\ \vdots \\ \mu_{PK} \end{bmatrix}$$

Null hypothesis (H_0) = all the group mean vector's are equal, that is they come from the same population

μ_{PK} = means variable, 'P' and group 'K' (French, et al., 2008)

Computations in MANOVA.

$SS_{tot} = SS_{bg} + SS_{wg}$

Hypothesis testing

$$H_0 = \begin{pmatrix} \mu_{11} \\ \mu_{21} \\ \mu_{31} \end{pmatrix} = \begin{pmatrix} \mu_{12} \\ \mu_{22} \\ \mu_{32} \end{pmatrix} = \begin{pmatrix} \mu_{13} \\ \mu_{23} \\ \mu_{33} \end{pmatrix}$$

The vector means of for all multiple dependent variables are equal across groups.

$$H_1 = \begin{pmatrix} \mu_{11} \\ \mu_{21} \\ \mu_{31} \end{pmatrix} \neq \begin{pmatrix} \mu_{12} \\ \mu_{22} \\ \mu_{32} \end{pmatrix} \neq \begin{pmatrix} \mu_{13} \\ \mu_{23} \\ \mu_{33} \end{pmatrix}$$

$SSCP_t = SSCP_w + SSCP_b$ for small sample.

In MANOVA, $SSCP_w$ means sum of square vector cross product within and $SSCP_b$ means sum of square vector cross product between some statistics connected with $SSCP_b$ means sum of square vector cross product between. Some statistics connected with $SSCP_b$ and $SSCP_w$ are

$$\text{WIlki's } \wedge : \wedge = \left| \frac{SSCP_w}{SSCP_t} \right| = \sum_{i-1}^{G} \frac{1}{1+\lambda_i}$$

Where λ_i is the i^{th} eigen value

$$F = \left(\frac{\wedge}{1-\wedge} \right) \left(\frac{n_1 + n_2 - P - 1}{P} \right) \sim F_P \left(n_1 + n_2 - 1 \right)$$

$$\text{Pillai's Trace} = \sum_{i-1}^{G} \frac{\lambda_i}{1+\lambda_i}$$

Where P = No. of dependent variable

G = No. of levels in each independent variable

$$\text{Hotelling's Trace} = \sum_{i-1}^{G} \lambda_i$$

Roy's Largest Root = $\frac{\lambda_{max}}{1+\lambda_{max}}$

Assumptions for MANOVA.

1. Two or more dependent variables must be measured at interval or ratio level
2. Independent variable should be categorical.
3. Independence of observation
4. Multivariate Normality
5. Homogeneity of variance
6. No multicollinearity
7. No univariate and Multivariate outliers
8. Adequate sample size
9. Linear relationship between each pair of dependent variables for all combinations of groups of Independent variable.

(Olson, 1976; Warne, 2014).

One way MANOVA. In One-way MANOVA, three levels of each Independent variable's effect on dependant variable were found out.

Factorial MANOVA. 3*3*3*3 factorial design was used to find out 4-way multivariate interaction effect of independent variables on dependent variables selected for the study.

Figure 15. Vee Map of methodology used for the study

Chapter IV

Analysis and Interpretation

- Preliminary Analysis
- Multiple Analysis of Variance
  - One- Way MANOVA
  - Factorial MANOVA

Basic descriptive statistics and multiple analysis of variance were done to analyze data. Hypotheses were formulated and tested with appropriate statistical techniques.

The details of analysis done are provided under the following headings:

- Preliminary analysis
- Multiple analysis of variance
  - One-way MANOVA
  - Factorial MANOVA

Preliminary Analysis

As a primary step in analysis, a detailed description of properties of selected variables were carried out for total sample and relevant subgroups on the basis of locality, type of management of the institution, gender, experience and educational qualification of special education teachers which enabled the investigator to explore and interpret the collected data more meaningfully

The present study intents to find the influence of select compatibility factors in teaching on teacher endurance among special education teachers in schools of Kerala. Compatibility factors comprises of special school teachers socio- emotional competency, school climate, cognitive and meta cognitive factors and motivational factors in teaching. Teacher endurance factors consist of teacher grit, tenacity and resilience. The distribution of scores of Independent variables namely : socio –emotional competency factor, school climate factor, cognitive and meta-cognitive factors and motivational factors in teaching and the dependant variables namely special education teacher grit, tenacity and resilience were found out to determine whether the distribution follows

normality. The statistical constants such as Mean, Median, Mode, Standard deviation, Skewness and kurtosis of the distribution of scores for compatibility factors and endurance factors were determined for Total sample and relevant sub-samples with respect to Locality, Type of Management, Gender, Experience and Qualification of special education teachers.

Statistical Constants for the Variable Socio-Emotional Competency Factors for Total sample and Subsamples

The important statistical constants for the distribution of scores for socio-emotional competency factors for total sample and subsamples based on locality, type of management, gender, experience and qualification of special education teachers in Kerala are given in Table 24

Table 24

Statistical Constants for the Distribution of Scores of Socio-Emotional Competency Factors for Total Sample and Sub samples based on Locality, Type of Management, Gender, Experience and Qualification of Special Education Teachers in Kerala

Sample		N	Mean	Median	Mode	SD	Skewness	Kurtosis
Total Sample		520	76.19	77.00	76.00	7.21	-0.66	0.21
Locality	Urban	182	74.99	76.00	84.00	7.97	-0.73	0.08
	Rural	538	76.85	77.00	78.00	6.69	-0.49	0.10
Type of Management	Government	78	76.41	78.00	82.00	7.39	-0.95	0.60
	Unaided	442	76.16	77.00	76.00	7.19	-0.61	0.17
Gender	Male	27	78.29	78.00	78.00	5.38	-0.91	0.71
	Female	493	76.04	77.00	76.00	7.28	-0.63	0.16
Experience	Upto 5yrs	224	74.96	76.00	76.00	7.32	-0.62	0.30
	5 yrs&above	296	77.14	78.00	84.00	7.00	-0.70	0.16
Qualification	Under Graduation	256	74.94	76.00	76.00	7.04	-0.67	0.44
	Graduation & above	264	77.42	78.00	84.00	7.18	-0.73	0.13

Table 24 reveals that the mean, median and mode of the independent variables, Socio- Emotional Competency of special education teachers hold nearer values for total sample and sub samples based on locality, type of management, gender, experience and qualification of teachers. The obtained value of mean, median and mode of Socio- Emotional Competency for total sample is 76.19, 77.00 and 76.00 respectively.

The value of skewness (sk= -0.66) and kurtosis (k=0.21) for total sample show that the Gaussian curve for Socio- Emotional competency is negatively skewed and mesokurtic. Therefore it is obvious that the obtained scores of distribution of Socio-Emotional Competency for total sample and subsamples approaches to normality.

Statistical constants for the variable School Climate Factors for total sample and sub-samples

The important statistical constants for the distribution of scores for School Climate Factors for total sample and sub-samples based on locality, type of management, gender, experience and qualification of Special Education Teachers in Kerala.

Table 25

Statistical Constants for the Distribution of Scores of School Climate Factors for Total Sample and Subsamples based on Locality, Type of Management, Gender, Experience and Qualification of Special Education Teachers in Kerala.

Sample		N	Mean	Median	Mode	Standard Deviation	Skewness	Kurtosis
Total Sample		520	102.6	105.0	106.0	11.41	-0.98	0.58
Locality	Urban	182	101.1	104.0	116.0	12.33	-0.98	0.45
	Rural	338	103.4	106.0	114.0	10.81	-0.93	0.48
Type of Management	Government	78	98.94	102.0	112.0	12.30	-0.72	0.05
	Unaided	442	103.3	106.0	114.0	11.14	-0.03	0.74
Gender	Male	27	102.4	104.0	104.0	11.06	-0.92	0.44
	Female	493	102.7	105.0	106.0	11.40	-0.97	0.57
Experience	Upto 5yrs	224	101.9	104.0	114.0	11.30	-0.91	0.55
	5 yrs &above	296	103.2	106.0	106.0	11.49	-1.04	0.67
Qualification	Under Graduation	256	102.1	105.0	113.0	11.40	-0.90	0.37
	Graduation & above	264	103.2	106.0	104.0	11.41	-1.06	0.86

Table 25 reveals that the mean, median and mode of the independent variable School Climate Factors hold nearer values for total sample and subsamples based on locality, type of management, gender, experience and qualification of teachers. The obtained value of mean, median and mode of school climate for total sample is 102.6, 105.0 and 106.0 respectively, which establish normality. The values of skewness (SK= -0.98) and kurtosis (K=0.58) shows that for total sample, the Gaussian Curve for School Climate is negatively skewed and slightly leptokurtic.

Statistical Constants for the variable Cognitive and Meta Cognitive Factors for Total sample and sub-samples

The Important Statistical Constants for the Distribution of Scores for Cognitive and Meta Cognitive Factors for Total sample and sub-samples based on locality, type of management, gender, experience and qualification of Special Education teachers in Kerala.

Table 26

Statistical constants for the distribution of scores of Cognitive and Meta Cognitive Factors for total sample and subsamples based on locality, type of management, gender, experience and qualification of Special Education Teachers in Kerala.

Sample		N	Mean	Median	Mode	SD	Skewness	Kurtosis
Total Sample		520	76.66	78.00	84.00	7.90	-0.879	0.439
Locality	Urban	182	76.45	78.00	76.00	7.99	-0.807	0.050
	Rural	238	76.77	78.00	80.00	7.87	-0.922	0.687
Type of Management	Government	78	75.82	76.00	74.00	7.41	-0.597	0.060
	Unaided	442	76.81	78.00	84.00	7.99	-0.929	0.525
Gender	Male	27	77.74	79.00	74.00	7.18	-0.459	-0.491
	Female	493	76.61	78.00	84.00	7.95	-0.894	0.449
Experience	Upto 5yrs	224	76.10	78.00	80.00	8.15	-0.856	0.089
	5 yrs & above	296	77.07	78.00	84.00	7.70	-0.191	0.758
Qualification	Under Graduation	256	75.94	76.50	76.00	7.96	-0.691	-0.063
	Graduation & above	264	77.35	80.00	84.00	7.81	-1.087	1.137

Table 26 reveals that the mean, median and mode of the independent variable Cognitive and Meta Cognitive Factors hold nearer values for total sample and subsamples based on locality, type of management, gender, experience and qualification of teachers. The obtained value of mean, median and mode of

Cognitive and Meta Cognitive Factors in teaching for total sample is 76.66, 78.00, 84.00 respectively, which establish univariate normality. The values of skewness (SK= -0.879) and kurtosis (K=0.439) shows that for total sample, the Gaussian Curve for Cognitive and Meta Cognitive factors are negatively skewed and slightly leptokurtic.

Statistical Constants for the Variable Motivational Factors for Total Sample and Sub-samples

The important statistical constants for the distribution of scores for Motivational Factors for total sample and sub-samples based on locality, type of management, gender, experience and qualification of Special Education of Teachers in Kerala.

Table 27

Statistical constants for the distribution of scores of Motivational Factors for Total sample and subsamples based on locality, type of management, gender, experience and qualification of Special Education Teachers in Kerala

Sample		N	Mean	Median	Mode	SD	Skewness	Kurtosis
Total Sample		520	70.82	72.00	78.00	8.64	-0.63	-0.15
Locality	Urban	182	69.80	71.50	76.00	9.30	-0.57	-0.46
	Rural	338	71.38	73.00	73.00	8.23	-0.63	0.01
Type of Management	Government	78	70.08	71.00	78.00	8.17	-0.67	0.02
	Unaided	442	70.96	73.00	78.00	8.72	-0.63	-0.16
Gender	Male	27	71.00	75.00	74.00	9.85	-0.98	0.58
	Female	493	70.81	72.00	78.00	8.58	-0.60	-0.19
Experience	Upto 5yrs	224	71.17	73.00	72.00	8.69	-0.74	-0.04
	5yrs&above	296	70.57	72.00	78.00	8.62	-0.55	-0.18
Qualification	Under Graduation	256	70.25	72.00	73.00	8.63	-0.67	-0.09
	Graduation & above	264	71.38	72.50	78.00	8.63	-0.60	-0.21

Table 27 reveals that the mean, median and mode of the independent variable Motivational Factors hold nearer values for total sample and subsamples based on locality, type of management, gender, experience and qualification of teachers. The obtained value of mean, median and mode of Motivational Factors in Teaching for Total sample is 70.82, 72.00 and 78.00 respectively, which establish normality. The values of skewness (SK= -0.63) and kurtosis (K=-0.15) shows that for Total sample, the Gaussian Curve for Motivational factors is negatively skewed and slightly platykurtic.

Statistical Constants for the Variable Special Education Teacher Grit for Total Sample and Sub-samples

The important statistical constants for the distribution of scores for Special Education Teacher Grit for Total sample and sub-samples based on locality, type of management, gender, experience and qualification of Special Education Teachers in Kerala.

Table 28

Statistical constants for the distribution of scores for Special Education Teacher Grit for Total sample and subsamples based on locality, type of management, gender, experience and qualification of Special Education Teachers in Kerala.

Sample		N	Mean	Median	Mode	SD	Skewness	Kurtosis
Total Sample		520	75.58	78.00	81.00	9.16	-0.67	-0.24
Locality	Urban	182	74.94	78.00	78.00	9.47	-0.64	-0.41
	Rural	238	75.94	77.50	76.00	8.97	-0.68	-0.14
Type of Management	Government	78	75.74	78.00	78.00	9.62	-0.57	-0.45
	Unaided	442	75.56	77.00	81.00	9.09	-0.69	-0.19
Gender	Male	27	77.29	79.00	76.00	6.92	-0.10	-0.95
	Female	493	75.50	78.00	81.00	9.27	-0.65	-0.28
Experience	Upto 5yrs	224	75.12	76.00	76.00	9.09	-0.64	-0.23
	5 yrs & above	296	75.95	78.00	78.00	9.28	-0.70	-0.22
Qualification	Under Graduation	256	74.79	76.00	76.00	8.97	-0.44	0.67
	Graduation & above	264	76.36	78.00	78.00	9.30	-0.90	0.28

Table 28 reveals that the mean, median and mode of the dependent variable, Special Education Teacher Grit hold nearer values for total sample and subsamples based on locality, type of management, gender, experience and qualification of teachers. The obtained value of mean, median and mode of Special Education Teacher Grit for Total sample is 75.58, 78.00 and 81.00 respectively, which establishes normality requirements. The values of skewness (SK= -0.67) and kurtosis (K=-0.24) shows that for total sample, the Gaussian Curve for special education Teacher Grit is negatively skewed and slightly platykurtic.

Statistical Constants for the Variable Special Education Teacher Tenacity for Total sample and Sub-samples

The important statistical constants for the distribution of scores for Special Education Teacher Tenacity for Total sample and sub-samples based on locality, type of management, gender, experience and qualification of Special Education Teachers in Kerala.

Table 29

Statistical constants for the distribution of scores for Special Education Teacher Tenacity for Total sample and subsamples based on locality, type of management gender, experience and qualification of Special Education Teachers in Kerala.

Sample		N	Mean	Median	Mode	Standard Deviation	Skewness	Kurtosis
Total Sample		520	67.30	69.00	74.00	7.13	-0.90	0.31
Locality	Urban	182	67.01	68.50	74.00	7.28	-0.81	-0.13
	Rural	238	67.45	69.00	72.00	7.05	-0.96	0.60
Type of Management	Government	78	67.76	70.00	72.00	7.53	-1.12	0.59
	Unaided	442	67.22	68.50	74.00	7.07	-0.87	0.28
Gender	Male	27	68.26	69.00	74.00	5.99	-0.89	0.86
	Female	493	67.28	69.00	72.00	7.16	-0.90	0.27
Experience	Upto 5yrs	224	66.50	68.00	68.00	7.27	0.86	0.35
	5yrs&above	296	67.91	70.00	72.00	6.98	-0.95	0.29
Qualification	Under Graduation	256	66.27	68.00	68.00	7.16	-0.92	0.45
	Graduation & above	264	68.30	70.00	74.00	6.97	-0.93	0.16

Table 29 reveals that the mean, median and mode of the dependent variable, Special Education Teacher Tenacity hold nearer values for total sample and subsamples based on locality, type of management, gender, experience and qualification of teachers. The obtained value of mean, median and mode of

special Education Teacher Tenacity for total sample is 67.00, 69.00 and 74.00 respectively, which is approximated to normality. The values of skewness (SK= -0.90) and kurtosis (K=0.31) shows that for total sample, the Gaussian Curve for special education Teacher Tenacity is negatively skewed and nearer to mesokurtic.

Statistical Constants for the Distribution of Scores for Special Education Teacher Resilience for Total sample and Sub-samples

The important statistical constants for the distribution of scores for Special Education Teacher Resilience for total sample and sub-samples based on locality, type of management, gender, experience and qualification of Special Education teachers in Kerala.

Table 30

Statistical Constants for the Distribution of Scores for Special Education Teacher Resilience for Total Sample and Subsamples based on Locality, Type of Management, Gender, Experience and Qualification of Special Education Teachers in Kerala

Sample		N	Mean	Median	Mode	SD	Skewness	Kurtosis
Total Sample		520	78.19	80.00	78.00	9.10	-1.00	0.54
Locality	Urban	182	77.28	80.00	78.00	9.42	-0.92	0.18
	Rural	238	78.68	81.00	84.00	8.89	-1.05	0.79
Type of Management	Government	78	77.12	78.00	78.00	8.79	-0.92	0.20
	Unaided	442	78.38	81.00	84.00	9.14	-1.03	0.62
Gender	Male	27	80.07	82.00	86.00	8.53	-1.19	0.82
	Female	493	78.05	80.00	78.00	9.13	-0.99	0.51
Experience	Upto 5yrs	224	77.40	80.00	86.00	9.46	-0.93	0.21
	5 yrs & above	296	78.79	81.00	78.00	8.77	-1.06	0.87
Qualification	Under Graduation	256	77.27	79.00	78.00	8.97	-0.71	-0.32
	Graduation & above	264	79.08	81.00	84.00	9.15	-1.31	0.61

Table 30, reveals that the mean, median and mode of the dependent variable, Special Education Teacher Resilience hold nearer values for Total sample and subsamples based on locality, type of management, gender, experience and qualification of teachers. The obtained value of mean, median and mode of special Education Teacher Resilience in Teaching for total sample is 78.19, 80.00 and 78.00 respectively which establishes normality. The values of skewness (SK= -1.00) and kurtosis (K=0.54) shows that for total sample, the Gaussian Curve for special education Teacher Resilience is negatively skewed and slightly leptokurtic.

Discussion

Preliminary analysis explored the basic characteristics of Gaussian distribution of independent variables: Compatibility Factors in Teaching viz Socio– Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching and the dependent variables viz Special Education Teacher Grit, Tenacity and Resilience. The analysis envisaged that the mean, median and mode of independent variables that is Compatibility Factors in Teaching and the dependent variables: Teacher Endurance Factors held nearer values for Total sample and sub samples based on locality, type of management of the Institution, gender, experience and qualification of the teacher. It is evident from the scores of independent variables namely Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors and dependent variables namely Special Education Teacher Grit, Tenacity and Resilience that the distributions approaches to Gaussian criteria of normality.

The observed distribution of scores of independent and dependent variables were further explored by visualizing probability – probability plots (P-P Plots). Probability – Probability plots render the cumulative probability of the variable distribution against cumulative probability of the normal distribution. The probability – probability plot of selected independent variables ; Socio – Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors and the dependent variables - Special Education Teacher Grit, Special Education Teacher Tenacity, Special Education Teacher Resilience are provided in Figure 16a, Figure 16b, Figure 17a, Figure 17b, Figure 18a, Figure 18b, Figure 19 respectively

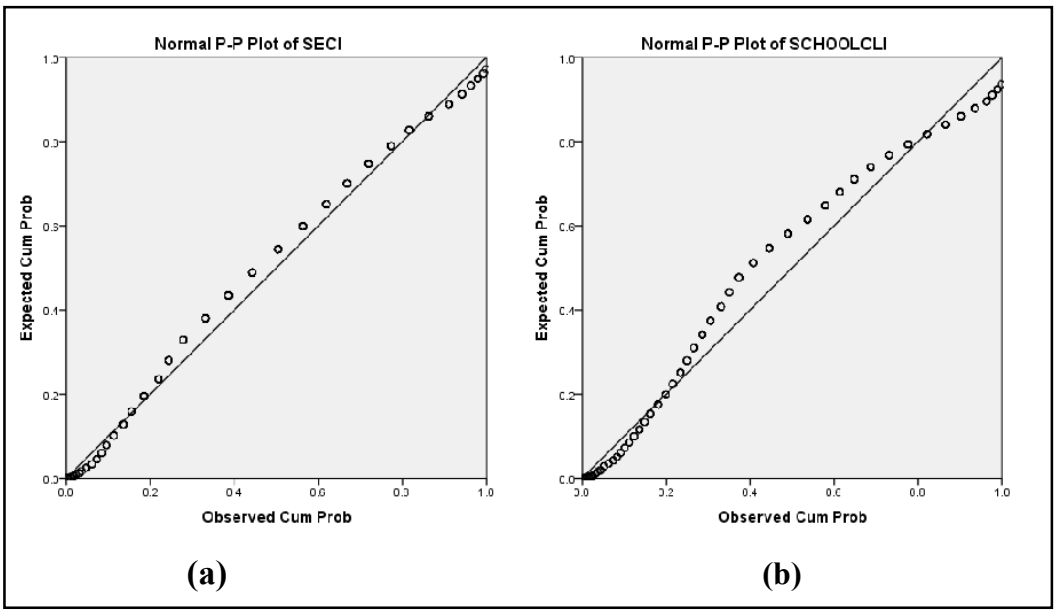


Figure 16. (a) Normal Probability-Probability Plot of Socio Emotional Competency of Special Education Teachers for Total Sample. (b) Normal Probability-Probability Plot of School Climate Factors in Teaching of Special Education Teachers for Total Sample

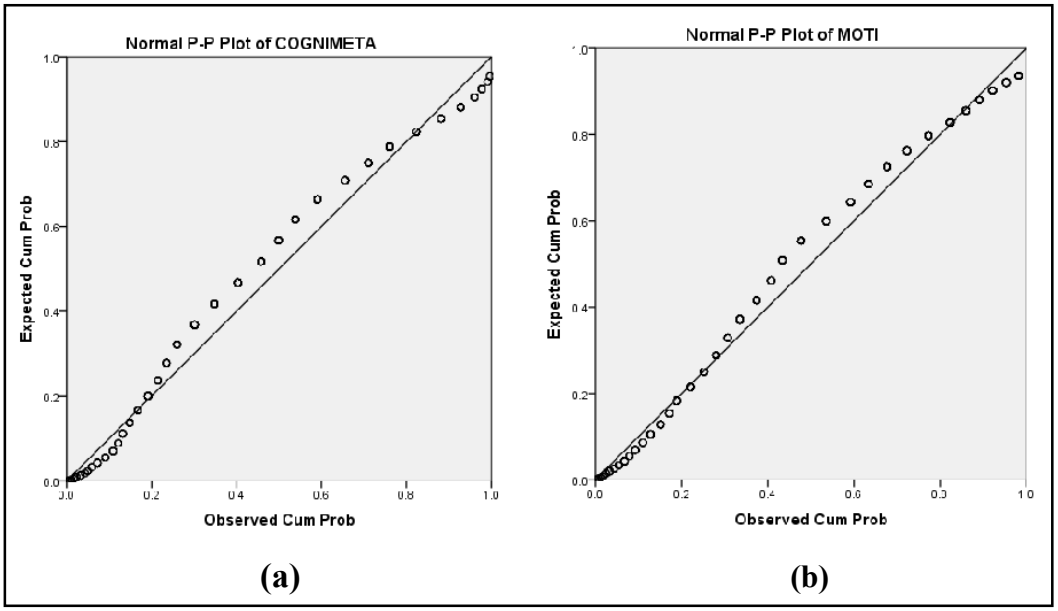


Figure 17. (a) Normal Probability-Probability plot of Cognitive and Meta cognitive Factors in teaching of special school teachers for total sample. (b) Normal Probability –Probability Plot of Motivational Factors in teaching of special education teachers for total sample

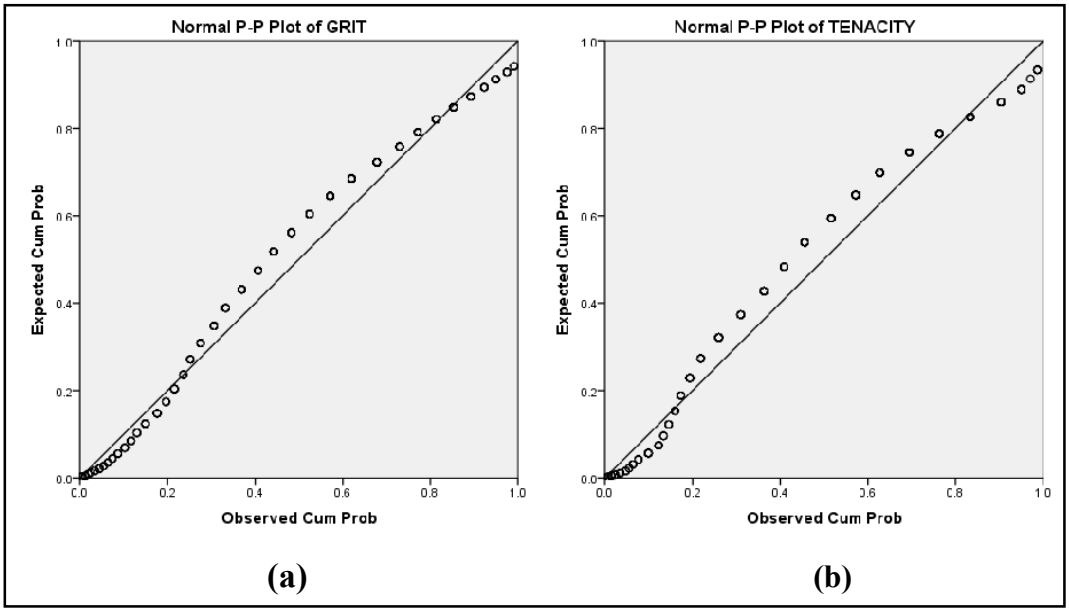


Figure 18. (a) Normal Probability-Probability Plot of Special education teacher grit for total sample. (b) Normal Probability-Probability Plot of Special Education teacher Tenacity

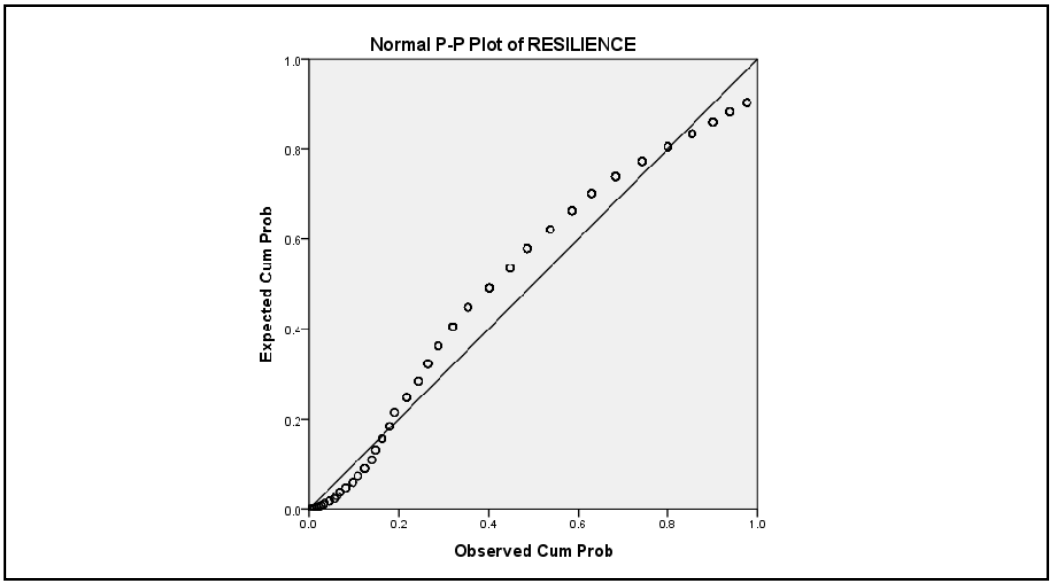


Figure 19. Normal Probability-Probability Plot of Special school teacher Resilience

The normal Probability – Probability Plot of independent variables: Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive, Motivational Factors and dependent variables : Special Education Teacher Grit, Special Education Teacher Tenacity, Special Education Teacher Resilience for Total sample are slightly departed from its ideal Gaussian distribution and establish that all distribution mentioned above have secured normality characteristics. Therefore the sample selected for analysis is an exact representative of the population under study.

For further exploration of data with the assumption of normality, Multiple Analysis of Variance were carried out.

Multiple Analysis of Variance (MANOVA)- Assumption Testing

Multiple Analysis of Variance was done to exfoliate Multivariate, main and interaction effect of selected independent variables ie Compatibility Factors in Teaching:- Socio –Emotional Competency, School Climate,

Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on selected dependent variables ie Teacher Endurance Factors:- Special Education Teacher Grit, Special Education Teacher Tenacity, Special Education Teacher Resilience for Total sample and sub samples

To ensure the requirements of conducting multivariate analysis of variance Box Scatter Plot for sphericity, test of normality, correlation between dependent variables for addressing multicollinearity and homogeneity tests (Box's M Test of equality of covariance Matrices and Levene's test) and outlier detection by finding out Mahanalobe 's Distances are carried out and. The result for total sample are provided in table 31.

The distribution was further examined by using Box matrix scatter plot for establishing linear relationship among dependent variable.

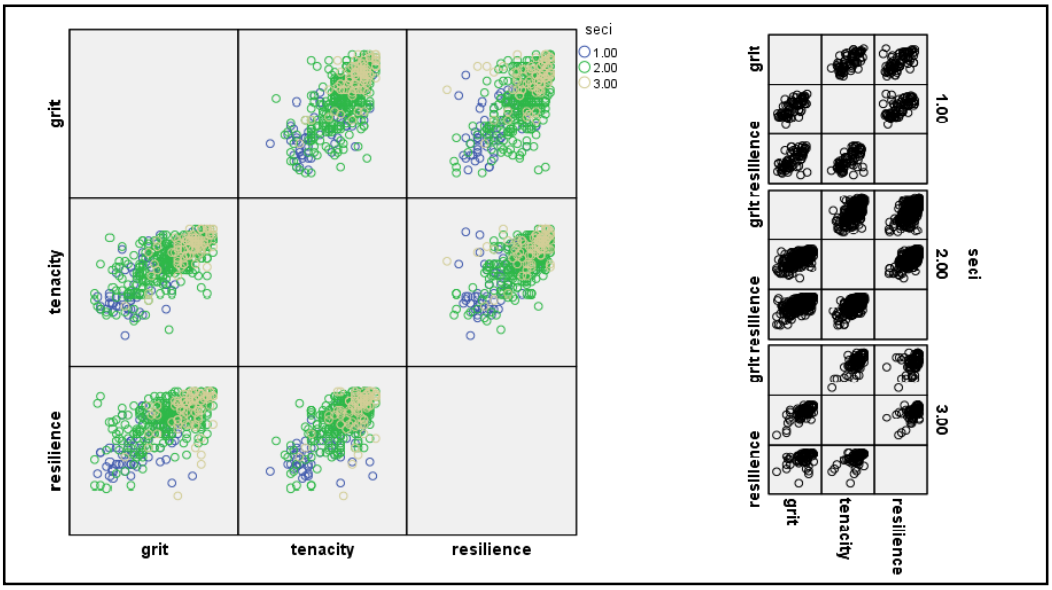


Figure 20. Box matrix plot of socio-emotional competency for total sample

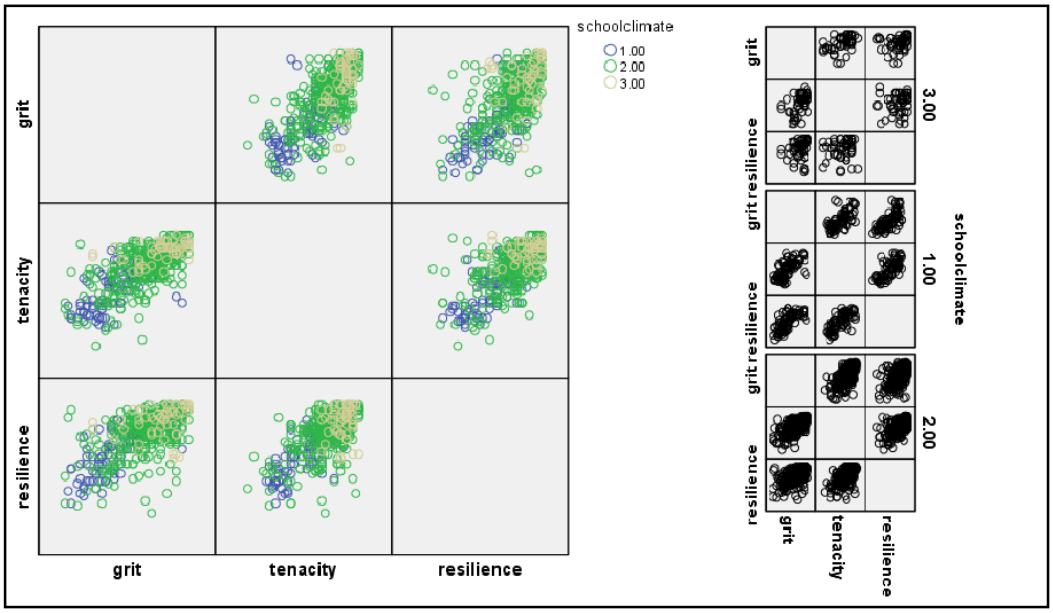


Figure 21. Box matrix plot of school climate factors for total sample

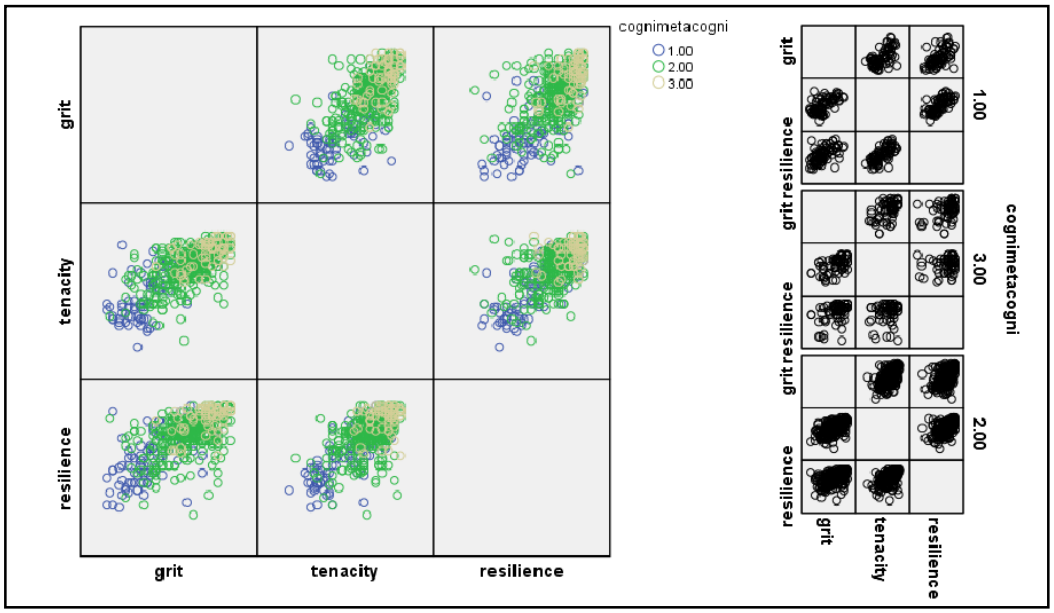


Figure 22. Box matrix plot of cognitive and meta cognitive factors for total sample.

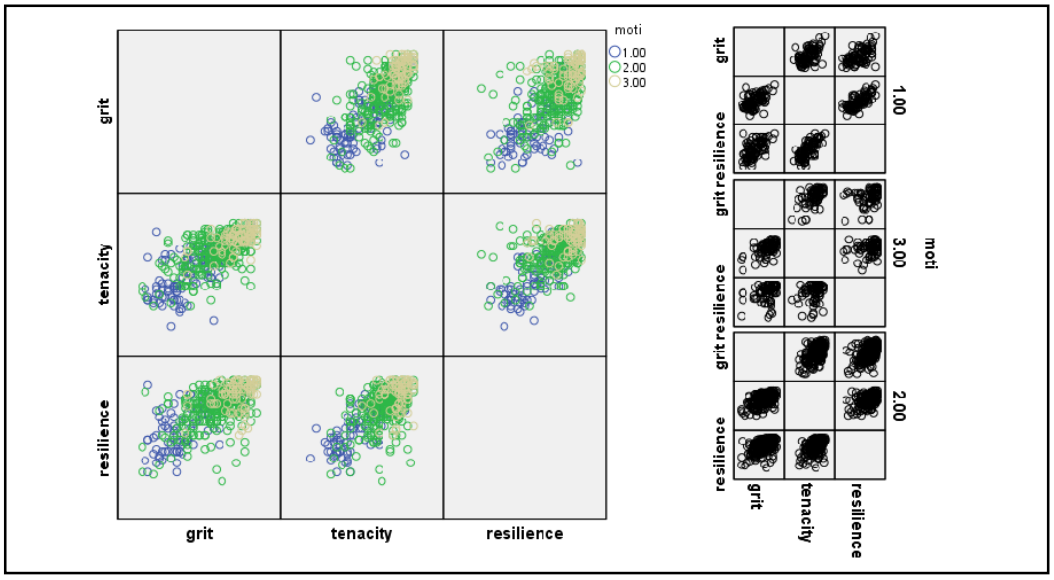


Figure 23. Box matrix plot of motivational factors for total sample.

Box Matrix plots reveal that there is linear relationship between dependant variables. Plots are elliptical figures in each cell which satisfy the assumption of requirement of linear relationship between each pair of dependant variables for each group of the independent variable and the obtained data is free from sphericity issue.

Table 31

Result of the Correlation between Dependent Variables for Total Sample

		Grit	Tenacity	Resilience
Grit	Pearson Correlation	1	.712**	.646**
	Sig. (2-tailed)		.000	.000
	N	520	520	520
Tenacity	Pearson Correlation	.712**	1	.665**
	Sig. (2-tailed)	.000		.000
	N	520	520	520
Resilience	Pearson Correlation	.646**	.665**	1
	Sig. (2-tailed)	.000	.000	
	N	520	520	520

**. Correlation is significant at the 0.01 level (2-tailed).

The result of correlation reveal that there is desired correlation between dependant variables as the Pearson coefficient of correlations between Grit and Tenacity is 0.71, Grit and Resilience is 0.65 and Tenacity and Resilience is 0.67. This indicate that dependant variables selected are appropriate for performing MANOVA and there is no multicollinearity. Box's M test of equality of covariance and Levene's test of homogeneity of variance are found to be significant and hence Pillai's Trace is chosen as the criteria for interpreting MANOVA.

Multivariate Analysis of Variance (MANOVA)

For the present study Multivariate Analysis of Variance (MANOVA) is used to determine the influence of Compatibility Factors in Teaching - Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance Factors in teaching viz Special Education Teacher Grit, Special Education Teacher Tenacity and Special Education Teacher Resilience. The main purpose is to find out Multivariate and Interaction effect of selected independent variables on selected dependent variables.

Using One-Way MANOVA, Multivariate effect of three levels of each independent variables are calculated for Total sample and sub samples based on Locality, Type of management of institution, Experience and Qualification of Special Education Teachers. 3*3*3*3 Factorial design of MANOVA is utilized for analyzing multivariate interaction effect. Each independent variable is categorized as High, Moderate and Low levels on the basis of

m+σ, m±σ and m-σ corresponding to the values of mean and standard deviation of the independent variables under study

One –Way MANOVA

The first objective of the present study is to find out the multivariate and main effect of Compatibility Factors in teaching : Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance Factors :Teacher Grit, Tenacity, and Resilience for total sample and selected subsamples based on locality, type of management, gender, experience, and qualification of Special Education Teachers. Influence of each independent variable on dependent variables was found out using one –way MANOVA.

Influence of compatibility factors in teaching on teacher endurance factors for total sample.

The multivariate effect of independent variables, viz, Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on dependent variables viz, Teacher Grit, Teacher Tenacity and Teacher resilience for total sample was calculated. The multivariate effect of Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample are presented in Table 32.

Table 32

Summary of the Results of One-way MANOVA by Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors of Special Education Teachers on Teacher Grit, Tenacity and Teacher Resilience for Total sample

Source of variation	Pillai's Trace	F	df	Sig	Partial η^2
Socio Emotional competency	0.26	26.03	6	.00	.13
School Climate Factors	0.28	27.87	6	.00	.14
Cognitive and meta cognitive Factors	0.38	40.64	6	.00	.19
Motivational Factors	0.42	45.08	6	.00	.21

Discussion

Table 32 reveals that there exists multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency as the F(6, 1032) = 26.03, P<.001, Pillai's trace=0.26, Partial η^2 =0.13. This indicates that there exist significant difference in the Vector mean Scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample as far as Socio-Emotional Competency are concerned.

There exist significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate as the F(6, 1032)=27.87, p<.001, Pillai's Trace=.28, Partial η^2 =.14. This reveals that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample when School Climate Factors in teaching are taken into account.

There is significant multivariate effect by Cognitive and Meta Cognitive Factors in Teaching on Teacher Grit, Teacher Tenacity and Teacher

Resilience as the F value obtained at(6, 1032)degrees of freedom is 40.64, p<.001, Pillai's Trace=0.38 and Partial η^2 =.19. This shows that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample for Cognitive and Meta Cognitive Factors in Teaching.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained is 45.08 at(6, 1032) partial η^2 =0.21. This indicates that there exist significant difference in the Vector mean scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Total sample.

Since the result of the MANOVA's are significant, the test of Between subject effect or Main effects are examined to determine whether each independent variable has significant effect on each dependent variable under study. The Main effect and Scheffé Post hoc tests for identifying the exact group which contribute to the Main effect for Total sample are also analyzed

Main effect.

Influence of Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample are provided in Table 33.

Table 33

Summary of One-Way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Total sample

Source	Dependent Variable	Sum of square	df	Mean Square	F-Value
Socio Emotional competency	Teacher Grit	8169.06	2	4084.53	59.63**
	Teacher Tenacity	4192.05	2	2096.03	48.76**
	Teacher Resilience	8505.56	2	4252.78	63.83**
School Climate Factors	Teacher Grit	9208.96	2	4604.48	69.26**
	Teacher Tenacity	6413.07	2	3206.54	82.87**
	Teacher Resilience	7978.27	2	3989.14	58.97**
Cognitive and meta cognitive Factors	Teacher Grit	14113.87	2	7056.93	123.82**
	Teacher Tenacity	7597.81	2	3798.91	104.36**
	Teacher Resilience	11592.16	2	5796.08	95.55**
Motivational Factors	Teacher Grit	15634.10	2	7817.05	144.62**
	Teacher Tenacity	9081.64	2	4540.82	135.42**
	Teacher Resilience	10375.09	2	5187.54	82.32**

**P≤.01

From Table 33 it is obvious that F-Value obtained is 59.63 which is greater than the tabled value 4.65 for (2, 517) degrees of freedom required for significance at .01 level for Socio- Emotional Competency on Teacher Grit for total sample. The F-Value obtained is 48.76 and 63.83 for Teacher Tenacity and Teacher Resilience respectively, which are greater than the tabled value 4.65 for(2, 517) degrees of freedom required for significance at .01 level by Socio Emotional Competency.

The table results reveals that the F-Values obtained are 69.26, 82.87 and 58.97 for Teacher Grit, Teacher Tenacity and Teacher Resilience

respectively which is greater than the tabled value F=4.65 for(2, 517) degr ees of freedom required for significance at 0.01 level for Total sample by School Climate Factors in Teaching.

The results indicates that the F-Values obtained are 123.82, 104.36 and 95.55 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which is greater than the tabled value F = 4.65 for(2, 517) degrees of freedom required for significance at 0.01 level for Cognitive and Meta Cognitive Factors in Teaching.

The Table also shows that the F-Values obtained are 144.62, 135.42 and 82.32 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors which is greater than the tabled value F = 4.65 for(2, 517) degrees of freedom required for significance at 0.01 level for Total sample.

As the result of main effect are significant, the data are further analyzed with the help of Scheffés Test of Post hoc comparison to know which groups are different in contributing difference in the mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample.

Influence of socio- emotional competency on teacher grit, tenacity and resilience for total sample corresponding to three different levels of socio-emotional competency as high, moderate and low for total sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Total sample are presented in Table 34.

Table 34

Summary of the Result of F values Obtained by Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to the Three Levels of Socio Emotional Competency of Teachers for Total Sample

Dependent Variables	Levels of Socio-Emotional Competency	Mean Scores	Low	Moderate	High
Teacher Grit			67.77	75.74	81.89
	Low	67.77	0	58.71**	118.9**
	Moderate	75.74		0	38.61**
	High	81.89			0
Teacher Tenacity			61.62	67.45	71.72
	Low	61.62	0	50.05**	96.93**
	Moderate	67.45		0	15.54**
	High	71.72			0
Teacher Resilience			68.90	79.19	82.34
	Low	68.90	0	100.6**	110.7**
	Moderate	79.19		0	10.41**
	High	82.34			0

Discussion

Table 34 shows that the difference between mean scores of Low and Moderate Socio-Emotional Competency group is 7.97 which is significant at .01 level, F=58.71, F'=9.30, p≤.01 for Teacher Grit. The mean difference between moderate and High Socio-emotional competency group is 6.15 which is significant at .01 level F=38.61, F'=9.30, p≤.01 for Teacher Grit. The mean difference between Low and High Socio-Emotional competency group is 14.12 which is significant at .01 level, F=118.90, F'=9.30, p≤.01 for Teacher

Grit. The result reveals that the three groups Low, Moderate and High Socio Emotional Competency groups are not similar with regard to Teacher Grit.

Table results reveal that the difference between Low and Moderate Socio-Emotional Competency group is 5.83 which is significant at .01 level, F=50.05, F'=9.30, p≤.01 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 4.27 which is significant at .01 level, F=15.54, F'=9.30, p≤.01 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 10.1 which is significant at .01 level, F=96.93, F'=9.30, p≤.01 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low, Moderate and High Socio Emotional groups differ significantly.

Table results shows that the difference between Mean scores of Low and Moderate Socio-Emotional Competency group is 10.29 which is significant at .01 level, F=100.60, F'=9.30, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 3.15 which is significant at .01 level, F=10.41, F'=9.30, p≤.01 for Teacher Resilience while considering total sample. The mean difference between Low and High Socio-Emotional Competency group is 13.44 which is significant at .01 level, F=110.73, F'=9.30, p≤.01 for Teacher Resilience. The result reveals that three groups of Socio-Emotional Competency are dissimilar as far as Teacher Resilience are taken into account.

The result reveals that Low, Moderate and High Socio Emotional Competency groups differ for all selected dependent variables, Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample.

Influence of school climate factors in teaching on teacher grit, tenacity and resilience for total sample corresponding to three different levels of school climate factors in teaching as high, moderate and low school climate for total sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for Total sample are presented in Table 35.

Table 35

Summary of the Result of F values Obtained by Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of School Climate Factors in Teaching for Total Sample

Dependent Variables	Levels of School Climate	Mean Scores	Low	Moderate	High
Teacher Grit			66.78	76.78	81.24
	Low	66.78	0	107.2**	110.0**
	Moderate	76.78		0	15.02**
	High	81.24			0
Teacher Tenacity			60.24	68.10	72.84
	Low	60.24	0	113.7**	143.4**
	Moderate	68.10		0	29.16**
	High	72.84			0
Teacher Resilience			70.07	79.25	83.69
	Low	70.09	0	88.74**	95.86**
	Moderate	79.25		0	14.63**
	High	83.69			0

The Table 35 indicate that the difference between Mean scores of Low and Moderate School Climate group is 10 which is significant at .01 level, F=107.2, F'=9.30, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.46 which is significant at .01 level, F=15.02, F'=9.30, p≤.01. The difference between mean scores of Low and High School Climate group is 14.46 which is significant at .01 level, F=110.0, F'=9.30, p≤.01 for Teacher Grit.

The Table shows that the difference between Mean scores of Low and Moderate School Climate group is 7.86 for Teacher Tenacity which is significant at .01 level, F=113.7, F'=9.30, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.74 which is significant at .01 level, F=29.16, F'=9.296, p≤.01 for Teacher Tenacity. Similarly the difference between mean scores of Low and High School Climate Factors group is 12.6 which is significant at .01 level, F=143.4, F'=9.30, p≤.01 for Teacher Tenacity.

The Table reveals that the difference between Mean scores of Low and Moderate School Climate Factors group is 9.18 for Teacher Resilience which is significant at .01 level, F=88.74, F'=9.30, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.44 for Teacher Resilience which is significant at .01 level, F=14.63, F'=9.30, p≤.01. The difference between mean scores of Low and Moderate School Climate group is 13.62 which is significant at .01 level, F=95.86, F'=9.30, p≤.01 for Teacher Resilience for Total sample.

The result reveals that three groups: Low, Moderate and High School Climate groups among special education teachers differ within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience.

Influence of cognitive and meta cognitive factors in teaching on teacher grit, tenacity and resilience for total sample corresponding to three different levels of cognitive and meta cognitive factors in teaching as high, moderate and low for total sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for Total sample are presented in Table 36.

Table 36

Summary of the Result of F values Obtained by Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Cognitive and Meta Cognitive Factors in Teaching for Total Sample

Dependent Variables	Levels of Cognitive and Meta Cognitive	Mean Scores	Low	Moderate	High
Teacher Grit			64.34	76.80	82.26
	Low	64.34	0	182.4**	216.0**
	Moderate	76.80		0	31.47**
	High	82.26			0
Teacher Tenacity			59.29	68.10	72.76
	Low	59.29	0	140.3**	191.1**
	Moderate	68.02		0	37.13**
	High	72.76			0
Teacher Resilience			68.48	78.97	85.29
	Low	68.48	0	121.5**	178.6**
	Moderate	78.97		0	39.61**
	High	85.29			0

The Table 36 shows that the difference between Mean scores of Low and Moderate Cognitive and Meta Cognitive group is 12.46 which is significant at

.01 level, F=182.4, F'=9.30, p≤.01 for Teacher Grit for total sample. The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 5.46 which is significant at .01 level, F=31.47, F'=9.30, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 17.92 for Teacher Grit which is significant at .01 level, F=216.0, F'=9.30, p≤.01 for Total sample.

The Table reveals that the difference between Low and Moderate Cognitive and Meta Cognitive group is 8.73 for Teacher Tenacity which is significant at .01 level, F=140.3, F'=9.30, p≤.01. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 4.74 which is significant at .01 level, F=37.13, F'=9.30, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 13.47 which is significant at .01 level, F=191.1, F'=9.30, p≤.01 for Teacher Tenacity.

Table result indicates that the difference between Mean scores of Low and Moderate Cognitive and Meta Cognitive group is 10.49 which is significant at .01 level, F=121.5, F'=9.30, p≤.01 for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 6.32 which is significant at .01 level, F=39.61, F'=9.30, p≤.01 for total sample. The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in Teaching among Special Education Teachers is 16.81 which is significant at .01 level, F=178.58, F'=9.30, p≤.01 for Total sample.

The result reveals that three groups: Low, Moderate and High Cognitive and Meta Cognitive groups differ significantly with regard to each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample.

Influence of motivational factors in teaching on teacher grit, tenacity and resilience for total sample corresponding to three different levels of motivational factors in teaching as high, moderate and low for total sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Total sample are presented in Table 37.

Table 37

Summary of the Result of F Values Obtained by Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching for Total sample.

Dependent Variables	Levels of Motivational Factors	Mean Scores	Low	Moderate	High
Teacher Grit			65.12	76.51	83.42
	Low	65.12	0	175.6**	273.4**
	Moderate	76.51		0	59.60**
	High	83.42			0
Teacher Tenacity			59.10	68.17	72.82
	Low	59.10	0	179.5**	247.8**
	Moderate	68.17		0	43.51**
	High	72.82			0
Teacher Resilience			69.58	79.00	84.42
	Low	69.58	0	103.0**	154.2**
	Moderate	79.00		0	31.46**
	High	84.42			0

Table 37 shows that the difference between Mean scores of Low and Moderate Motivational group is 11.39 which is significant at .01 level, F=175.6, F'=9.30, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 6.91 which is significant at .01 level, F=59.60, F'=9.30, p≤.01 for total sample. The difference between mean scores of Low and High Motivational group is 18.3 which is significant at .01 level, F=273.4, F'=9.30, p≤.01 for Teacher Grit.

The Table indicates that the difference between Mean scores of Low and Moderate Motivational group is 9.07 which is significant at .01 level, F=179.5, F'=9.30, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 4.65 which is significant at .01 level, F=43.51, F'=9.30, p≤.01 for total sample. The difference between Low and High Motivational group is 13.72 which is significant at .01 level, F=247.8, F'=9.30, p≤.01 for Total sample.

The Table reveals that the difference between mean scores of Low and Moderate Motivational group is 9.42 which is significant at .01 level, F=103.0, F'=9.30, p≤.01 for Teacher Resilience. For groups Moderate and High Motivational the difference in the mean scores is 5.42 which is significant at .01 level, F=31.46, F'=9.30, p≤.01. The difference between mean scores of Low and High Motivational group is 14.84 which is significant at .01 level, F=154.2, F'=9.30, p≤.01 for Total sample.

The result reveals that three groups: Low, Moderate and High Motivational groups differ each other while considering dependent variables- Teacher Grit, Teacher Tenacity and Teacher Resilience for Total sample.

Influence of compatibility factors in teaching on teacher endurance factors for urban sample.

The multivariate effect of independent variables, Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors And Motivational Factors in Teaching on dependent variables: Teacher Grit, Teacher Tenacity and Teacher Resilience for total sample was calculated. The multivariate effects of Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors on Teacher Grit, Teacher Tenacity and Teacher Resilience for Urban sample are presented in Table 38.

Table 38

Summary of the result of one way MANOVA by Socio Emotional Competency, School climate, Cognitive and Meta Cognitive Factors and Motivational Factors of Special Education Teachers on Teacher Grit, Tenacity and Resilience for Urban sample

Source of Variation	Pillai's Trace	F	df	Sig	Partial η2
Socio Emotional Competency	.25	8.63	6	.00	.13
School Climate Factors	.33	11.79	6	.00	.17
Cognitive and meta cognitive Factors	.44	16.54	6	.00	.22
Motivational Factors	.45	17.08	6	.00	.22

Table 38 reveals that there is multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency as the F(6,

356)=8.63, P<.001, Pillai's trace=0.25, Partial η^2 =0.13. This indicates that there exist significant difference in the vector mean scores of special education Teacher Grit, Teacher Tenacity and teacher Resilience for Urban sample as far as socio-emotional competency are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by school climate as the F(6, 356)=11.79, p<.001 Pillai's Trace=.33, Partial η^2 =.17. This reveals that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Urban sample when school climate factors in teaching are taken into account.

There is significant multivariate effect by cognitive and meta cognitive Factors in teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained at(6, 356)degrees of freedom is 16.54, p<.001, Pillai's Trace=0.44 and Partial η^2=.22. This shows that there exist significant difference in the vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Urban sample for cognitive and meta cognitive Factors in teaching are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained is 17.08 at(6, 356) degrees of freedom which is significant at .01 level, Pillai's Trace is 0.45 and partial η^2 =0.22. This indicates that there exist significant difference in the Vector mean scores of special education Teacher Grit, Teacher Tenacity and Teacher Resilience by motivational Factors in teaching for Urban sample.

Since the result of MANOVA are significant, Main effects are examined to determine whether independent variable has significant effect on each dependent variable under study. The result of main effect and Scheffés Post hoc tests for identifying exact group which contribute to the main effect for Urban sample are also analyzed.

Main effect.

Influence of Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors on special education Teacher Grit, Teacher Tenacity and Teacher Resilience for Urban sample are provided in Table 39.

Table 39

Summary of One-way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in teaching for Urban sample.

Source	Dependent Variable	Type III sum of square	df	Mean Square	F-Value
Socio Emotional competency	Teacher Grit	3111.89	2	1555.94	21.20**
	Teacher Tenacity	1551.50	2	775.748	17.23**
	Teacher Resilience	3171.90	2	1585.95	22.01**
School Climate Factors	Teacher Grit	3497.09	2	1748.54	24.54**
	Teacher Tenacity	2941.90	2	1470.95	39.49**
	Teacher Resilience	3551.04	2	1775.52	25.39**
Cognitive and meta cognitive Factors	Teacher Grit	6429.17	2	3214.59	58.58**
	Teacher Tenacity	2916.57	2	1458.29	39.01**
	Teacher Resilience	5196.57	2	2582.79	42.40**
Motivational Factors	Teacher Grit	7036.19	2	3518.10	68.33**
	Teacher Tenacity	3008.35	2	1504.18	40.79**
	Teacher Resilience	4087.92	2	2043.96	30.54**

**P≤.01

The Table 39 reveals that the F-values obtained are 21.20, 17.23 and 22.01 for Teacher Grit, Tenacity and Resilience respectively which are greater than the tabled value, F=4.73 for(2, 179) degrees of freedom required for significance at 0.01 level for Urban teachers by Socio-Emotional Competency.

The Table shows that the F-Values obtained are 24.54, 39.49 and 25.39 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience which is greater than the tabled value F=4.73 for(2, 179) degrees of freedom required for significant at 0.01 level for Urban sample by School Climate factors in teaching.

Table indicates that the F-Values obtained are 58.58, 39.01 and 42.40 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value F= 4.73 for(2, 179) degrees of freedom required for significant at 0.01 level for Cognitive and Meta Cognitive Factors.

Table results show that the F-Values obtained are 68.33, 40.79 and 30.54 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by motivational Factors which is greater than the tabled value F= 4.73 for (2, 179) degrees of freedom required for significant at 0.01 level for Urban sample.

The result reveal that there is significant difference in the mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by considering different levels of Independent variables viz., Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching individually and have significant main effect on each dependent variable. Since the main effects are significant, the data are further analyzed with the help of Scheffés Post hoc Comparison to identify the exact group that contribute to the main effect.

Influence of socio-emotional competency factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of socio-emotional competency factors in teaching as high, moderate and low school climate for urban sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio Emotional Competency factors for Urban sample are presented in table 40.

Table 40

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding the Three Levels of Socio Emotional Competency for Urban Teachers

Dependent Variables	Levels of Socio Emotional Competency	Mean Scores	Low	Moderate	High
Teacher Grit			68.86	74.80	82.52
	Low	68.82	0	13.18**	21.09**
	Moderate	74.80		0	7.73*
	High	82.52			0
Teacher Tenacity			62.33	67.15	71.97
	Low	62.33	0	14.15**	34.39**
	Moderate	67.15		0	12.60**
	High	71.97			0
Teacher Resilience			69.75	78.06	83.13
	Low	69.75	0	26.28**	56.85**
	Moderate	78.06		0	8.71*
	High	83.13			0

The difference between mean scores of Low and Moderate Socio-Emotional Competency group is 5.94 which is significant at .01 level,

F=13.18, F'=9.46, p≤.01 for Teacher Grit. The mean difference between moderate and High Socio-emotional Competency group is 4.82 which is significant at .05 level, (F=7.73, F'=6.08, p≤.05 for Teacher Grit. The mean difference between Low and High Socio-Emotional Competency group is 9.64 which is significant at .01 level, F=21.09, F'=9.46, p≤.01 for Teacher Grit. The results reveal that the three groups Low, Moderate and High Socio Emotional Competency groups are not similar with regard to Teacher Grit for Urban teachers.

The difference between mean scores of Low and Moderate Socio Emotional Competency group is 4.82 which is significant at .01 level, F=14.15, F'=9.46, p≤.01 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 4.82 which is significant at .01 level, F=12.60, F'=9.46, p≤.01 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 9.64 which is significant at .01 level, F=34.39, F'=9.46, p≤.01 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low, Moderate and High Socio Emotional groups differ significantly.

The difference between Mean scores of Low and Moderate Socio-Emotional Competency group is 8.31 which is significant at .01 level, F=26.28, F'=9.46, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 5.07 which is significant at .05 level, F=8.71, F'=6.08, p≤.05 for Teacher

Resilience while considering Urban sample. The mean difference between Low and High Socio-Emotional Competency group is 13.38 which is significant at .01 level, F=56.85, F'=9.46, p≤.01 for Teacher Resilience. The result reveals that three groups of Socio-Emotional Competency are dissimilar as far as Teacher Resilience are taken into account.

The result reveals that Low, Moderate and High Socio Emotional Competent groups differ within all selected dependent variables. Teacher Grit, Teacher Tenacity and Teacher Resilience for Urban sample.

Influence of School Climate Factors in Teaching on Teacher Grit, Tenacity and Resilience corresponding to three different levels of School Climate Factors in Teaching as High, Moderate and Low for Urban Sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for Urban Sample are presented in Table 41.

Table 41

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience corresponding to three levels of school climate Factors in teaching for Urban sample

Dependent Variables	Levels of School Climate	Mean Scores	Low	Moderate	High
Teacher Grit			66.63	76.23	80.31
	Low	66.63	0	41.95**	29.57**
	Moderate	76.73		0	2.56
	High	80.31			0
Teacher Tenacity			59.50	68.55	72.56
	Low	59.50	0	81.90**	51.56**
	Moderate	68.55		0	6.14*
	High	72.56			0
Teacher Resilience			68.74	79.34	81.13
	Low	68.74	0	142.46**	24.72**
	Moderate	79.34		0	0.65
	High	81.13			0

The difference between Mean scores of Low and Moderate School Climate group is 10.1 which is significant at .01 level, F=41.95, F'=9.46, p≤.01. The difference between mean scores of Moderate and High School Climate group is 3.58 which is not significant even at .05 level, F=2.56, F'=6.08, p≤.05 that is moderate and high School Climate groups are similar for Teacher Grit. The difference between mean scores of Low and High School Climate group is

13.68 which is significant at .01 level, F=29.57, F'=9.46, p≤.01 for Teacher Grit.

The difference between Mean scores of Low and Moderate School Climate group is 9.05 for Teacher Tenacity which is significant at .01 level, F=81.90, F'=9.46, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.01 which is significant at .05 level, F=6.14, F'=6.08, p≤.05 for Teacher Tenacity. Similarly the difference between mean scores of Low and High School Climate Factors group is 13.06 which is significant at .01 level, F=51.56, F'=9.46, p≤.01 for Teacher Tenacity.

The difference between Mean scores of Low and Moderate School Climate group is 10.60 for Teacher Resilience which is significant at .01 level, F=142.46, F'=9.46, p≤.01. The difference between mean scores of Moderate and High School Climate group is 1.79 for Teacher Resilience which is not significant even at .05 level, F=0.65, F'=6.08 for p≤.05 among Urban teachers. The difference between mean scores of Low and High School Climate group is 12.39 which is significant at .01 level, F=24.72, F'=9.46, p≤.01 for Teacher Resilience for Urban sample.

The result reveals that Low and Moderate, Low and High School Climate groups among special education teachers differ within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience. But Moderate and High School Climate groups are similar for Teacher Grit and Resilience and for Teacher Tenacity Moderate and High School Climate groups differ at 0.05 levels

Influence of Cognitive and Meta Cognitive Factors in Teaching on Teacher Grit, Tenacity and Resilience corresponding to three different levels of Cognitive and Meta Cognitive Factors in Teaching as High, Moderate and Low Cognitive and Meta Cognitive for Urban Sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for Urban Sample are presented in Table 42.

Table 42

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Cognitive and Meta Cognitive Factors in Teaching for Urban Sample

Dependent Variables	Level of Cognitive and Meta Cognitive Factors	Mean Scores	Low	Moderate	High
Teacher Grit			62.78	76.69	83.00
	Low	62.78	0	142.46**	144.28**
	Moderate	76.69		0	19.79**
	High	83.00			0
Teacher Tenacity			59.00	68.07	73.00
	Low	59.00	0	56.50**	64.52**
	Moderate	68.07		0	11.27**
	High	73.00			0
Teacher Resilience			66.47	78.78	84.80
	Low	66.47	0	63.89**	67.89**
	Moderate	78.78		0	10.31**
	High	84.80			0

The difference between Mean scores of Low and Moderate Cognitive and Meta Cognitive group is 13.91 which is significant at .01 level, F=142.46, F'=9.46, p≤.01 for Teacher Grit among Urban sample. The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 6.31 which is significant at .01 level, F=19.79, F'=9.46, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 20.22 for Teacher Grit which is significant at .01 level, F=144.28, F'=9.46, p≤.01 for Urban sample.

The Table reveals that the difference between Low and Moderate Cognitive and Meta Cognitive group is 9.07 for Teacher Tenacity which is significant at .01 level, F=56.50, F'=9.46, p≤.01. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 4.93 which is significant at .01 level, F=11.27, F'=9.46, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 14 which is significant at .01 level, F=64.52, F'=9.46, p≤.01 for Teacher Tenacity.

The Table indicates that the difference between Mean scores of Low and Moderate Cognitive and Meta Cognitive group is 12.31 which is significant at .01 level, F=63.89, F'=9.46, p≤.01 for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 6.02 which is significant at .01 level, F=10.31, F'=9.46, p≤.01 for Urban sample. The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in teaching is 18.33 which is significant at .01 level, F=67.89, F'=9.46, p≤.01 for Urban sample.

The result reveals that three groups: Low, Moderate and High Cognitive and Meta Cognitive groups differ significantly within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Urban sample.

Influence of Motivational Factors in Teaching on Teacher Grit, Tenacity and Resilience corresponding to three different levels of Motivational Factors in Teaching as High, Moderate and Low Motivational factors for Urban Sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Urban Sample are presented in Table 43.

Table 43

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Meansof Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching of Teacher for Urban Sample

Dependent Variables	Levels of Motivational Factors	Mean Scores	Low	Moderate	High
Teacher Grit			64.48	76.73	83.70
	Low	64.48	0	89.24**	117.92**
	Moderate	76.73		0	20.31**
	High	83.70			0
Teacher Tenacity			60.33	68.04	73.15
	Low	60.33	0	49.36**	73.25**
	Moderate	68.04		0	15.43**
	High	73.15			0
Teacher Resilience			69.19	78.77	83.63
	Low	69.19	0	41.99**	51.20**
	Moderate	78.77		0	7.69**
	High	83.63			0

The difference between Mean scores of Low and Moderate Motivational factor group is 12.25 which is significant at .01 level, F=89.24, F'=9.46, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 6.97 which is significant at .01 level, F=20.31, F'=9.46, p≤.01 for Urban sample. The difference between mean scores of Low and High Motivational factor group is 19.22 which is significant at .01 level, F=117.92, F'=9.46, p≤.01 for Teacher Grit.

The Table indicates that the difference between Mean scores of Low and Moderate Motivational factor group is 7.71 which is significant at .01 level, F=49.36, F'=9.46, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 5.11 which is significant at .01 level, F=15.43, F'=9.46, p≤.01 for Urban sample. The difference between Low and High Motivational group is 12.82 which is significant at .01 level, F=73.25, F'=9.46, p≤.01 for Urban sample.

The Table reveals that the difference between mean scores of Low and Moderate Motivational group is 9.58 which is significant at .01 level, F=41.99, F'=9.46, p≤.01 for Teacher Resilience. For Moderate and High Motivational factor groups, the difference in the mean scores is 4.86 which is significant at .05 level, F=7.69, F'=6.08, p≤.05. The difference between mean scores of Low and High Motivational group is 14.44 which is significant at .01 level, F=51.20, F'=9.46, p≤.01 for Urban sample.

The result reveals that three groups: Low, Moderate and High Motivational groups differ each other while considering dependent variables: Teacher Grit, Teacher Tenacity and Teacher Resilience for Urban sample.

Influence of compatibility factors in teaching on teacher endurance factors for rural sample.

The multivariate effect of independent variables: Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in teaching on dependent variables: Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample was calculated and are presented in table 44.

Table 44

Summary of the result of one way MANOVA by Socio- Emotional Competency, school climate, cognitive and meta cognitive Factors and Motivational Factors in teaching of special Education teachers on Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample

Source of variation	Value of Pillai's Trace	F	df	sig	Part $\eta 2$
Socio Emotional competency	0.28	17.80	6	.00	.14
School Climate Factors	0.26	16.76	6	.00	.13
Cognitive and meta cognitive Factors	0.36	24.16	6	.00	.18
Motivational Factors	0.42	29.61	6	.00	.21

Table 44 reveals that there exists multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio-Emotional Competency Factors as the F(6, 668)=17.80, P<.00, Pillai's trace=0.28, Partial η^2 =0.14. This indicates that there exist significant difference in the Vector mean Scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample as far as Socio-Emotional Competency is concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors as the F(6, 668) = 16.76, p<.001 Pillai's Trace= 0.26, Partial η^2 =0.13. This reveals that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample when school climate Factors in teaching are taken into account.

There is significant multivariate effect by Cognitive and Meta Cognitive Factors in teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained at(6, 668)degrees of freedom is 24.16, p<.001, Pillai's Trace=0.36 and Partial η^2 =0.18. This shows that there exist significant difference in the vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample as far as Cognitive and Meta Cognitive Factors in teaching are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained is 29.61 at(6, 668) degrees of freedom which is significant at .001 level, , Pillai's Trace is 0.42 and partial η^2 =0.21. This indicates that there exist significant difference in the Vector mean scores of special education Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in teaching for Rural sample.

Since the result of the MANOVA's are found significant, main effects are examined to determine whether each independent variable has significant effect on each dependent variable under study. The result of main effect for Rural sample and Scheffés Post hoc tests for identifying exact group which contribute to the main effect are also analyzed.

Main effect.

Influence of Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample are given in Table 45

Table 45

Summary of One Way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors for Rural Sample.

Source	Dependent variable	Sum of Squares	df	Error df	Mean Square	F-Value
Socio Emotional Competency	Teacher Grit	5190.11	2	335	2595.05	39.48
	Teacher Tenacity	2670.13	2	335	1335.07	31.68
	Teacher Resilience	5395.44	2	335	2697.72	42.51
School Climate Factors	Teacher Grit	5615.06	2	335	2807.53	43.55
	Teacher Tenacity	3526.09	2	335	1763.05	44.54
	Teacher Resilience	4460.64	2	335	2230.32	33.67
Cognitive and meta cognitive Factors	Teacher Grit	7711.69	2	335	3855.84	66.25
	Teacher Tenacity	4664.92	2	335	2332.46	64.47
	Teacher Resilience	6419.62	2	335	3209.81	53.14
Motivational Factors	Teacher Grit	8523.34	2	335	4261.67	76.40
	Teacher Tenacity	6175.12	2	335	3087.56	97.48
	Teacher Resilience	6100.45	2	335	3050.22	49.72

$^{**}P \leq .01$

From the Table 45 it is obvious that F-Value obtained is 39.48 which is greater than the tabled value 4.67 for (2, 335) degrees of freedom required for significance at .01 level for Socio Emotional Competency on Teacher Grit for Rural sample. The F-Value obtained is 31.68 and 42.51 for Teacher Tenacity and Teacher Resilience respectively, which are greater than the tabled value 4.67 for(2, 335) degrees of freedom required for significant at .01 level by Socio Emotional Competency.

The Table reveals that the F-Values obtained are 43.55, 44.54, and 33.67 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value F=4.67 for(2, 335) degrees of freedom required for significance at 0.01 level for Rural sample by School Climate Factors in teaching.

The Table indicates that the F-Values obtained are 66.25, 64.47 and 53.14 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value of F(4.67) for(2, 335) degrees of freedom required for significance at 0.01 level for Cognitive and Meta Cognitive Factors in teaching.

The Table shows that the F-Values obtained are 76.40, 97.48 and 49.72 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors which is greater than the tabled value of F(4.67) for(2, 335) degrees of freedom required for significance at 0.01 level for Rural sample.

The result of main effects are significant, the data are further analyzed with the help of Scheffés Post hoc comparison to know which groups are different in contributing difference in the mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample.

Influence of Socio- Emotional Competency on Teacher Grit, Tenacity and Resilience corresponding to three different levels of Socio- Emotional Competency as High, Moderate and Low for Rural sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Rural sample are presented in Table 46.

Table 46

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to the Three Levels of Socio Emotional Competency of Teachers for Rural Sample

Dependent Variables	Level of Socio Emotional Competency	Mean Scores	Low	Moderate	High
Teacher Grit			66.80	76.19	81.53
	Low	66.80	0	47.00**	78.13**
	Moderate	76.19		0	19.71**
	High	81.53			0
Teacher Tenacity			61.00	67.59	71.59
	Low	61.00	0	36.11**	63.00**
	Moderate	67.59		0	17.26**
	High	71.59			0
Teacher Resilience			68.15	79.72	81.91
	Low	68.15	0	73.92**	70.62**
	Moderate	79.72		0	3.43*
	High	81.91			0

Table 46 shows that the difference between mean scores of Low and Moderate Socio- Emotional Competency group is 9.39 which is significant at

.01 level, F=47.00, F'=9.35, p≤.01 for Teacher Grit. The mean difference between moderate and High Socio-emotional competency group is 5.34 which is significant at .01 level(F=19.71, F'=9.35, p≤.01 for Teacher Grit. The mean difference between Low and High Socio-Emotional competency group is 14.73 which is significant at .01 level, F=78.13, F' =9.35, p≤.01 for Teacher Grit. The result reveals that the three groups Low, Moderate and High Socio Emotional Competency groups are not similar with regard to Teacher Grit.

The difference between mean scores of Low and Moderate Socio-Emotional Competency group is 6.59 which is significant at .01 level, F=36.11, F'=9.35, p≤.01 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 4.00 which is significant at .01 level, F=17.26, F'=9.35, p≤.01 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 10.59 which is significant at .01 level, F=63.00, F'=9.35, p≤.01 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low, Moderate and High Socio Emotional groups differ significantly.

The Table shows that the difference between Mean scores of Low and Moderate Socio-Emotional Competency group is 11.57 which is significant at .01 level, F=73.92, F'=9.35, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 2.19 which is significant at .05 level, F=3.43, F'=3.03, p≤.05 for Teacher Resilience while considering Rural sample. The mean difference between Low and High Socio-Emotional Competency group is 13.76 which is significant at .01 level, F=70.62, F'=9.35, p≤.01 for Teacher Resilience. The result reveals that three groups of Socio- Emotional Competency are dissimilar as far as Teacher Resilience are taken into account.

The result reveals that Low, Moderate and High Socio Emotional Competent groups differ within all selected dependent variables. Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample.

Influence of School Climate Factors in Teaching on Teacher Grit, Tenacity and Resilience corresponding to three different levels of School Climate Factors in Teaching as High, Moderate and Low for Rural Sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for Rural sample are presented in Table 47.

Table 47

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of School Climate Factors in Teaching for Rural Sample

Dependent Variables	Levels of School Climate	Mean Scores	Low	Moderate	High
Teacher Grit			66.90	76.81	81.60
	Low	66.90	0	63.31**	76.82**
	Moderate	76.81		0	12.77**
	High	81.60			0
Teacher Tenacity			60.80	67.87	72.95
	Low	60.80	0	52.48**	35.13**
	Moderate	67.87		0	23.39**
	High	72.95			0
Teacher Resilience			71.08	79.20	84.66
	Low	71.08	0	41.36**	63.54**
	Moderate	79.20		0	16.14**
	High	84.66			0

The Table 47 indicate that the difference between Mean scores of Low and Moderate School Climate group is 9.91 which is significant at .01 level, F=63.31, F'=9.35, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.79 which is significant at .01 level, F=12.77, F'=9.35, p≤.01. The difference between mean scores of Low and High School Climate group is 14.70 which is significant at .01 level, F=76.52, F'=9.35, p≤.01 for Teacher Grit.

The difference between Mean scores of Low and Moderate School Climate group is 7.07 for Teacher Tenacity which is significant at .01 level, F=52.48, F'=9.35, p≤.01. The difference between mean scores of Moderate and High School Climate group is 5.08 which is significant at .01 level, F=23.39, F'=9.35, p≤.01 for Teacher Tenacity. Similarly the difference between mean scores of Low and High School Climate group is 12.15 which is significant at .01 level, F=85.13, F'=9.35, p≤.01 for Teacher Tenacity.

The difference between Mean scores of Low and Moderate School Climate group is 8.12 for Teacher Resilience which is significant at .01 level, F=41.36, F'=9.35, p≤.01. The difference between mean scores of Moderate and High School Climate group is 5.46 for Teacher Resilience which is significant at .01 level, F=16.14, F'=9.35, p≤.01. The difference between mean scores of Low and Moderate School Climate group is 13.58 which is significant at .01 level, F=63.54, F'=9.35, p≤.01 for Teacher Resilience for Rural sample.

The result reveals that three groups: Low, Moderate and High School Climate groups among special education teachers differ within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience.

Influence of Cognitive and Meta Cognitive Factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of cognitive and meta cognitive factors in teaching as high, moderate and low for rural sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for Rural sample are presented in Table 48.

Table 48

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Cognitive and Meta Cognitive Factors in Teaching for Rural Sample

Dependent Variables	Levels of Cognitive and Meta Cognitive	Mean Scores	Low	Moderate	High
			65.34	76.85	81.98
Teacher Grit	Low	65.34	0	93.91**	121.26**
	Moderate	76.85		0	19.27**
	High	81.98			0
			59.48	68.00	72.67
Teacher Tenacity	Low	59.48	0	82.78**	122.57**
	Moderate	68.00		0	25.68**
	High	72.67			0
			69.76	79.07	85.48
Teacher Resilience	Low	69.76	0	59.21**	104.29**
	Moderate	79.07		0	28.99**
	High	85.48			0

Table 48 indicates that the difference between Mean scores of Low and Moderate Cognitive and Meta Cognitive group is 11.51 which is significant at .01 level, F= 93.91, F'=9.35, p≤.01 for Teacher Grit for Rural sample. The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 5.13 which is significant at .01 level, F=19.27, F'=9.35, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 16.64 for Teacher Grit which is significant at .01 level, F=121.26, F'=9.35, p≤.01 for Rural sample.

The Table values reveals that the difference between Low and Moderate Cognitive and Meta Cognitive group is 8.52 for Teacher Tenacity which is significant at .01 level, F=82.78, F'=9.35, p≤.01. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 4.67 which is significant at .01 level, F=25.68, F'=9.35, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 13.19 which is significant at .01 level, F=122.57, F'=9.35, p≤.01 for Teacher Tenacity.

The Table results indicates that the difference between Mean scores of Low and Moderate Cognitive and Meta Cognitive group is 9.31 which is significant at .01 level, F=59.21, F'=9.35, p≤.01 for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 6.41 which is significant at .01 level, F=28.99, F'=9.35, p≤.01 for Rural sample. The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in teaching in special education teacher is 15.72 which is significant at .01 level, F=104.29, F'=9.35, p≤.01 for Rural sample.

The result reveals that three groups: Low, Moderate and High Cognitive and Meta Cognitive groups differ significantly within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample.

Influence of Motivational Factors in Teaching on Teacher Grit, Tenacity and Resilience Corresponding to three different levels of Motivational Factors in Teaching as High, Moderate and Low for Rural Sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Rural sample are presented in Table 49.

Table 49

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching for Rural Sample

Dependent Variables	Levels of Motivational Factors	Mean Scores	Low	Moderate	High
Teacher Grit			65.65	76.40	83.28
	Low	65.65	0	86.48**	156.87**
	Moderate	76.40		0	36.00**
	High	83.28			0
Teacher Tenacity			58.08	68.24	72.67
	Low	58.08	0	87.72**	180.89**
	Moderate	68.24		0	28.30**
	High	72.67			0
Teacher Resilience			69.90	79.11	84.79
	Low	69.90	0	57.71**	97.27**
	Moderate	79.11		0	24.02**
	High	84.79			0

The Table 49 indicates that the difference between Mean scores of Low and Moderate Motivational group is 10.75 which is significant at .01 level, F=86.48, F'=9.35, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 6.63 which is significant at .01 level, F=36.00, F'=9.35, p≤.01 for Rural sample. The difference between mean scores of Low and High Motivational group is 18.03 which is significant at .01 level, F=156.87, F'=9.35, p≤.01 for Teacher Grit.

The Table indicates that the difference between Mean scores of Low and Moderate Motivational group is 10.16 which is significant at .01 level, F=87.72, F'=9.35, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 4.43 which is significant at .01 level, F=28.30, F'=9.35, p≤.01 for Rural sample. The difference between Low and High Motivational group is 14.59 which is significant at .01 level, F=180.89, F'=9.35, p≤.01 for Rural sample.

The Table reveals that the difference between mean scores of Low and Moderate Motivational group is 9.21 which is significant at .01 level, F= 57.71, F'=9.35, p≤.01 for Teacher Resilience. For groups, Moderate and High Motivational the difference in the mean scores is 5.68 which is significant at .01 level, F=24.02, F'=9.35, p≤.01. The difference between mean scores of Low and High Motivational group is 14.89 which is significant at .01 level, F=97.27, F'=9.35s, p≤.01 for Rural sample.

The result reveals that three groups: Low, Moderate and High Motivational groups differ each other while considering dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Rural sample.

Influence of Compatibility Factors in teaching on Teacher Endurance Factors for Government School sample.

The multivariate effect of independent variables, viz, Socio- Emotional Competency, School-Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in teaching on dependent variables - Teacher Grit, Teacher Tenacity and Teacher Resilience for Government sample was calculated. The multivariate effect of Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Teacher Grit, Teacher Tenacity and Teacher Resilience for Government sample are presented in Table 50.

Table 50

Summary of the result of one way MANOVA by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors, Motivational Factors of Special Education Teachers on Teacher Grit, Teacher Tenacity and Teacher Resilience for Government sample

Source of Variation	Pillai's Trace	F	df	sig	Partial η2
Socio Emotional competency	0.30	4.39	6	.00	.15
School Climate Factors	0.28	3.98	6	.00	.14
Cognitive and meta cognitive Factors	0.41	6.44	6	.00	.21
Motivational Factors	0.53	8.87	6	.00	.26

Table 50 reveals that there is moderate multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio Emotional Competency as the F(6, 148)=4.39, P<.01, Pillai's trace=0.26, Partial η^2 =0.15. This indicates that there exist significant difference in the Vector mean Scores of special

education Teacher Grit, Teacher Tenacity and teacher Resilience for Government sample as far as Socio-Emotional Competency are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate as the F(6, 148)=3.98, p<.01 Pillai's Trace=.28, Partial η^2 =.14. This reveals that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Government sample when School Climate Factors in teaching are taken into account.

There is significant multivariate effect by Cognitive and Meta Cognitive Factors in teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained at(6, 148)degrees of freedom is 6.44, p<.01, Pillai's Trace=0.41 and Partial η^2 =.21. This shows that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Government sample as far as Cognitive and Meta Cognitive Factors in teaching are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained is 8.87 at(6, 148) degrees of freedom which is significant at .01 level, , Pillai's Trace is 0.53 and partial η^2 =.26. This indicates that there exists significant difference in the vector mean scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in teaching for Government sample.

Since the result of the MANOVA's are significant, main effects are examined to determine whether independent variable has significant effect on each dependent variable under study. The result of main effect for

Government sample and Scheffés Post hoc tests for identifying exact group which contribute to the main effect are also analyzed.

Main effect.

Influence of socio emotional competency, school climate, cognitive and meta cognitive and motivational Factors on special education Teacher Grit, Teacher Tenacity and Teacher Resilience for Government school sample are provided in Table 51.

Table 51

Summary of One Way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors for Government School sample.

Source	Dependent Variable	Sum of Square	df	Error df	Mean Square	F-Value
Socio Emotional competency	Teacher Grit	1197.95	2	75	598.97	7.58**
	Teacher Tenacity	412.37	2	75	206.19	3.92**
	Teacher Resilience	1107.04	2	75	553.52	8.56**
School Climate Factors	Teacher Grit	1077.17	2	75	538.58	6.68**
	Teacher Tenacity	935.40	2	75	467.70	10.24**
	Teacher Resilience	966.74	2	75	483.37	7.27**
Cognitive and meta cognitive Factors	Teacher Grit	1794.85	2	75	897.42	12.63**
	Teacher Tenacity	1511.91	2	75	755.95	19.89**
	Teacher Resilience	1669.94	2	75	834.97	14.61**
Motivational Factors	Teacher Grit	2943.39	2	75	1471.7	26.40**
	Teacher Tenacity	1376.34	2	75	688.17	17.29**
	Teacher Resilience	2242.18	2	75	1121.1	22.64**

**P≤.01

The table reveals that the F-values obtained are 7.58, 3.92 and 8.56 for Teacher Grit, Tenacity and Resilience respectively for Socio- Emotional Competency. The F -values corresponding to Teacher Grit and Resilience are greater than tabled value of F, which is 4.9 for (2, 75) degrees of freedom required for significant at 0.01 level. But for Teacher Tenacity, F=3.92 and tabled value of F is 3.12 for (2, 75) degrees of freedom which is significant at 0.05 level.

The Table reveals that the F-Values obtained are 6.68, 10.24 and 7.27 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value of F=4.9 for(2, 75) degrees of freedom required for significant at 0.01 level for Government sample by School Climate Factors in teaching.

The Table indicates that the F-Values obtained are 12.63, 19.89 and 14.61 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value F(4.9) for(2, 75) degrees of freedom required for significant at 0.01 level for Cognitive and Meta Cognitive Factors.

The Table shows that the F-Values obtained are 26.40, 17.29 and 22.64 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors which is greater than the tabled value, F=4.9 for (2, 75) degrees of freedom required for significant at 0.01 level for Government sample.

Since the result of main effects are significant, the data are further analyzed with the help of Scheffés Test of Post hoc comparison to know which groups are different in contributing difference in the mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Government sample.

Influence of Socio-Emotional Competency factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of Socio-Emotional Competency factors in teaching as high, moderate and low socio-emotional competency for government school sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Government sample are presented in Table 52.

Table 52

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means for Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to the Three Levels of Socio Emotional Competency for Government school Sample

Dependent Variables	Levels of Motivational Factors	Mean Scores	Low	Moderate	High
Teacher Grit			69.38	75.54	82.92
	Low	69.38	0	4.99	15.08**
	Moderate	75.54		0	7.16*
	High	82.92			0
Teacher Tenacity			63.46	67.92	71.38
	Low	63.46	0	4.52	7.74*
	Moderate	67.92		0	2.72
	High	71.38			0
Teacher Resilience			68.69	78.77	78.92
	Low	68.69	0	16.34**	8.41**
	Moderate	78.77			.01
	High	78.92			0

The difference between mean scores of Low and Moderate Socio-Emotional Competency group is 6.16 which is significant at .05 level, F=4.99, F'=6.24,

p≤.05 for Teacher Grit. The mean difference between moderate and High Socio-Emotional Competency group is 7.38 which is significant at .05 level(F=7.16, F'= 6.24, p≤.05 for Teacher Grit. The mean difference between Low and High Socio-Emotional competency group is 13.54 which is significant at .01 level, F=15.08, F'=9.8, p≤.01 for Teacher Grit. The result reveals that the three groups Low, Moderate and High Socio Emotional Competency groups are not similar with regard to Teacher Grit.

The difference between Low and Moderate Socio-Emotional Competency group is 4.46 which is not significant even at .05 level, F=4.52, F'=6.24, p≤.05 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 3.46 which is not significant even at .05 level, F=2.72, F'=6.24, p≤.05 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 7.92 which is significant at .05 level, F=7.74, F'=6.24, p≤.05 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low and High Socio- Emotional Competency groups differ for Government teachers.

The difference between Mean scores of Low and Moderate Socio-Emotional Competency group is 10.08 which is significant at .01 level, F=16.34, F'=9.8, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 0.15 which is not significant even at .05 level, F=.01, F'=6.24 at p≤.05 for Teacher Resilience while considering Government sample. The mean difference between Low and High Socio-Emotional Competency group is 10.23 which is significant at .05 level, F=8.41, F'= 6.24, p≤.05 for Teacher Resilience. The result reveals that Low and Moderate, Low and High Socio-Emotional Competency groups differ but Moderate and High groups are similar for Government Teachers.

Influence of school climate factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of school climate factors in teaching as high, moderate and low school climate for government school sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for Government sample are presented in Table 53.

Table 53

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of School Climate Factors in Teaching for Government School Sample

Dependent Variables	Levels of School Climate	Mean Scores	Low	Moderate	High
Teacher Grit			70.21	76.91	86.00
	Low	70.21	0	7.86*	10.21**
	Moderate	76.91		0	3.82
	High	86.00			0
Teacher Tenacity			61.89	69.35	73.75
	Low	61.89	0	17.20	10.17**
	Moderate	69.35		0	1.58
	High	73.75			0
Teacher Resilience			71.05	78.84	82.25
	Low	71.05	0	12.88**	6.24*
	Moderate	78.84		0	0.65
	High	82.25			0

The difference between mean scores of Low and Moderate School Climate group is 6.7 which is significant at .05 level, F=7.86, F'=6.24, p≤.05. The

difference between mean scores of Moderate and High School Climate group is 9.09 which is significant at .05 level, F=8.82, F'=6.24, p≤.05. The difference between mean scores of Low and High School Climate group is 15.79 which is significant at .01 level, F=10.22, F'=9.8, p≤.01 for Teacher Grit.

The difference between Mean scores of Low and Moderate School Climate group is 7.46 for Teacher Tenacity which is significant at .01 level, F=17.20, F'=9.8, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.4 which is not significant even at .05 level, F=1.58, F'=6.24, p≤.05 for Teacher Tenacity. Similarly the difference between mean scores of Low and High School Climate factor group is 11.86 which is significant at .01 level, F=10.17, F'=9.8, p≤.01 for Teacher Tenacity.

The Table values reveals that the difference between Mean scores of Low and Moderate School Climate factor group is 7.79 for Teacher Resilience which is significant at .01 level, F=12.88, F'=9.8, p≤.01. The difference between mean scores of Moderate and High School Climate group is 3.41 for Teacher Resilience which is not significant even at .05 level, F=0.65, F'=6.24 at p≤.05. The difference between mean scores of Low and Moderate School Climate group is 11.2 which is significant at .05 level, F=6.24, F'=6.24, p≤.05 for Teacher Resilience for Government sample.

The result reveals that the Low and Moderate, and Low and High School Climate groups differ while Moderate and High School Climate groups are similar for Government sample in Teacher Resilience.

Influence of Cognitive and Meta Cognitive Factors in Teaching on Teacher Grit, Tenacity and Resilience Corresponding to three different levels of Cognitive and Meta Cognitive Factors in Teaching as High, Moderate and Low for Government School Sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for Government sample are presented in Table 54.

Table 54

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Cognitive and Meta Cognitive Factors in Teaching for Government Sample

Dependent Variables	Level of Cognitive and Meta Cognitive Factors	Mean Scores	Low	Moderate	High
Teacher Grit			66.17	76.54	85.43
	Low	66.17	0	15.09**	23.07**
	Moderate	76.54		0	6.96*
	High	85.43			0
Teacher Tenacity			58.67	68.63	76.00
	Low	58.67	0	26.03**	34.94**
	Moderate	68.63		0	8.94*
	High	76.00			0
Teacher Resilience			67.42	78.10	85.43
	Low	67.42	0	19.90**	25.09**
	Moderate	78.10		0	5.88
	High	85.43			0

The difference between Mean scores of Low and Moderate Cognitive and Meta Cognitive group is 10.37 which is significant at .01 level, F=15.09, F'=9.8, p≤.01 for Teacher Grit for Government sample. The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 8.89 which is significant at .05 level, F=6.96, F'=6.24, p≤.05. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 19.26 for Teacher Grit which is significant at .01 level, F=23.07, F'=9.8, p≤.01 for Government sample.

The difference between Low and Moderate Cognitive and Meta Cognitive group is 9.96 for Teacher Tenacity which is significant at .01 level, F=26.03, F'=9.8, p≤.01. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 7.37 which is significant at .05 level, F= 8.94, F'=6.24, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 17.33 which is significant at .01 level, F=34.94, F'=9.8, p≤.01 for Teacher Tenacity.

The Table results indicates that the difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 10.68 which is significant at .01 level, F=19.90, F'=9.8, p≤.01 for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 7.33 which is not significant even at .01 level, F=5.88, F'=6.24 at p≤.05 for Government sample. The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in teaching in special education teacher is 18.01 which is significant at .01 level, F=25.09, F'=9.8, p≤.01 for Government sample.

The result reveals that Low and Moderate, Low and High Cognitive and Meta Cognitive groups differ significantly within each dependent

variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Government sample but Moderate and High Cognitive and Meta Cognitive groups are similar for Teacher resilience.

Influence of motivational factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of motivational factors in teaching as high, moderate and low motivational factors for government sample.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Government school sample are presented in Table 55

Table 55

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching for Government Sample

Dependent Variables	Level of Motivational Factors	Mean Scores	Low	Moderate	High
Teacher Grit			63.83	76.32	86.80
	Low	63.83	0	27.65**	51.62**
	Moderate	76.32		0	16.71**
	High	86.80			0
Teacher Tenacity			59.00	68.46	74.30
	Low	59.00	0	22.21**	32.07**
	Moderate	68.46		0	7.27*
	High	74.30			0
Teacher Resilience			65.67	78.18	84.90
	Low	65.67	0	31.23**	40.73**
	Moderate	78.18		0	7.74*
	High	84.90			0

The difference between Mean scores of Low and Moderate Motivational group is 12.49 which is significant at .01 level, F= 27.65, F'=9.8, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 10.48 which is significant at .01 level, F=16.71, F'=9.8, p≤.01 for Government sample. The difference between mean scores of Low and High Motivational group is 22.97 which is significant at .01 level, F=51.62, F'=9.8, p≤.01 for Teacher Grit.

The Table indicates that the difference between mean scores of Low and Moderate Motivational group is 9.46 which is significant at .01 level, F=22.21, F'=9.8, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 5.84 which is significant at.05level, F=7.27, F'=6.24, p≤.05 for Government sample. The difference between Low and High Motivational group is 15.3 which is significant at .01 level, F=32.07, F'=9.8, p≤.01 for Government sample.

The Table reveals that the difference between mean scores of Low and Moderate Motivational group is 12.51 which is significant at .01 level, F=31.23, F'=9.8, p≤.01 for Teacher Resilience. For Moderate and High Motivational groups, the difference in the mean scores is 6.72 which is significant at .05 level, F=7.74, F'=6.24, p≤.05. The difference between mean scores of Low and High Motivational group is 19.23 which is significant at .01 level, F=40.73, F'=9.8, p≤.01 for Government sample.

The result reveals that three groups: Low, Moderate and High Motivational groups differ each other while considering dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Government sample.

Influence of compatibility factors in teaching on teacher endurance factors for unaided school sample.

The multivariate effect of independent variables : Socio Emotional Competency, School –Climate Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on dependent variables: Teacher Grit, Teacher Tenacity and Teacher Resilience for total sample was calculated. The multivariate effects of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors on Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided School sample are presented in Table 56.

Table 56

Summary of the Result of One-Way MANOVA by Socio–Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors, Motivational Factors in Teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided Sample

Source of Variation	Pillai's Trace	F	df	Sig	Part $\eta 2$
Socio Emotional competency	0.26	22.01	6	.00	.13
School Climate Factors	0.30	25.62	6	.00	.15
Cognitive and meta cognitive Factors	0.39	35.20	6	.00	.19
Motivational Factors	0.41	37.95	6	.00	.21

Table 56 reveals that there is moderate multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency as the F(6, 876)=22.01, P<.01, Pillai's trace=0.26, Partial η^2 =0.13. This indicates that there exist significant difference in the Vector mean Scores of special education Teacher Grit, Teacher Tenacity and teacher Resilience for Unaided sample as far as Socio-Emotional Competency are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate as the F(6, 876) = 25.62, p<.01 Pillai's Trace = .28, Partial η^2 = .15. This reveals that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided sample when school climate Factors in teaching are taken into account.

There is significant multivariate effect by Cognitive and Meta Cognitive Factors in Teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained at(6, 876) degrees of freedom is 35.20, p<.01, Pillai's Trace=0.39 and Partial η^2 =.19. This shows that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided sample as far as Cognitive and Meta Cognitive Factors in teaching are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained is 37.95 at(6, 876) degrees of freedom which is significant at .01 level, Pillai's Trace is 0.41 and Partial η^2 =.0.21.. This indicates that there exist significant difference in the Vector mean scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Unaided sample.

Since the result of the MANOVA's are significant, the test of between subject effect or Main effects are examined to determine whether each independent variable has significant effect on each dependent variable under study. The result of main effect for Unaided sample and Scheffés Post hoc tests for identifying exact group which contribute to the main effect are also analyzed.

Main effect.

Influence of Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided school sample are provided in Table 57

Table 57

Summary of One-Way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors for Unaided Sample

Source	Dependent Variable	Sum of Square	df	Mean Square	F-Value
Socio Emotional competency	Teacher Grit	7028.85	2	3514.43	52.44**
	Teacher Tenacity	3828.99	2	1914.50	46.16**
	Teacher Resilience	7482.62	2	3741.31	55.85**
School Climate Factors	Teacher Grit	8512.38	2	4256.19	66.87**
	Teacher Tenacity	5628.04	2	2814.02	75.29**
	Teacher Resilience	6948.84	2	3474.42	50.94**
Cognitive and meta cognitive Factors	Teacher Grit	12445.8	2	6222.90	113.8**
	Teacher Tenacity	6179.43	2	3089.71	85.54**
	Teacher Resilience	9885.10	2	4942.55	80.34**
Motivational Factors	Teacher Grit	12843.6	2	6421.79	119.4**
	Teacher Tenacity	7716.89	2	3858.45	118.3**
	Teacher Resilience	8285.74	2	4142.87	63.58**

**P≤.01

From the Table 57 it is obvious that F-Value obtained is 52.44 which is greater than the tabled value 4.66 for (2, 439) degrees of freedom required for

significance at .01 level for Socio- Emotional Competency on Teacher Grit for Unaided sample. The F-Values obtained are 46.16 and 55.85 for Teacher Tenacity and Teacher Resilience respectively, which are greater than the tabled value 4.66for(2, 439) degrees of freedom required for significant at .01 level by Socio- Emotional Competency.

The Table reveals that the F-Values obtained are 66.87, 75.29 and 50.94 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively for Unaided Teachers which are greater than the tabled value F=4.66 for(2, 439) degrees of freedom required for significant at 0.01 level by School Climate Factors in Teaching.

The Table values indicates that the F-Values obtained are 113.79, 85.54 and 80.34 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value F(4.66) for(2, 439) degrees of freedom required for significant at 0.01 level for Cognitive and Meta Cognitive Factors.

The Table results shows that the F-Values obtained are 119.41, 118.29 and 63.58 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors which are greater than the tabled value of F(4.66) for(2, 439) degrees of freedom required for significant at 0.01 level for Unaided sample.

The result of Main effects are significant, the data are further analyzed with the help of Scheffés Test of Post hoc comparison to know which groups are different in contributing difference in the mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided sample.

Influence of socio-emotional competency factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of socio-emotional competency factors in teaching as high, moderate and low socio-emotionally competency factors for unaided school sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Unaided sample are presented in Table 58.

Table 58

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to the Three Levels of Socio Emotional Competency for Unaided Sample

Dependent Variables	Level of Socio-Emotional Competency	Mean Scores	Low	Moderate	High
Teacher Grit			67.44	75.78	81.70
	Low	67.44	0	54.87**	104.13**
	Moderate	75.78		0	31.12**
	High	81.70			0
Teacher Tenacity			61.25	67.37	71.78
	Low	61.25	0	47.75**	91.76**
	Moderate	67.37		0	27.91**
	High	71.78			0
Teacher Resilience			68.94	79.26	82.95
	Low	68.94	0	84.03**	100.54**
	Moderate	79.26		0	12.10**
	High	82.95			0

Table 58 shows that the difference between mean scores of Low and Moderate Socio-Emotional Competency group is 8.34 which is significant at .01 level, F=54.87, F'=9.31, p≤.01 for Teacher Grit.

The mean difference between Moderate and High Socio-Emotional Competency group is 5.92 which is significant at .01 level(F=31.12, F'=9.31, p≤.01 for Teacher Grit

The mean difference between Low and High Socio-Emotional Competency group is 14.26 which is significant at .01 level, F=104.13, F'= 9.31, p≤.01 for Teacher Grit. The result reveal that the three groups Low, Moderate and High Socio Emotional Competency groups are not similar with regard to Teacher Grit.

The Table results reveals that the difference between Low and Moderate Socio-Emotional Competency group is 6.12 which is significant at .01 level, F=47.75, F'=9.31, p≤.01 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 4.41 which is significant at .01 level, F=27.91, F'=9.31, p≤.01 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 10.53 which is significant at .01 level, F=91.76, F'=9.31, p≤.01 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low, Moderate and High Socio Emotional groups differ significantly for Unaided Teachers.

The Table shows that the difference between Mean scores of Low and Moderate Socio-Emotional Competency group is 10.32 which is significant at

.01 level, F=84.03, F'=9.31, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 3.69 which is significant at .01 level, F=12.10, F'=9.31, p≤.01 for Teacher Resilience while considering Unaided sample. The mean difference between Low and High Socio-Emotional Competency group is 14.01 which is significant at .01 level, F=100.54, F'=9.31, p≤.01 for Teacher Resilience. The result reveals that three groups of Socio- Emotional Competency are dissimilar as far as Teacher Resilience is taken into account.

The result reveals that Low, Moderate and High Socio Emotional Competent groups differ within all selected dependent variables: Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided sample.

Influence of school climate factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of school climate factors in teaching as high, moderate and low school climate factors for un-aided school sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for Unaided sample are presented in Table 59.

Table 59

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of School Climate Factors in Teaching for Un-aided Sample

Dependent Variables	Levels of School Climate Factors	Mean Scores	Low	Moderate	High
			65.84	76.76	80.89
Teacher Grit	Low	65.84	0	106.29**	107.81**
	Moderate	76.76		0	12.38**
	High	80.89			0
			59.78	67.89	72.78
Teacher Tenacity	Low	59.78	0	99.83**	136.98**
	Moderate	67.89		0	30.89**
	High	72.78			0
			69.79	79.32	83.80
Teacher Resilience	Low	69.79	0	68.19**	82.43**
	Moderate	79.32		0	13.59**
	High	83.80			0

The difference between mean scores of Low and Moderate School Climate group is 10.92 which is significant at .01 level, F=106.29, F'=9.31, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.13 which is significant at .01 level, F=12.38, F'=9.31, p≤.01. The difference between mean scores of Low and High School Climate group is 15.05 which is significant at .01 level, F=107.81, F'=9.31, p≤.01 for Teacher Grit.

The difference between Mean scores of Low and Moderate School Climate group is 8.11 for Teacher Tenacity which is significant at .01 level, F=99.83, F'=9.31, p≤.01. The difference between mean scores of Moderate and High School Climate group is 5.00 which is significant at .01 level, F=30.89, F'=9.31, p≤.01 for Teacher Tenacity. Similarly the difference between mean scores of Low and High School Climate factor group is 13.00 which is significant at .01 level, F=136.98, F'=9.31, p≤.01 for Teacher Tenacity.

The difference between Mean scores of Low and Moderate School Climate factor group is 9.53 for Teacher Resilience which is significant at .01 level, F=68.19, F'=9.31, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.48 for Teacher Resilience which is significant at .01 level, F=13.59, F'=9.31, p≤.01. The difference between mean scores of Low and Moderate School Climate factor group is 14.01 which is significant at .01 level, F=82.43, F'=9.31, p≤.01 for Teacher Resilience for Unaided sample.

The result reveals that three groups: Low, Moderate and High School Climate groups among special education teachers differ within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience.

Influence of cognitive and meta cognitive factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of cognitive and meta cognitive factors in teaching as high, moderate and low for un-aided school sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for Unaided sample are presented in Table 60.

Table 60

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Cognitive and Meta Cognitive Factors in Teaching for Unaided Sample

Dependent Variables	Level of Cognitive and Meta Cognitive	Mean Scores	Low	Moderate	High
Teacher Grit			64.03	76.84	81.92
	Low	64.03	0	171.05**	197.25**
	Moderate	76.84		0	25.31**
	High	81.92			0
Teacher Tenacity			59.40	67.91	72.42
	Low	59.40	0	114.29**	146.03**
	Moderate	6.91		0	30.21**
	High	72.42			0
Teacher Resilience			68.66	79.14	85.28
	Low	68.66	0	107.77**	151.33**
	Moderate	79.14		0	32.87**
	High	85.28			0

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 12.81 which is significant at .01 level, F=171.05, F'=9.31, p≤.01 for Teacher Grit for Unaided sample. The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 5.08 which is significant at .01 level, F=25.31, F'=9.31, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 17.89 for Teacher Grit which is significant at .01 level, F=197.25, F'=9.31, p≤.01 for Unaided sample.

The difference between Low and Moderate Cognitive and Meta Cognitive group is 8.51 for Teacher Tenacity which is significant at .01 level, F=114.29, F'=9.31, p≤.01. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 4.51 which is significant at .01 level, F=30.21, F'=9.31, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 12.51 which is significant at .01 level, F=146.03, F'=9.31, p≤.01 for Teacher Tenacity.

The Table values indicates that the difference between Mean scores of Low and Moderate Cognitive and Meta Cognitive group is 10.48 which is significant at .01 level, F=101.77, F'=9.31, p≤.01 for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 6.14 which is significant at .01 level, F=32.87, F'=9.31, p≤.01 for Unaided sample. The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in teaching of special education teachers is 16.62 which is significant at .01 level, F=151.33, F'=9.31, p≤.01 for Unaided sample.

The result reveals that three groups: Low, Moderate and High Cognitive and Meta Cognitive groups differ significantly within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided sample.

Influence of Motivational Factors in Teaching on Teacher Grit, Tenacity and Resilience corresponding to three different levels of Motivational Factors in Teaching as High, Moderate and Low Motivational factors for Un-aided Sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Unaided sample are presented in Table 61.

Table 61

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching for Unaided Sample

Dependent Variables	Level of Motivational Factors	Mean Scores	Low	Moderate	High
Teacher Grit			65.31	76.55	82.96
	Low	65.31	0	148.40**	224.00**
	Moderate	76.55		0	44.95**
	High	82.96			0
Teacher Tenacity			59.11	68.12	72.62
	Low	59.11	0	157.22**	216.39**
	Moderate	68.12		0	36.52**
	High	72.62			0
Teacher Resilience			70.16	79.16	84.35
	Low	70.16	0	78.52**	119.49**
	Moderate	79.16		0	24.32**
	High	84.35			0

The difference between mean scores of Low and Moderate Motivational group is 11.24 which is significant at .01 level, F=148.40, F'=9.31, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 6.41 which is significant at .01 level, F=44.95, F'=9.31, p≤.01 for Unaided sample. The difference between mean scores of Low and High Motivational group is 17.65 which is significant at .01 level, F=224.00, F'=9.31, p≤.01 for Teacher Grit.

The Table results indicates that the difference between mean scores of Low and Moderate Motivational group is 9.01 which is significant at .01 level, F=157.22, F'=9.31, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 4.5 which is significant at .01 level, F=36.52, F'=9.31, p≤.01 for Unaided sample. The difference between Low and High Motivational group is 13.51 which is significant at .01 level, F=216.39, F'=9.31, p≤.01 for Unaided sample.

The Table values reveals that the difference between mean scores of Low and Moderate Motivational group is 9.00 which is significant at .01 level, F=78.52, F'=9.31, p≤.01 for Teacher Resilience. For Moderate and High Motivational groups, the difference in the mean scores is 5.19 which is significant at .01 level, F=24.32, F'=9.31, p≤.01. The difference between mean scores of Low and High Motivational group is 14.19 which is significant at .01 level, F=119.49, F'=9.31, p≤.01 for Unaided sample.

The result reveals that three groups: Low, Moderate and High Motivational factor groups differ while considering dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Unaided sample.

Influence of compatibility factors in teaching on teacher endurance factors for teachers having experience upto 5 years.

The multivariate effect of independent variables: Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on dependent variables: Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having Experience upto 5 years were calculated and are provided in the Table 62.

Table 62

Summary of the Result of One Way MANOVA by Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors, and Motivational Factors of Special Education Teachers on Teacher Grit, Tenacity and Resilience for Teachers having Experience upto 5 years

Source of Variation	Value of Pillai's Trace	F	Df	sig	Partial η^2
Socio-Emotional competency	0.33	14.21	6	.00	0.16
School Climate Factors	0.29	12.44	6	.00	0.15
Cognitive and meta cognitive Factors	0.46	22.10	6	.00	0.23
Motivational Factors	0.47	22.80	6	.00	0.24

Table 62 shows that multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of teachers as the value of F for (6, 440) degree of freedom is 14.21, P<.001, Pillai's trace=0.33, Partial η^2 =0.16. This indicates that there is difference in the Vector mean Scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience upto 5 years as far as Socio-Emotional Competency are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors as the F value for (6, 440) degree of freedom is 12.44, p<.001, Pillai's Trace=0.29, Partial η^2 =0.15. This indicate that there is significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience upto 5 years as far as School Climate Factors are taken.

There is significant multivariate effect by Cognitive and Meta Cognitive Factors in Teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value for (6, 440) degrees of freedom is 22.10, p<.001, Pillai's Trace=0.46 and Partial η^2 =0.23. There is significant variation in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience

for Teachers having experience up to 5 years by choosing Cognitive and Meta Cognitive Factors in teaching.

There is significant multivariate effect by Motivational Factors in teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value for (6, 440) degrees of freedom is 22.80, $p<.001$, Pillai's Trace is 0.47, partial n^2 is 0.24. This indicates that the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience are dissimilar.

Since the result of the MANOVA's are significant, Main effects are examined to determine whether each independent variable has significant effect on each dependent variable under study. The result of main effect for Teachers having experience upto 5 years and Scheffés Post hoc tests for identifying exact group which contribute to the main effect are also analyzed.

Main effect.

Influence of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience up to 5 years.

Influence of socio- emotional competency on teacher grit, tenacity and resilience for teachers having experience upto 5 years, corresponding to three different levels of socio- emotional competency as high, moderate and low for total sample.

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Total sample are provided in Table 63.

Table 63

Summary of One Way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors for Teachers having Experience upto 5 years.

Source	Dependent Variable	Type III Sum of Square	df	Error df	Mean Square	F-value
Socio-Emotional competency	Teacher Grit	4709.11	2	221	2354.56	38.85**
	Teacher Tenacity	2273.67	2	221	1136.84	26.42**
	Teacher Resilience	5256.49	2	221	2628.25	39.37**
School Climate Factors	Teacher Grit	4115.92	2	221	2057.96	32.52**
	Teacher Tenacity	2390.89	2	221	1195.44	28.13**
	Teacher Resilience	3434.48	2	221	1717.24	22.90**
Cognitive and meta cognitive Factors	Teacher Grit	6510.67	2	221	5255.34	62.06**
	Teacher Tenacity	3580.85	2	221	1790.42	48.25**
	Teacher Resilience	6559.59	2	221	5279.80	53.89**
Motivational Factors	Teacher Grit	5626.98	2	221	2813.49	49.84**
	Teacher Tenacity	5219.08	2	221	2609.54	87.87**
	Teacher Resilience	5998.63	2	221	2999.31	47.31**

**P≤.01

The Table 63 shows that F-Value obtained are 38.85, 26.42 and 39.37 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively, which are greater than the tabled value of F, that is 4.68 for(2, 221) degrees of freedom required for significance at .01 level by Socio- Emotional Competency.

The F-Values obtained are 32.52, 28.13 and 22.90 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than

the tabled value of F, that is 4.68 for(2, 221) degrees of freedom required for significant at 0.01 level for Teachers having Experience upto 5 years by School Climate Factors in Teaching.

The F-Values obtained are 62.06, 48.25 and 53.89 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value of F, that is 4.68 for(2, 221) degrees of freedom required for significance at 0.01 level for Cognitive and Meta Cognitive Factors in Teaching for teachers having Experience up to 5 years.

The F-Values obtained are 49.84, 87.87 and 47.31 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors which is greater than the tabled value F, that is 4.68 for(2, 221) degrees of freedom required for significance at 0.01 level for Teachers having Experience up to 5 years.

The F-Values for Teacher Grit, Teacher Tenacity and Teacher Resilience obtained so far are statistically significant, that is the main effect is significant.

Influence of socio- emotional competency on teacher grit, tenacity and resilience corresponding to three different levels of socio-emotional competency as high, moderate and low for teachers having experience upto 5 years.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Teachers having experience upto 5 years are presented in Table 64.

Table 64

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to the Three Levels of Socio Emotional Competency of Teachers having Experience up to 5 Years

Dependent Variables	Level of Socio Emotional Competency	Mean Scores	Low	Moderate	High
Teacher Grit			65.68	76.16	81.89
	Low	65.68	0	54.46**	67.68**
	Moderate	76.16		0	12.52**
	High	81.89			0
Teacher Tenacity			60.05	67.14	71.48
	Low	60.05	0	35.11**	47.40**
	Moderate	67.14		0	10.11**
	High	71.48			0
Teacher Resilience			66.86	78.92	82.78
	Low	66.86	0	65.47**	59.26**
	Moderate	78.92		0	5.16
	High	82.78			0

The difference between mean scores of Low and Moderate Socio-Emotional group is 10.48 which is significant at .01 level, F=54.46, F'=9.35, p≤.01 for Teacher Grit.

The mean difference between moderate and High Socio-Emotional Competency group is 5.73 which is significant at .01 level (F= 12.52, F'=9.35, p≤.01 for Teacher Grit.

The mean difference between Low and High Socio-Emotional Competency group is 16.21 which is significant at .01 level, F=67.68, F'=67.68, p≤.01 for Teacher Grit. The result reveal that the three groups Low,

Moderate and High Socio Emotional Competency groups are not similar with regard to Teacher Grit.

The difference between Low and Moderate Socio-Emotional Competency group is 7.09 which is significant at .01 level, F=35.11, F'=9.35, p≤.01 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 4.34 which is significant at .01 level, F=10.11, F'=9.35, p≤.01 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 11.43 which is significant at .01 level, F=47.40, F'=9.35, p≤.01 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low, Moderate and High Socio Emotional groups differ significantly.

The difference between Mean scores of Low and Moderate Socio-Emotional Competency group is 12.06 which is significant at .01 level, F=65.47, F'=9.35, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 3.86 which is not significant even at .05 level, F= 5.16, F'=6.08 at p≤.05 for Teacher Resilience while considering Teachers having Experience upto 5 years. The mean difference between Low and High Socio-Emotional Competency group is 15.92 which is significant at .01 level, F=59.26, F'=9.35, p≤.01 for Teacher Resilience. The result reveals that three groups of Socio- Emotional Competency are dissimilar as far as Teacher Resilience are taken into account.

The result reveals that Low and Moderate, and Low and High Socio Emotional Competent groups differ within all selected dependent variables. Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience upto 5 years but Moderate and High Socio- Emotional Competency groups are similar for Teacher Resilience.

Influence of school climate factors in teaching on teacher grit, tenacity and for total sample corresponding to three different levels of school climate factors in teaching as high, moderate and low school climate for teachers having experience upto 5 years.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for Teachers having experience upto 5 years are presented in Table 65.

Table 65

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of School Climate Factors in Teaching for Teachers having Experience upto 5 years

Dependent Variables	Level of School Climate Factors	Mean Scores	Low	Moderate	High
Teacher Grit			66.29	76.92	79.16
	Low	66.29	0	59.62**	34.23**
	Moderate	76.92		0	1.35
	High	79.16			0
Teacher Tenacity			60.17	67.50	71.84
	Low	60.17	0	42.22**	41.93**
	Moderate	67.50		0	7.54
	High	71.84			0
Teacher Resilience			70.17	78.37	84.95
	Low	70.17	0	29.94**	38.10**
	Moderate	78.37		0	9.82**
	High	84.95			0

The difference between Mean scores of Low and Moderate School Climate group is 10.63 which is significant at .01 level, F=59.62, F'=9.35, p≤.01. The difference between mean scores of Moderate and High School Climate group is 2.24 which is not significant even at .05 level, F=1.35, F'= 6.08 at p≤.05. The difference between mean scores of Low and High School Climate group is 12.87 which is significant at .01 level, F=34.23, F'=9.35, p≤.01 for Teacher Grit.

The difference between mean scores of Low and Moderate School Climate group is 7.33 for Teacher Tenacity which is significant at .01 level, F=42.22, F'=9.35, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.34 which is significant at .05 level, F=7.54, F'=9.35, p≤.05 for Teacher Tenacity. Similarly the difference between mean scores of Low and High School Climate Factors group is 11.67 which is significant at .01 level, F= 41.93, F'=9.35, p≤.01 for Teacher Tenacity.

The difference between mean scores of Low and Moderate School Climate Factors group is 8.2 for Teacher Resilience which is significant at .01 level, F=29.94, F'=9.35, p≤.01. The difference between mean scores of Moderate and High School Climate group is 6.58 for Teacher Resilience which is significant at .01 level, F= 9.82, F'=9.35, p≤.01. The difference between mean scores of Low and Moderate School Climate group is 14.78 which is significant at .01 level, F= 38.10, F'=9.35, p≤.01 for Teacher Resilience for Teachers having Experience upto 5 years.

The result reveals that the groups Low and Moderate, Low and High, and Moderate and High School Climate groups differ for Grit, Tenacity and Resilience except Moderate and High School Climate groups for Teacher Grit are similar.

Influence of cognitive and meta cognitive factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of cognitive and meta cognitive factors in teaching as high, moderate and low for teachers having experience upto 5 years.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for Teachers having experience upto 5 years are presented in Table 66

Table 66

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Cognitive and Meta Cognitive Factors in Teaching for Teachers having Experience upto 5 years

Dependent Variables	Levels of Cognitive and Meta Cognitive Factors	Mean Scores	Low	Moderate	High
Teacher Grit			64	77.32	79.53
	Low	64	0	111.31**	80.46**
	Moderate	77.32		0	2.33
	High	79.53			0
Teacher Tenacity			58.81	67.51	72.10
	Low	58.81	0	67.12**	83.30**
	Moderate	67.51		0	14.21**
	High	72.10			0
Teacher Resilience			67.02	78.74	85.07
	Low	67.02	0	74.27**	93.69
	Moderate	78.74		0	16.50**
	High	85.07			0

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 13.32 which is significant at .01 level, F=111.31, F'=9.35, $p \leq .01$ for Teacher Grit for Teacher having experience upto 5 years. The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 2.21 which is not significant even at .05 level, F=2.33, F'=6.08 at $p \leq .05$. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 15.53 for Teacher Grit which is significant at .01 level, F=80.46, F'=9.35, $p \leq .01$ for Teacher having experience upto 5 years.

The difference between Low and Moderate Cognitive and Meta Cognitive group is 8.7 for Teacher Tenacity which is significant at .01 level, F=67.12, F'=9.35, $p \leq .01$. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 4.59 which is significant at .01 level, F=14.21, F'=9.35, $p \leq .01$. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 13.29 which is significant at .01 level, F=83.30, F'=9.35, $p \leq .01$ for Teacher Tenacity.

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 11.72 which is significant at .01 level, F=74.27, F'=9.35, $p \leq .01$ for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 6.33 which is significant at .01 level, F=16.50, F'=9.35, $p \leq .01$ for Teachers having Experience upto 5 years. The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in Teaching in special Education Teachers is 18.05

which is significant at .01 level, F= 93.69, F'=9.35, p≤.01 for Teachers having Experience upto 5 years.

The result reveals that three groups: Low, Moderate and High Cognitive and Meta Cognitive groups differ significantly within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience upto 5 years except Moderate and High Cognitive and Meta Cognitive groups are similar for Teacher Grit.

Influence of Motivational Factors in Teaching on Teacher Grit, Tenacity and Resilience corresponding to three different levels of Motivational Factors in Teaching as High, Moderate and Low for Teachers having experience upto 5 years.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Teachers having experience upto 5 years are presented in Table 67.

Table 67

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching for Teachers Having Experience upto 5 years

Dependent Variables	Levels of Motivational Factors in Teaching	Mean Scores	Low	Moderate	High
			65.67	75.99	81.53
Teacher Grit	Low	65.67	0	60.85**	94.67**
	Moderate	75.99		0	17.85**
	High	81.53			0
			57.05	67.66	71.95
Teacher Tenacity	Low	57.05	0	122.27**	158.84**
	Moderate	67.66		0	20.35**
	High	71.95			0
			67.86	78.11	84.40
Teacher Resilience	Low	67.86	0	53.45**	91.69**
	Moderate	78.11		0	20.50**
	High	84.40			0

The difference between mean scores of Low and Moderate Motivational group is 10.32 which is significant at .01 level, F= 60.85, F'=9.35, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 5.54 which is significant at .01 level, F=17.85, F'=9.35, p≤.01 for Teachers having Experience upto 5 years. The difference between mean scores of Low and High Motivational group is 15.86 which is significant at .01 level, F=94.67, F'=9.35, p≤.01 for Teacher Grit.

The difference between mean scores of Low and Moderate Motivational group is 10.61 which is significant at .01 level, F=122.27, F'=9.35, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 4.29 which is significant at .01 level, F=20.35, F'=9.35, p≤.01 for Teachers having Experience upto 5 years. The difference between Low and High Motivational group is 14.90 which is significant at .01 level, F=158.84, F'=9.35, p≤.01 for Teachers having Experience upto 5 years.

The difference between mean scores of Low and Moderate Motivational group is 10.25 which is significant at .01 level, F= 53.45, F'=9.35, p≤.01 for Teacher Resilience. For Moderate and High Motivational groups the difference in the mean scores is 6.29 which is significant at .01 level, F=20.50, F'=9.35, p≤.01. The difference between mean scores of Low and High Motivational group is 16.54 which is significant at .01 level, F= 91.69, F'=9.35, p≤.01 for Teachers having Experience upto 5 years.

The result reveals that three groups: Low, Moderate and High Motivational groups differ each other while considering dependent variables : Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having Experience upto 5 years.

Influence of compatibility factors in teaching on teacher endurance factors for teachers having experience 5 years and above.

The multivariate effect of independent variables : Socio Emotional Competency, School –Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on dependent variables: Teacher Grit,

Teacher Tenacity and Teacher Resilience for Teachers having Experience 5 years and above was calculated and are presented in Table 68.

Table 68

Summary of the Result of One-way MANOVA by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors, Motivational Factors of Special Education Teachers on Teacher Grit, Tenacity and Resilience for Teachers Having Experience 5 years and Above

Source of Variation	Value of Pillai's Trace	F	df	Sig	Partial η^2
Socio-Emotional Competency	0.22	12.09	6	.00	0.11
School Climate Factors	0.31	17.78	6	.00	0.15
Cognitive and Meta Cognitive Factors	0.36	21.07	6	.00	0.18
Motivational Factors	0.42	25.99	6	.00	0.21

Table 68 reveals that there is moderate multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency as the F value is 12.09, P<.001, Pillai's trace=0.22, Partial η^2 =0.11. This indicates that there exist significant difference in the Vector mean Scores of special education Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience 5 years and above as far as Socio-Emotional Competency are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by school climate as the F value is 17.78,

$p<.001$, Pillai's Trace=0.31, Partial η^2 =0.15. The result shows that there is significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having Experience 5 years and above when School Climate Factors in Teaching.

There exist significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors in teaching, as the F value obtained is 21.07, $p<.001$, Pillai's Trace=0.36 and Partial η^2 =0.18. This shows that there exist significant difference in the Vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having Experience 5 years and above as far as Cognitive and Meta Cognitive Factors in Teaching are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained is 25.99, $p<.001$, Pillai's Trace is 0.42 and partial n^2 is 0.21. This indicates that there exist significant difference in the Vector mean scores of special education Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in teaching for Teachers having experience 5 years and above.

Since the result of the MANOVA's are significant, Main effects are examined to determine whether each independent variable has significant effect on each dependent variable under study. The result of Main effect for Teachers having experience 5 years and above and Scheffé Post hoc tests for identifying exact group which contribute to the main effect are also analyzed.

Main effect.

Influence of Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience 5 years and above are provided in Table 69.

Table 69

Summary of One-way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors for Teachers having Experience 5 years and Above

Source	Dependent Variable	Sum of square	df	Mean Square	F-Value
Socio Emotional Competency	Teacher Grit	3733.39	2	1866.7	25.26**
	Teacher Tenacity	1867.37	2	933.68	21.86**
	Teacher Resilience	3320.65	2	1660.3	25.11**
School Climate Factors	Teacher Grit	5153.24	2	2576.6	37.31**
	Teacher Tenacity	3899.56	2	1949.8	54.51**
	Teacher Resilience	4559.90	2	2279.9	36.84**
Cognitive and Meta Cognitive Factors	Teacher Grit	7979.36	2	3989.7	67.15**
	Teacher Tenacity	3871.12	2	1935.6	53.97**
	Teacher Resilience	4979.69	2	2489.8	41.18**
Motivational Factors	Teacher Grit	10318.6	2	5159.3	100.3**
	Teacher Tenacity	4056.16	2	2028.1	57.56**
	Teacher Resilience	4539.70	2	269.85	36.63**

**P≤.01

The Table 69 shows that F-Value obtained are 25.26, 21.86 and 25.11 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio-Emotional Competency Factors, which are greater than the tabled value of F which is 4.68 for (2, 293) degrees of freedom required for significant at .01 level.

The F-Values obtained for Teachers having experience 5 years and above are 37.31, 54.51 and 36.84 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors in Teaching, which are greater than the tabled value F, that is 4.68 for(2, 293) degrees of freedom required for significant at 0.01 level.

The Table indicates that the F-Values obtained for Teacher Grit, Teacher Tenacity and Teacher Resilience are 67.15, 53.97 and 41.18 respectively for Cognitive and Meta Cognitive Factors in Teaching which are greater than the tabled value F, that 4.68 for(2, 293) degrees of freedom required for significant at 0.01 level for Teachers having experience 5 years and above.

The F-Values obtained for Teacher Grit, Teacher Tenacity and Teacher Resilience are 100.3, 57.56 and 36.63 respectively for Motivational Factors in Teaching, which are greater than the tabled value F, that is 4.68 for(2, 293) degrees of freedom required for significant at 0.01 level for Teachers having experience 5 years and above.

The result of Main effects are significant, the data are further analyzed with the help of Scheffés Test of Post hoc comparison to know which groups are different in contributing difference in the mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience 5 years and above.

Influence of Socio- Emotional Competency on Teacher Grit, Tenacity and Resilience Corresponding to Three Different Levels of Socio- Emotional Competency as High, Moderate and Low for Teachers Having Experience 5 Years and Above

The results of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Teachers having experience 5 years and above are presented in Table 70.

Table 70

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to the Three Levels of Socio Emotional Competency of Teachers having Experience 5 years and Above.

Dependent Variables	Levels of Socio Emotional Competency	Mean Scores	Low	Moderate	High
Teacher Grit			69.70	75.40	81.88
	Low	69.70	0	14.60**	48.17**
	Moderate	75.40		0	26.10**
	High	81.88			
Teacher Tenacity			63.08	67.70	71.83
	Low	63.08	0	16.60**	43.03**
	Moderate	67.70		0	18.35**
	High	71.83			0
Teacher Resilience			70.78	79.40	82.15
	Low	70.78	0	37.33**	46.92**
	Moderate	79.40		0	5.25
	High	82.15			0

The difference between mean scores of Low and Moderate Socio- Emotional Competency group is 5.7 which is significant at .01 level, F=14.60, F'=9.36, p≤.01 for Teacher Grit.

The mean difference between Moderate and High Socio-Emotional Competency group is 6.48 which is significant at .01 level(F=26.10, F'=9.36, p≤.01 for Teacher Grit

The mean difference between Low and High Socio-Emotional Competency group is 12.18 which is significant at .01 level, F=48.17, F'= 9.36 S, p≤.01 for Teacher Grit. The result reveal that the three groups Low, Moderate and High Socio Emotional Competency groups are not similar with regard to Teacher Grit.

The difference between Low and Moderate Socio- Emotional Competency group is 4.62 which is significant at .01 level, F= 16.60, F'=9.36, p≤.01 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 4.13 which is significant at .01 level, F=18.35, F'=9.36, p≤.01 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 8.75 which is significant at .01 level, F= 43.03, F'=9.36, p≤.01 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low, Moderate and High Socio Emotional groups differ significantly.

The difference between mean scores of Low and Moderate Socio-Emotional Competency group is 8.62 which is significant at .01 level, F= 37.33, F'=9.36, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 2.75

which is not significant even at .05 level, F=5.25, F'= 6.06 at p≤.05 for Teacher Resilience while considering Teachers having experience 5 years and above. The mean difference between Low and High Socio-Emotional Competency group is 11.37 which is significant at .01 level, F= 46.92, F'=9.36, p≤.01 for Teacher Resilience. The groups Moderate and High Socio-Emotional Competency groups are similar while Low and High and Low and Moderate groups are dissimilar for Teacher Resilience.

The groups Low, Moderate and High Socio- Emotional Competency groups for Teacher Grit, Tenacity and Resilience are dissimilar except Moderate and High groups are similar as far as Teacher Resilience are concerned for Teachers having Experience 5 years and above.

Influence of School Climate Factors in Teaching on Teacher Grit, Tenacity and Resilience corresponding to three different levels of School Climate Factors in Teaching as High, Moderate and Low School Climate for Teachers having experience 5 years and above.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for Teachers having experience 5 years and above are presented in Table 71.

Table 71

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of School Climate Factors in Teaching for Teachers Having Experience 5 years and Above

Dependent Variables	Levels of School Climate Factors	Mean Scores	Low	Moderate	High
			67.24	76.68	82.26
Teacher Grit	Low	67.24	0	48.73**	68.94**
	Moderate	76.68		0	14.84**
	High	82.26			0
			60.30	68.57	73.33
Teacher Tenacity	Low	60.30	0	72.21**	100.18**
	Moderate	68.57		0	20.85**
	High	73.33			0
			69.98	79.92	83.08
Teacher Resilience	Low	69.98	0	60.29**	58.52**
	Moderate	79.92		0	5.31
	High	83.08			0

The difference between mean scores of Low and Moderate School Climate group is 9.44 which is significant at .01 level, F= 48.73, F'=9.36, p≤.01. The difference between mean scores of Moderate and High School Climate group is 5.58 which is significant at .01 level, F=14.84, F'=9.36, p≤.01. The difference between mean scores of Low and High School Climate group is 15.02 which is significant at .01 level, F=68.94, F'=9.36, p≤.01 for Teacher Grit.

The difference between mean scores of Low and Moderate School Climate group is 8.27 for Teacher Tenacity which is significant at .01 level, F= 72.21, F'=9.36, p≤.01. The difference between mean scores of Moderate and

High School Climate group is 4.76 which is significant at .01 level, F=20.85, F'=9.36, p≤.01 for Teacher Tenacity. Similarly the difference between mean scores of Low and High School Climate factor group is 13.03 which is significant at .01 level, F=100.18, F'=9.35, p≤.01 for Teacher Tenacity.

The difference between mean scores of Low and Moderate School Climate factor group is 9.94 for Teacher Resilience which is significant at .01 level, F= 60.29, F'=9.36, p≤.01. The difference between mean scores of Moderate and High School Climate group is 3.16 for Teacher Resilience which is not significant even at .05 level, F=5.31, F'= 6.06 at p≤.05. The difference between mean scores of Low and High School Climate group is 13.1 which is significant at .01 level, F= 58.52, F'=9.36, p≤.01 for Teacher Resilience for Teachers having experience 5 years and above.

The result reveals that three groups: Low, Moderate and High School Climate groups among special education teachers differ within each dependent variables : Teacher Grit, Teacher Tenacity and Teacher Resilience except Moderate and High groups are similar for Teacher Resilience.

Influence of cognitive and meta cognitive factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of cognitive and meta cognitive factors in teaching as high, moderate and low for teachers having experience 5 years and above.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for Teachers having experience 5 years and above are presented in Table 72.

Table 72

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to three Levels of Cognitive and Meta Cognitive Factors in teaching for Teachers Having Experience 5 years and Above

Dependent Variables	Levels of Cognitive and Meta Cognitive Factors	Mean Scores	Low	Moderate	High
Teacher Grit			64.70	76.43	84.21
	Low	64.70	0	78.04**	131.25**
	Moderate	76.43		0	35.77**
	High	84.21			0
Teacher Tenacity			59.80	68.38	73.24
	Low	59.80	0	69.17**	103.18**
	Moderate	68.38		0	23.12**
	High	73.24			0
Teacher Resilience			70.00	79.13	85.45
	Low	70.00	0	46.46**	80.89**
	Moderate	79.13		0	23.20**
	High	85.45			0

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 11.73 which is significant at .01 level, F= 78.04, F'=9.36, p≤.01 for Teacher Grit for Teachers having experience 5 years and above. The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 7.78 which is significant at .01 level, F=35.77, F'=9.36, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 19.51 for Teacher Grit which is significant at .01 level, F=131.25, F'=9.36, p≤.01 for Teachers having experience 5 years and above.

The difference between Low and Moderate Cognitive and Meta Cognitive group is 8.58 for Teacher Tenacity which is significant at .01 level,

F= 69.17, F'=9.36, p≤.01. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 4.86 which is significant at .01 level, F=23.12, F'=9.36, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 13.44 which is significant at .01 level, F=103.18, F'=9.36, p≤.01 for Teacher Tenacity.

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 9.13 which is significant at .01 level, F= 46.46, F'=9.36, p≤.01 for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 6.32 which is significant at .01 level, F=23.20, F'=9.36, p≤.01 for Teachers having experience 5 years and above. The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in teaching among Special Education Teaches is 15.45 which is significant at .01 level, F= 80.89, F'=9.36, p≤.01 for Teachers having experience 5 years and above.

The result reveals that three groups: Low, Moderate and High Cognitive and Meta Cognitive groups differ significantly within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience 5 years and above.

Influence of motivational factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of motivational factors in teaching as high, moderate and low for teachers having experience 5 years and above.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational

Factors in Teaching for Teachers having experience 5 years and above are presented in Table 73.

Table 73

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching for Teachers Having Experience 5 years and Above

Dependent Variables	Three Levels of Motivational Factors	Mean Scores	Low	Moderate	High
			64.67	76.87	85.39
Teacher Grit	Low	64.67	0	118.07**	189.71**
	Moderate	76.87		0	48.18**
	High	85.39			0
			60.78	68.52	73.73
Teacher Tenacity	Low	60.78	0	69.37**	108.18**
	Moderate	68.52		0	26.30**
	High	73.73			0
			71.00	79.61	84.44
Teacher Resilience	Low	71.00	0	48.81**	66.26**
	Moderate	79.61		0	12.85**
	High	84.44			0

The difference between mean scores of Low and Moderate Motivational group is 12.20 which is significant at .01 level, F=118.07, F'=9.36, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 8.52 which is significant at .01 level, F= 48.18, F'=9.36, p≤.01 for Teachers having experience 5 years and above. The difference between mean scores of Low and High Motivational group is 20.72 which is significant at .01 level, F= 189.71, F'=9.36, p≤.01 for Teacher Grit.

The difference between mean scores of Low and Moderate Motivational group is 7.74 which is significant at .01 level, F= 69.37, F'=9.36, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 5.21 which is significant at .01 level, F=26.30, F'=9.36, p≤.01 for Teachers having experience 5 years and above. The difference between Low and High Motivational group is 12.95 which is significant at .01 level, F=108.18, F'=9.36, p≤.01 for Teachers having experience 5 years and above.

The difference between mean scores of Low and Moderate Motivational group is 8.61 which is significant at .01 level, F=48.81, F'=9.36, p≤.01 for Teacher Resilience. For Moderate and High Motivational groups the difference in the mean scores is 4.83 which is significant at .01 level, F=12.85, F'=9.36, p≤.01. The difference between mean scores of Low and High Motivational group is 13.44 which is significant at .01 level, F=66.26, F'=9.36, p≤.01 for Teachers having experience 5 years and above.

The result reveals that three groups: Low, Moderate and High Motivational groups differ each other while considering dependent variables : Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having experience 5 years and above.

Influence of compatibility factors in teaching on teacher endurance factors for under graduate teachers.

The multivariate effect of independent variables : Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on dependent variables: Teacher Grit,

Teacher Tenacity and Teacher Resilience for Teachers having Qualification : Under Graduation was calculated. The multivariatre effect of Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Teacher Grit, Teacher Tenacity and Teacher Resilience for under graduate Teachers are presented in Table 74.

Table 74

Summary of the Result of One-Way MANOVA by Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors, and Motivational Factors of Special Education Teachers on Teacher Grit, Tenacity and Resilience for Under graduate Teachers.

Source of Variation	Value of Pillai's Trace	F	df	Sig	Partial η2
Socio Emotional Competency	.22	10.51	6	.00	.11
School Climate Factors	.25	12.11	6	.00	.13
Cognitive and Meta Cognitive Factors	.42	22.48	6	.00	.21
Motivational Factors	.45	24.53	6	.00	.23

Table 74 reveals that there is moderate multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency as the F(6, 504) = 10.51, P<.001, Pillai's trace=0.22, Partial η^2 =0.11. This indicates that there exist significant difference in the vector mean Scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having qualification : "Under Graduation" as far as Socio-Emotional Competency are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate as the F(6, 504)=12.11,

$p<.001$ Pillai's Trace=.25, Partial η^2 =.13. This reveals that there exist significant difference in the vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for under graduate Teachers when School Climate Factors in Teaching are taken into account.

There is significant multivariate effect by Cognitive and Meta Cognitive Factors in Teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained at(6, 504)degrees of freedom is 22.48, $p<.001$, Pillai's Trace=0.42 and Partial η^2 =.21. This shows that there exist significant difference in the vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for under graduate Teachers for Cognitive and Meta Cognitive Factors in Teaching are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained is 24.53 at(6, 504) degrees of freedom which is significant at .001 level, Pillai's Trace is 0.45 and partial η^2 =0.23. This indicates that there exist significant difference in the vector mean scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for under graduate teachers.

Since the result of the MANOVA's are significant, the test of Between subject effect or Main effects are examined to determine whether each independent variable has significant effect on each dependent variable under study. The result of Main effect for under graduate teachers and Scheffé Post hoc tests for identifying exact group which contribute to the main effect are also analyzed.

Main effect.

Influence of Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Under Graduate Teachers.

Table 75

Summary of One-way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors for under graduate Teachers

Source	Dependent Variable	Sum of Square	df	Mean Square	F-Value
Socio Emotional Competency	Teacher Grit	3238.72	2	1619.36	23.71**
	Teacher Tenacity	1628.16	2	0814.08	17.97**
	Teacher Resilience	3802.19	2	1901.10	28.81**
School Climate Factors	Teacher Grit	3784.00	2	1892.00	28.60**
	Teacher Tenacity	2884.53	2	1442.26	35.75**
	Teacher Resilience	3629.55	2	1814.78	27.22**
Cognitive and Meta Cognitive Factors	Teacher Grit	7065.70	2	3532.85	66.43**
	Teacher Tenacity	4082.85	2	2041.38	57.34**
	Teacher Resilience	6169.18	2	3084.59	54.46**
Motivational Factors	Teacher Grit	7009.83	2	3504.92	65.64**
	Teacher Tenacity	5140.10	2	2570.05	81.79**
	Teacher Resilience	6180.59	2	3090.30	54.61**

**P≤.01

From the Table 75 it is obvious that F-Value obtained is 23.71 which is greater than the tabled value 4.69 for (2, 253) degrees of freedom required for significance at .01 level for Socio- Emotional Competency on Teacher Grit for under graduate teachers . The F-Values obtained are 17.97 and 28.81 for Teacher Tenacity and Teacher Resilience respectively, which are greater than the tabled value 4.69 for(2, 253) degrees of freedom required for significant at .01 level by Socio Emotional Competency.

The Table reveals that the F-Values obtained are 28.60, 35.75 and 27.22 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value F=4.69 for(2, 253) degrees of freedom required for significant at 0.01 level for under graduate teachers by School Climate Factors in Teaching.

The Table indicates that the F-Values obtained are 66.43, 57.34 and 54.46 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value F= 4.69 for(2, 253) degrees of freedom required for significant at 0.01 level for Cognitive and Meta Cognitive Factors.

The Table shows that the F-Values obtained are 65.64, 81.79 and 54.61 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors which are greater than the tabled value of F=4.69 for(2, 253) degrees of freedom required for significant at 0.01 level for under graduate Teachers.

The results of Main effect are significant, the data are further analyzed with the help of Scheffés Test of Post hoc comparison to know which groups

are different in contributing difference in the mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for under graduate teachers

Influence of Socio- Emotional Competency on Teacher Grit, Tenacity and Resilience corresponding to three different levels of Socio- Emotional Competency as High, Moderate and Low for under graduate teachers.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Teachers having Qualification: "Under Graduation" are presented in Table 76.

Table 76

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Menu of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding the Three Levels of Socio Emotional Competency for Under Graduate Teachers

Dependent Variables	Level of Socio Emotional Competency	Mean Scores	Low	Moderate	High
			67.48	75.86	80.43
Teacher Grit	Low	67.48	0	36.77**	34.90**
	Moderate	75.86		0	5.78
	High	80.43			0
			61.18	66.96	70.62
Teacher Tenacity	Low	61.18	0	26.37**	27.96**
	Moderate	66.96		0	5.59
	High	70.62			0
			68.91	78.79	80.95
Teacher Resilience	Low	68.91	0	52.90**	31.23**
	Moderate	78.79		0	1.34
	High	80.95			0

The difference between mean scores of Low and Moderate Socio- Emotional Competency group is 8.38 which is significant at .01 level, F=36.77, F'=9.38, p≤.01 for Teacher Grit. The mean difference between Moderate and High Socio-Emotional Competency group is 4.57 which is not significant even at .05 level(F=5.78, F'= 6.07 at p≤.05) for Teacher Grit. The mean difference between Low and High Socio-Emotional Competency group is 12.95 which is significant at .01 level, F= 34.90, F'= 9.38, p≤.01 for Teacher Grit. The result reveal that the Low and Moderate, and Low and High groups are dissimilar but Moderate and High Socio- Emotional Competency groups are similar for Teacher Grit

The difference between Low and Moderate Socio-Emotional Competency group is 5.78 which is significant at .01 level, F=26.37, F'=9.38, p≤.01 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 3.66 which is not significant even at .01 level, F=5.59, F'=6.07 at p≤.05 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 9.44 which is significant at .01 level, F= 27.96, F'=9.38, p≤.01 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low and Moderate, and Low and High Socio- Emotional Competency groups differ significantly but Moderate and High Groups are similar for Teacher Tenacity.

The difference between mean scores of Low and Moderate Socio-Emotional Competency group is 9.88 which is significant at .01 level, F=

52.90, F'=9.38, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 2.16 which is not significant even at .05 level, F=1.34, F'= 6.07 at p≤.05 for Teacher Resilience while considering under graduate teachers. The mean difference between Low and High Socio-Emotional Competency group is 12.04 which is significant at .01 level, F= 31.23, F'=9.38, p≤.01 for Teacher Resilience. The result reveals that Low and Moderate and Low and High Socio- Emotional Competency groups are dissimilar but Moderate and High Socio- Emotional Competency groups are similar for Teacher Grit, Tenacity and Resilience.

Influence of school climate factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of school climate factors in teaching as high, moderate and low school climate for under graduate teachers.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for under graduate Teachers are presented in Table 77.

Table 77

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of School Climate Factors for Under Grauate Teachers

Dependent Variables	Level of School Climate factors	Mean Scores	Low	Moderate	High
Teacher Grit			67.12	76.26	79.67
	Low	67.12	0	48.98**	35.00**
	Moderate	76.26		0	3.32
	High	79.67			0
Teacher Tenacity			59.71	67.43	71.29
	Low	59.71	0	57.30**	48.87**
	Moderate	67.43		0	6.97*
	High	71.29			0
Teacher Resilience			69.90	78.59	82.81
	Low	69.90	0	43.93**	36.75**
	Moderate	78.59		0	5.04
	High	82.81			0

The Table 77 indicate that the difference between Mean scores of Low and Moderate School Climate group is 9.14 which is significant at .01 level, F= 48.98, F'=9.38, p≤.01. The difference between mean scores of Moderate and High School Climate group is 3.41 which is not significant even at .05 level, F= 3.32, F'= 6.07 at p≤.05. The difference between mean scores of Low and High School Climate group is 12.55 which is significant at .01 level, F= 35.00, F'=9.38, p≤.01 for Teacher Grit.

The difference between mean scores of Low and Moderate School Climate group is 7.72 for Teacher Tenacity which is significant at .01 level,

F= 57.30, F'=9.38, p≤.01. The difference between mean scores of Moderate and High School Climate group is 3.86 which is significant at .05 level, F= 6.97, F'=9. 38, p≤.05 for teacher tenacity. Similarly the difference between mean scores of Low and High School Climate Factors group is 11.58 which is significant at .01 level, F= 48.87, F'=9.38, p≤.01 for teacher tenacity.

The difference between mean scores of Low and Moderate School Climate Factors group is 8.69 for teacher resilience which is significant at .01 level, F= 43.93, F'=9.38, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.22 for teacher resilience which is not significant at .05 level, F= 5.04, F'=6.07, p≤.05. The difference between mean scores of Low and Moderate School Climate group is 12.91 which is significant at .01 level, F= 36.75, F'=9.38, p≤.01 for Teacher Resilience for under graduate teachers.

The result reveal that Low and Moderate, and Low and High School Climate groups differ significantly for Teacher Grit, Tenacity and Resilience but Moderate and High groups are similar for Teacher Grit and Resilience for under graduate Teachers

Influence of cognitive and meta cognitive factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of cognitive and meta cognitive factors in teaching as high, moderate and low for under graduate teachers.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for under graduate Teachers are presented in Table 78.

Table 78

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Cognitive and Meta Cognitive Factors in Teaching for Under Graduate Teachers

Dependent Variables	Level of Cognitive and Meta Cognitive Factors	Mean Scores	Low	Moderate	High
Teacher Grit			64.09	76.40	81.25
	Low	64.09	0	104.17**	104.56**
	Moderate	76.40		0	12.00**
	High	81.25			0
Teacher Tenacity			58.11	67.51	71.09
	Low	58.11	0	90.72**	89.31**
	Moderate	67.51		0	5.07
	High	71.09			0
Teacher Resilience			67.87	78.31	85.00
	Low	67.87	0	111.90**	155.54**
	Moderate	78.31		0	34.10*
	High	85.00			0

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 12.31 which is significant at .01 level, F=104.17, F'=9.38, p≤.01 for Teacher Grit for under graduate teachers The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 4.85 which is significant at .01 level, F= 12.00, F'=9.38, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 17.16 for Teacher Grit which is significant at .01 level, F=104.56, F'=9.38, p≤.01 for under graduate teachers.

The difference between Low and Moderate Cognitive and Meta Cognitive group is 9.4 for teacher tenacity which is significant at .01 level, F= 90.72, F'=9.38, p≤.01. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 3.58 which is not significant even at .05 level, F= 5.07, F'= 6.07 at p≤.05. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 12.98 which is significant at .01 level, F= 89.31, F'=9.38, p≤.01 for Teacher Tenacity.

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 10.44 which is significant at .01 level, F= 111.90, F'=9.38, p≤.01 for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 6.69 which is significant at .01 level, F=34.10, F'=9.38, p≤.01 for under graduate teachers . The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in teaching among special education teachers is 17.13 which is significant at .01 level, F=155.54, F'=9.38, p≤.01 for under graduate teachers.

The results reveal that Low and Moderate and Low and High Cognitive and Meta Cognitive Factors in teaching are dissimilar for Teacher Grit, Tenacity and Resilience but Moderate and High groups are similar for Teacher Tenacity.

Influence of motivational factors on teacher grit, tenacity and resilience corresponding to three different levels of motivational factors as high, moderate and low for under graduate teachers.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Under graduate Teachers are presented in Table 79.

Table 79

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching for under graduate Teachers

Dependent Variables	Level of Motivational factors	Mean Scores	Low	Moderate	High
Teacher Grit			64.64	76.46	80.92
	Low	64.64	0	100.9**	105.5**
	Moderate	76.46		0	11.31**
	High	80.92			0
Teacher Tenacity			57.56	67.71	71.46
	Low	57.56	0	126.50**	130.7**
	Moderate	67.71		0	13.58**
	High	71.46			0
Teacher Resilience			68.04	78.54	83.95
	Low	68.04	0	75.17**	95.11**
	Moderate	78.54		0	15.70**
	High	83.95			0

The difference between mean scores of Low and Moderate Motivational group is 11.82 which is significant at .01 level, F=100.9, F'=9.38, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 4.46 which is significant at .01 level, F= 11.31, F'=9.38, p≤.01 for under graduate teachers. The difference between mean scores of Low and High Motivational group is 16.28 which is significant at .01 level, F= 105.5, F'=9.38, p≤.01 for Teacher Grit.

The difference between mean scores of Low and Moderate Motivational group is 10.15 which is significant at .01 level, F=126.5,

F'=9.38, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 3.75 which is significant at .01 level, F= 13.58, F'=9.38, p≤.01 for under graduate teachers. The difference between Low and High Motivational group is 13.9 which is significant at .01 level, F= 130.75, F'=9.38, p≤.01 for under graduate teachers.

The difference between mean scores of Low and Moderate Motivational group is 10.5 which is significant at .01 level, F= 75.17, F'=9.38, p≤.01 for Teacher Resilience. For Moderate and High Motivational groups, the difference in the mean scores is 5.41 which is significant at .01 level, F= 15.70, F'=9.38, p≤.01. The difference between mean scores of Low and High Motivational group is 15.91 which is significant at .01 level, F= 95.11, F'=9.38, p≤.01 for under graduate teachers. The result reveals that three groups: Low, Moderate and High Motivational groups dissimilar each other while considering dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for under graduate teachers.

Influence of compatibility factors in teaching on teacher endurance factors for teachers having qualification, graduation and above.

The multivariate effect of independent variables : Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on dependent variables: Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having Qualification, Graduation and above was calculated and are presented in Table 80.

Table 80

Summary of the result of one way MANOVA by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors of Special Education Teachers on Teacher Grit, Tenacity and Resilience for Teachers having Qualification, Graduation and Above.

Source of variation	Value of Pillai's Trace	F	df	sig	Partial η^2
Socio Emotional Competency	.29	14.60	6	.00	.14
School Climate Factors	.30	15.27	6	.00	.15
Cognitive and Meta Cognitive Factors	.36	18.96	6	.00	.18
Motivational Factors	.41	22.15	6	.00	.20

Table 80 reveals that there is moderate multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency as the F(6, 520)=14.60, P<.001, Pillai's trace=0.29, Partial η^2 =0.14. This indicates that there exist significant difference in the Vector mean Scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having qualification, Graduation and above as far as Socio-Emotional Competency are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate as the F(6, 520)= 15.27, p<.001 Pillai's Trace=.30, Partial η^2 =.15. This reveals that there exist significant difference in the vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having qualification, Graduation and above when School Climate Factors in Teaching are taken into account.

There is significant multivariate effect by Cognitive and Meta Cognitive Factors in Teaching on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained at(6, 520)degrees of freedom is 18.96, p<.001, Pillai's Trace=0.36 and Partial η^2 =.18. This shows that there exist significant difference in the vector mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having qualification, Graduation and above as far as Cognitive and Meta Cognitive Factors in Teaching are concerned.

There is significant multivariate effect on Teacher Grit, Teacher Tenacity and Teacher Resilience as the F value obtained is 22.15 at(6, 520) degrees of freedom which is significant at .001 level, Pillai's Trace is 0.41 and partial η^2 = 0.20. This indicates that there exist significant difference in the vector mean scores of Special Education Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Teachers having Qualification, Graduation and above.

Since the result of the MANOVA's are significant, the test of between subject effect or Main effects are examined to determine whether each independent variable has significant effect on each dependent variable under study. The result of Main effect for Teachers having Qualification, Graduation and above and Scheffés Post hoc tests for identifying exact group which contribute to the main effect are also analyzed.

Main effect.

Influence of Socio -Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors on special education Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having Qualification, Graduation and above are provided in Table 81.

Table 81

Summary of One Way ANOVA of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors for Teachers having Qualification, Graduation and Above.

Source	Dependent Variable	Sum of square	df	Mean Square	F-Value
Socio Emotional Competency	Teacher Grit	4684.19	2	2342.10	33.85**
	Teacher Tenacity	2177.65	2	1088.82	26.78**
	Teacher Resilience	4393.72	2	2196.86	32.52**
School Climate Factors	Teacher Grit	5300.20	2	2650.10	39.66**
	Teacher Tenacity	3269.71	2	1634.85	44.82**
	Teacher Resilience	4112.32	2	2056.16	29.95**
Cognitive and Meta Cognitive Factors	Teacher Grit	6849.49	2	3424.74	56.25**
	Teacher Tenacity	3375.52	2	1687.76	46.79**
	Teacher Resilience	5190.17	2	2595.08	40.23**
Motivational Factors	Teacher Grit	8743.46	2	4371.73	81.52**
	Teacher Tenacity	3854.15	2	1927.08	56.29**
	Teacher Resilience	4109.21	2	2054.61	29.93**

**P≤.01

From the Table 81 it is obvious that F-Value obtained is 33.85 which is greater than the tabled value 4.70 for (2, 261) degrees of freedom required for significance at .01 level for Socio- Emotional Competency on Teacher Grit for Teachers having Qualification, Graduation and above. The F-Values obtained are 26.78 and 32.52 for Teacher Tenacity and Teacher Resilience respectively, which are greater than the tabled value 4.70 for(2, 261) degrees of freedom required for significant at .01 level by Socio Emotional Competency.

The Table reveals that F-Values obtained are 39.66, 44.82 and 29.95 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which

are greater than the tabled value F=4.70 for(2, 261) degrees of freedom required for significant at 0.01 level for Teachers having Qualification, Graduation and above by School Climate Factors in Teaching.

The Table indicates that the F-Values obtained are 56.25, 46.79 and 40.23 for Teacher Grit, Teacher Tenacity and Teacher Resilience respectively which are greater than the tabled value F(4.70) for(2, 261) degrees of freedom required for significant at 0.01 level for Cognitive and Meta Cognitive Factors.

The Table shows that the F-Values obtained are 81.52, 56.29 and 29.93 respectively for Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors which are greater than the tabled value F(4.70) for(2, 261) degrees of freedom required for significant at 0.01 level for Teachers having Qualification, Graduation and above.

The result of Main effects are significant, the data are further analyzed with the help of Scheffés Test of Post hoc comparison to know which groups are different in contributing difference in the mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having Qualification : "Graduation and above".

Influence of socio- emotional competency on teacher grit, tenacity and resilience corresponding to three different levels of socio- emotional competency as high, moderate and low for teachers having qualification, graduation and above.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Socio- Emotional Competency of Teachers having Qualification, Graduation and above are presented in Table 82.

Table 82

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to the Three Levels of Socio- Emotional Competency for Teachers having Qualification : Graduation and Above.

Dependent Variables	Level of Socio-Emotional Competency	Mean Scores	Low	Moderate	High
			68.15	75.61	82.35
Teacher Grit	Low	68.15	0	22.12**	64.12**
	Moderate	75.61		0	30.96**
	High	82.35			0
			62.21	68.01	72.08
Teacher Tenacity	Low	62.21	0	22.75**	52.71**
	Moderate	68.01		0	19.21**
	High	72.08			0
			68.88	79.64	82.79
Teacher Resilience	Low	68.88	0	54.05**	70.20**
	Moderate	79.64		0	6.92*
	High	82.79			0

The difference between mean scores of Low and Moderate Socio- Emotional Competency group is 7.46 which is significant at .01 level, F=22.12, F'=9.38, p≤.01 for Teacher Grit.

The mean difference between moderate and High Socio-Emotional Competency group is 6.74 which is significant at .01 level (F=30.96, F'= 9.38, p≤.01 for Teacher Grit

The mean difference between Low and High Socio-Emotional Competency group is 14.2 which is significant at .01 level, F= 64.12, F'= 9.38,

p≤.01 for Teacher Grit. The result reveal that the three groups Low, Moderate and High Socio Emotional Competency groups are not similar with regard to Teacher Grit.

The difference between Low and Moderate Socio-Emotional Competency group is 5.8 which is significant at .01 level, F= 22.75, F'=9.38, p≤.01 for Teacher Tenacity. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 4.07 which is significant at .01 level, F= 19.21, F'=9.38, p≤.01 for Teacher Tenacity. The mean score difference between Low and High Socio-Emotional Competency group is 9.87 which is significant at .01 level, F= 52.71, F'=9.38, p≤.01 for Teacher Tenacity. As far as Teacher Tenacity is concerned Low, Moderate and High Socio Emotional groups differ significantly.

The difference between mean scores of Low and Moderate Socio-Emotional Competency group is 10.76 which is significant at .01 level, F= 54.05, F'=9.38, p≤.01 for Teacher Resilience. The difference between mean scores of Moderate and High Socio-Emotional Competency group is 3.15 which is significant at .05 level, F= 6.92, F'=6.07, p≤.05 for Teacher Resilience while considering Teachers having qualification: "Graduation and above". The mean difference between Low and High Socio-Emotional Competency group is 13.91 which is significant at .01 level, F= 70.20, F'=9.38, p≤.01 for Teacher Resilience. The result reveals that three groups of Socio- Emotional Competency are dissimilar as far as Teacher Resilience are taken into account.

The result reveals that Low, Moderate and High Socio Emotional Competent groups differ within all selected dependent variables. Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having qualification, Graduation and above.

Influence of school climate factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of school climate factors in teaching as high, moderate and low school climate for teachers having qualification, graduation and above.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by School Climate Factors for Teachers having Qualification, Graduation and Above are presented in Table 83.

Table 83

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of School Climate Factors in Teaching for Teachers having Qualification, Graduation and Above.

Dependent Variables	Level School Climate	Mean Scores	Low	Moderate	High
Teacher Grit			66.36	77.30	82.14
	Low	66.36	0	57.85**	70.75**
	Moderate	77.30		0	10.84**
	High	82.14			0
Teacher Tenacity			60.90	68.77	73.73
	Low	60.90	0	54.85**	85.69**
	Moderate	68.77		0	20.85**
	High	73.73			0
Teacher Resilience			70.28	79.90	84.19
	Low	70.28	0	43.66**	53.66**
	Moderate	79.90		0	8.31*
	High	84.19			0

The difference between mean scores of Low and Moderate School Climate group is 10.94 which is significant at .01 level, F= 57.85, F'=9.38, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.84 which is significant at .01 level, F=10.84, F'=9.38, p≤.01. The difference between mean scores of Low and High School Climate group is 15.78 which is significant at .01 level, F= 70.75, F'=9.38, p≤.01 for Teacher Grit.

The difference between mean scores of Low and Moderate School Climate group is 7.87 for Teacher Tenacity which is significant at .01 level, F= 54.85, F'=9.38, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.96 which is significant at .01 level, F= 20.85, F'=9.38, p≤.01 for Teacher Tenacity. Similarly the difference between mean scores of Low and High School Climate Factors group is 12.83 which is significant at .01 level, F= 85.69, F'=9.38, p≤.01 for Teacher Tenacity.

The difference between mean scores of Low and Moderate School Climate Factors group is 9.62 for Teacher Resilience which is significant at .01 level, F=43.66, F'=9.38, p≤.01. The difference between mean scores of Moderate and High School Climate group is 4.29 for Teacher Resilience which is significant at .05 level, F= 8.31, F'= 6.07, p≤.05. The difference between mean scores of Low and High School Climate group is 13.91 which is significant at .01 level, F= 53.66, F'=9.38, p≤.01 for Teacher Resilience for Teachers having Qualification, Graduation and above.

The result reveals that three groups: Low, Moderate and High School Climate groups among Special Education Teachers differ within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience

Influence of cognitive and meta cognitive factors in teaching on teacher grit, tenacity and resilience corresponding to three different levels of cognitive and meta cognitive factors in teaching as high, moderate and low for teachers having qualification, graduation and above.

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Cognitive and Meta Cognitive Factors for Teachers having qualification, Graduation and above are presented in Table 84.

Table 84

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Cognitive and Meta Cognitive Factors in Teaching for Teachers having Qualification, Graduation and above.

Dependent Variables	Level Cognitive and Meta Cognitive	Mean Scores	Low	Moderate	High
Teacher Grit			64.67	77.17	83.08
	Low	64.67	0	77.48**	105.41**
	Moderate	77.17		0	18.92**
	High	83.08			0
Teacher Tenacity			60.81	68.51	74.10
	Low	60.81	0	49.66**	92.78**
	Moderate	68.51			28.57**
	High	74.10			0
Teacher Resilience			69.25	79.60	85.53
	Low	69.25	0	50.17**	77.84**
	Moderate	79.60		0	17.98**
	High	85.53			0

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 12.5 which is significant at .01 level, F= 77.48, F'=9.38, p≤.01 for Teacher Grit for Teachers having qualification, Graduation and above. The difference between mean scores of Moderate and High Cognitive and Meta Cognitive group is 5.91 which is significant at .01 level, F= 18.92, F'=9.38, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 18.41 for Teacher Grit which is significant at .01 level, F= 105.47, F'=9.38, p≤.01 for Teachers having Qualification, Graduation and above.

The difference between Low and Moderate Cognitive and Meta Cognitive group is 7.7 for Teacher Tenacity which is significant at .01 level, F= 49.66, F'=9.38, p≤.01. Similarly the difference between Moderate and High Cognitive and Meta Cognitive group is 5.59 which is significant at .01 level, F= 28.57, F'=9.38, p≤.01. The difference between mean scores of Low and High Cognitive and Meta Cognitive group is 13.29 which is significant at .01 level, F= 92.78, F'=9.38, p≤.01 for Teacher Tenacity.

The difference between mean scores of Low and Moderate Cognitive and Meta Cognitive group is 10.35 which is significant at .01 level, F= 50.17, F'=9.38, p≤.01 for Teacher Resilience. The difference between Moderate and High Cognitive and Meta Cognitive group is 5.93 which is significant at .01 level, F= 17.98, F'=9.38, p≤.01 for Teachers having Qualification: "Graduation and above". The difference between mean scores of Low and High group of Cognitive and Meta Cognitive Factors in Teaching among Special Education Teachers is 16.28 which is significant at .01 level,

F= 77.84, F'=9.38, p≤.01 for Teachers having Qualification, Graduation and above.

The result reveals that three groups: Low, Moderate and High Cognitive and Meta Cognitive groups differ significantly within each dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having Qualification, Graduation and above.

Influence of motivational factors on teacher grit, tenacity and resilience corresponding to three different levels of motivational factors as high, moderate and low for teachers having qualification, graduation and above

The result of Scheffés Test of Post Hoc Comparison of mean scores of Teacher Grit, Teacher Tenacity and Teacher Resilience by Motivational Factors in Teaching for Teachers having qualification, Graduation and above are presented in Table 85.

Table 85

Summary of Scheffés Test of Post Hoc Comparison with Matrix of Ordered Means of Teacher Grit, Teacher Tenacity and Teacher Resilience Corresponding to Three Levels of Motivational Factors in Teaching for Teachers having Qualification, Graduation and Above.

Dependent Variables	Level Motivational Factors	Mean Scores	Low	Moderate	High
			65.67	76.56	85.38
Teacher Grit	Low	65.67	0	76.24**	162.66**
	Moderate	76.56		0	53.68**
	High	85.38			0
			60.88	68.63	73.89
Teacher Tenacity	Low	60.88	0	60.49**	111.0**
	Moderate	68.63		0	29.90**
	High	73.89			0
			71.37	79.45	84.79
Teacher Resilience	Low	71.37	0	32.79**	58.91**
	Moderate	79.45		0	15.37**
	High	84.79			0

The difference between mean scores of Low and Moderate Motivational group is 10.89 which is significant at .01 level, F= 76.24, F'=9.38, p≤.01 for Teacher Grit. The difference between mean scores of Moderate and High Motivational group is 8.82 which is significant at .01 level, F=53.68, F'=9.38, p≤.01 for Teachers having Qualification, Graduation and above. The difference between mean scores of Low and High Motivational group is 19.71 which is significant at .01 level, F= 162.66, F'=9.38, p≤.01 for Teacher Grit.

The difference between mean scores of Low and Moderate Motivational group is 7.75 which is significant at .01 level, F= 60.49,

F'=9.38, p≤.01 for Teacher Tenacity. The difference between Moderate and High Motivational group is 5.26 which is significant at .01 level, F= 29.90, F'=9.38, p≤.01 for Teachers having Qualification, Graduation and above. The difference between Low and High Motivational group is 13.01 which is significant at .01 level, F= 111.0, F'=9.38, p≤.01 for Teachers having qualification, Graduation and above.

The difference between mean scores of Low and Moderate Motivational group is 8.08 which is significant at .01 level, F= 32.79, F'=9.38, p≤.01 for Teacher Resilience. For Moderate and High Motivational groups the difference in the mean scores is 5.34 which is significant at .01 level, F= 15.37, F'=9.38, p≤.01. The difference between mean scores of Low and High Motivational group is 13.42 which is significant at .01 level, F= 58.91, F'=9.38, p≤.01 for Teachers having Qualification, Graduation and above.

The result reveals that three groups: Low, Moderate and High Motivational groups differ each other while considering dependent variable: Teacher Grit, Teacher Tenacity and Teacher Resilience for Teachers having qualification, Graduation and above.

Conclusion.

The Multivariate and main effects of independent variables on dependent variables reveal that for total sample and samples based on locality, type of management, experience and qualification of teachers are significant and Show similar trends in all categories of sample selected. A common element found in the result reveal that the multivariate effect of Motivational factors are predominant than other selected factors in developing non-

cognitive qualities among teachers. The trend of effect is as follows motivational factors › cognitive and meta cognitive factors› school climate factors› socio- emotional competency factors. Each strand of teaching, selected as the independent variables in the study is influencing the dependent variables in various degrees and strength.

The result indicates that socio- emotional competency influence grit and resilience in equal proportions while produce a dip in main effect toward tenacity. School climate factors influence more on teacher tenacity than grit and resilience in all selected samples. Teacher's mindsets and goal orientation may have resulted from contextual elements than mental makeup. Cognitive and meta cognitive factors influence predominantly on grit, reveal that both variable's are intra- personal in most of the attributes connected with the aspects of teacher behavior. The result reveal that critical thinkers and great problem solvers are gritty teachers too because they possess high levels of cognitive and meta cognitive abilities in teaching. But for Government teachers cognitive and meta cognitive factors influence more on tenacity than grit and resilience, a result deviates from other samples findings. Motivational factors influence more on grit for total sample, urban sample, government sample , teachers with experience 5 years and above and teachers having qualification, graduation and above. For unaided school teachers, motivational factors in teaching influence both grit and tenacity in equal amounts but the influence is less toward resilience. For rural, novice and under graduate teachers motivational factors in teaching influence more on tenacious characteristics in teaching than grit and resilience.

The result of Scheffe's test reveal that among 324 comparisons, 287 comparisons are significant at 0.01 level, 16 comparisons are significant at 0.05 level and 21 comparisons are not significant. Non significant results reveal that high and moderate groups are similar in some situations, for contributing non cognitive qualities among teachers. High and low groups formed out of different levels of independent variables are dissimilar as far as grit, tenacity and resilience are concerned. Low and moderate levels of socio- emotional competency groups are similar for grit and tenacity among government teachers.

Factorial MANOVA

The second objective of the study intents to find out the multivariate and univariate interaction effect of Compatibility Factors in Teaching on Teacher Endurance Factors among Special Education Teachers. The multivariate and univariate interaction effect were found out by Four way MANOVA and ANOVA with 3*3*3*3 Factorial design which is carried out for Total sample and sub samples based on locality, type of management, experience and qualification of Teachers.

Multivariate and univariate interaction of Socio Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Grit, Tenacity and Resilience are worked out for total sample and all selected sub samples

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 Factorial MANOVA.

Factorial MANOVA with 3*3*3*3 design was used to find out the Multivariate Interaction effect of Compatibility Factors: Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors

and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) for Total sample and the results are presented in Table 86.

Table 86

*Summary of Result of 3*3*3*3 Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Total Sample*

Source of variables	Value of Pillais Trace	F	df	Partial eta squared
Socio- Emotional Competency*School climate*Cognitive and meta cognitive*Motivational factors	0.89	4.82**	126	0.30

Discussion.

The result reveals that when, Socio- Emotional Competency, School Climate, Cognitive Meta Cognitive Factors and motivational Factors in Teaching are taken together there is significant multivariate effect as the F value obtained is 4.82, P=0.00, Pillais Trace =0.89 and Partial Eta Squared =0.30. This indicates that Socio-Emotional Competency, School Climate, Cognitive Meta Cognitive and Motivational Factors in Teaching are powerful enough to produce multivariate effect on Teacher Grit, Tenacity and Resilience.

Univariate interaction effect on special education teacher grit, tenacity and resilience by socio- emotional competency, school climate factors, cognitive and meta cognitive factors and motivational factors in teaching for total sample.

Factorial ANOVA 3*3*3*3 design was used to find out Univariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and

Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) for Total sample and the univariate effects were calculated and the results are presented in Table 87.

Table 87

Summary of the result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Total sample

Source	Dependent Variable	Sum of squares	Mean square	df	F
Socio- Emotional Competency*School Climate*Cognitive And Meta Cognitive*Motivational factors	Grit	23723.3	564.8	42	13.57**
	Tenacity	14244.3	339.2	42	13.29**
	Resilience	1822.89	472.0	42	9.73**

Discussion.

The result of Four Way ANOVA shows that Socio-Emotional Competency versus School Climate versus Cognitive Meta Cognitive Factors versus Motivational Factors in Teaching are significant for Teacher Grit, Tenacity and Resilience as the F values obtained are 13.56, 13.29, and 9.73 respectively. The different groups formed out of the interaction are different for Teacher Grit, Tenacity and Resilience for Total sample.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial MANOVA for urban sample.

Factorial MANOVA with 3*3*3*3 designs were used to find out multivariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity

and Resilience) and the Multivariate effect were calculated and the results are presented in table 88.

Table 88

Summary of the result of Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching in Different Combinations for Urban Sample

Source of Variables	Value of Pillai's Trace	F	df	Partial eta squared
Socio- Emotional Competency*School climate* Cognitive And Meta Cognitive*Motivational factors	1.07	2.60**	96	0.36

Discussion

The result reveals that when, Socio- Emotional Competency, School Climate, Cognitive Meta Cognitive Factors and motivational Factors in Teaching are taken together there is significant multivariate effect as the F obtained is 2.60, P=0.00, Pillai's Trace = 1.07 and Partial Eta Squared =0.36 for Urban sample. This indicates that Socio-Emotional Competency, School Climate, Cognitive Meta Cognitive Factors and Motivational Factors in Teaching are powerful enough to produce multivariate effect on Teacher Grit, Tenacity and Resilience.

Univariate Interaction effect on Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Urban Sample.

Factorial ANOVA with 3*3*3*3 designs were used to find out univariate interaction effect of Compatibility Factors: Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors

and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and Univariate Interaction effects for Urban Teachers were calculated and the results are presented in table 89.

Table 89

Summary of the result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Urban Sample.

Source	Dependent Variable	Sum of squares	Mean square	Df	F	Signi
Socio- Emotional Competency*School Climate* Cognitive and Meta Cognitive*Motivational Factors	Grit	10340	323.1	32	8.14**	0.00
	Tenacity	5584	174.5	32	6.46**	0.00
	Resilience	8711	272.2	32	5.51**	0.00

Discussion.

The result of four way Univariate Interaction formed out of Socio-Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors is significant for Teacher Grit (F= 8.14, P=0.00), Tenacity(F=6.46, P=0.00) and Resilience(F=5.51, P=0.00) at 0.01 level of significance indicating that the different groups formed out of four way Interactions are different for Teacher Grit, Tenacity and Resilience are taken into account.

Interaction effect of Compatibility Factors in Teaching on Teacher Endurance Factors were found out using 3*3*3*3 factorial MANOVA for Rural Sample.

Factorial MANOVA with 3*3*3*3 design was used to find out Multivariate interaction effect of Compatibility Factors : Socio- Emotional

Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and the Multivariate interaction effect was calculated for Rural sample and the results are presented in table 90.

Table 90

Summary of the Result of Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Rural Sample

Source of variables	Value of Pillais Trace	F	dF	Signi	Partial eta squared
Socio- Emotional Competency*School climate*Cognitive and metacognitive*Motivational factors	1.03	4.27**	111	0.00	0.35

Discussion.

The result of four way MANOVA reveal that the Multivariate Interaction by Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant at 0.01 level of significance as the value of Pillai's Trace obtained is 1.03, partial eta squared= 0.35, F(111,)= 4.27, p=0.00. The significant four way Multivariate interaction of Unaided Teachers reveal that vector mean scores of Teacher Grit, Tenacity and Resilience are dissimilar with respect to different groups emerged from the Interaction.

Univariate interaction effect on special education teacher grit, tenacity and resilience by socio emotional competency, school climate factors, cognitive and meta cognitive factors and motivational factors in teaching for rural sample.

Factorial ANOVA with 3*3*3*3 design was used to find out univariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and Univariate Interaction effects for Rural Teachers were calculated and the results are presented in table 91

Table 91

Summary of the Result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching in Different Combinations for Rural Sample.

Source	Dependent Variable	Sum of squares	Mean square	df	F	Signi
Socio-Emotional Competency* School Climate*Cognitive and Meta Cognitive* Motivational factors	Grit	14552	393.3	37	9.32**	0.00
	Tenacity	9661.6	261.1	37	11.00**	0.00
	Resilience	13306	359.9	37	8.08**	0.00

Discussion.

The four way Interaction of Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant for Teacher Grit(F=9.32, p=0.00), Teacher Tenacity (F=11.00, p= 0.00) and Teacher Resilience

(F=8.08, p=0.00) at 0.01 level of significance indicating that the mean scores of Grit, Tenacity and Resilience vary within each dependent variable with respect to different groups formed out of the interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial MANOVA of government sample.

Factorial MANOVA with 3*3*3*3 design was used to find out Multivariate interaction effect of Compatibility Factors: Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) for Government sample and the Multivariate effect was calculated and the results are presented in table 92.

Table 92

Summary of the result of Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Government sample.

Source of variables	Pillais Trace	F	dF	Signi	Partial eta squered
Socio- Emotional Competency*School climate*Cognitive And Meta cognitive*Motivational Factors	1.32	2.41	57	0.00	0.44

Discussion.

The result of four way MANOVA reveal that the Multivariate Interaction by Socio- Emotional Competency versus School Climate versus

Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant at 0.01 level of significance as the value of Pillai's Trace obtained is 1.32, partial eta squared= 0.44, F(57,)= 2.41, p=0.00. The significant four way Multivariate interaction of Government Teachers reveal that vector mean scores of Teacher Grit, Tenacity and Resilience are dissimilar with respect to different groups emerged from the Interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial ANOVA.

Factorial ANOVA with 3*3*3*3 design was used to find out Univariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and Univariate Interaction effects were calculated and the results are presented in table 93.

Table 93

Summary of the Result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Government Sample

Source	Dependent Variable	Sum of squares	Mean square	df	F	Signi
Socio- Emotional Competency*School Climate* Cognitive And Meta Cognitive*Motivational factors	Grit	4204.9	221.31	19	4.40**	0.00
	Tenacity	2721.0	143.21	19	5.06**	0.00
	Resilience	4290.6	225.82	19	7.86**	0.00

Discussion.

The four way Interaction of Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant for Teacher Grit(F= 4.40, p=0.00), Teacher Tenacity (F=5.06, p= 0.00) and Teacher Resilience (F= 7.86, p=0.00) at 0.01 level of significance indicating that the mean scores of Grit, Tenacity and Resilience vary within each dependent variable with respect to different groups formed out of the interaction in Government sample.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial MANOVA for unaided school teachers.

Factorial MANOVA with 3*3*3*3 design was used to find out Multivariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and the Multivariate interaction effect was calculated for Unaided sample and the results are presented in table 94.

Table 94

Summary of the result of Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Unaided School Samples

Source of variables	Pillais Trace	F	dF	Partial eta squered
Socio- Emotional Competency*school climate*cognitive and meta cognitive*motivational factors	0.92	4.34**	123	0.31

Discussion.

The result of four way MANOVA revealed that the Multivariate Interaction by Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant at 0.01 level of significance as the value of Pillai's Trace obtained is 0.92, partial eta squared= 0.37, F(123, 1200)= 4.34, p=0.00. The significant four way Multivariate interaction of Unaided Teachers reveal that vector mean scores of Teacher Grit, Tenacity and Resilience are dissimilar with respect to different groups emerged from the Interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial ANOVA.

Factorial ANOVA with 3*3*3*3 design was used to find out Univariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and Univariate Interaction effects were calculated and the results are presented in table 95.

Table 95

Summary of the result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Unaided School Sample

Source	Dependent Variable	Sum of squares	Mean square	df	F	Signi
Socio- Emotional Competency*School Climate* Cognitive and Meta Cognitive *Motivational factors	Grit	20315	495.5	41	12.28**	0.00
	Tenacity	12228	298.3	41	12.16**	0.00
	Resilience	17025	415.2	41	8.36**	0.00

Discussion.

The four way Interaction of Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant for Teacher Grit(F=12.28, p=0.00), Teacher Tenacity (F=12.16, p= 0.00) and Teacher Resilience (F=8.36, p=0.00) at 0.01 level of significance indicating that the mean scores of Grit, Tenacity and Resilience vary within with respect to different groups formed out of the interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial MANOVA for teachers having experience upto 5 years.

Factorial MANOVA with 3*3*3*3 design was used to find out Multivariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and the Multivariate interaction effect was calculated for Teachers having Experience upto 5 years and the results are presented in table 96.

Table 96

Summary of the result of Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Teachers having Experience upto 5 years.

Source Of Variables	Pillais Trace	F	dF	Signi	Partial eta squared
Socio- Emotional Competency*School climate*Cognitive And Meta cognitive*Motivational factors	1.21	3.64**	105	0.00	0.40

Discussion.

The result of four way MANOVA reveal that the Multivariate Interaction by Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant at 0.01 level of significance as the value of Pillai's Trace obtained is 1.21, partial eta squared= 0.40, F(105, 564)= 3.64, p=0.00. The significant four way Multivariate interaction of Teachers having experience upto 5 years reveal that vector mean scores of Teacher Grit, Tenacity and Resilience are dissimilar with respect to different groups emerged from the Interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial ANOVA.

Factorial ANOVA with 3*3*3*3 design was used to find out Univariate interaction effect of Compatibility Factors , Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and Univariate Interaction effects were calculated and the results are presented in table 97.

Table 97

Summary of the result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching in Different Combinations for Teachers having Experience Up to 5 years

Source	Dependent Variable	Sum of squares	Mean square	df	F	Signi
Socio-Emotional Competency*School Climate* Cognitive And Meta Cognitive *Motivational factors	Grit	10748	507.1	35	7.85**	0.00
	Tenacity	7313.4	209.0	35	8.79**	0.00
	Resilience	11423	326.4	35	7.15**	0.00

Discussion.

The four way Interaction of Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant for Teacher Grit(F= 7.85, p=0.00), Teacher Tenacity (F= 8.79, p= 0.00) and Teacher Resilience (F= 7.15, p=0.00) at 0.01 level of significance indicating that the mean scores of Grit, Tenacity and Resilience vary within each dependent variable with respect to different groups formed out of the interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial MANOVA for teachers having experience 5 years and above.

Factorial MANOVA with 3*3*3*3 design was used to find out Multivariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and

Resilience) and the Multivariate interaction effect was calculated for Teachers having Experience 5 years and above and the results are presented in table 98.

Table 98

Summary of the result of Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Teachers having Experience 5 years and Above

Source of variables	Pillais Trace	F	dF	Signi	Partial eta squered
Socio- Emotional Competency*School climate*Cognitive and meta cognitive*Motivational factors	0.93	3.35**	105	0.00	0.31

Discussion.

The result of four way MANOVA reveal that the Multivariate Interaction by Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant at 0.01 level of significance as the value of Pillai's Trace obtained is 0.93, partial eta squared= 0.31, F(105, 780)= 3.35, p=0.00. The significant four way Multivariate interaction of Teachers having experience 5 years and above reveal that the vector mean scores of Teacher Grit, Tenacity and Resilience are dissimilar with respect to different groups emerged from the Interaction.

*Interaction effect of compatibility factors in teaching on teacher endurance factors were found out for teachers having experience of 5 years and above using 3*3*3*3 factorial ANOVA.*

Factorial ANOVA with 3*3*3*3 design was used to find out Univariate interaction effect of Compatibility Factors: Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors

and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and Univariate Interaction effects were calculated and the results are presented in table 99.

Table 99

Summary of the result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Teachers having Experience 5 years and Above.

Source	Dependent Variable	Sum of squares	Mean square	df	F	Signi
Socio- Emotional Competency*School Climate *Cognitive And Meta Cognitive *Motivational factors	Grit	14090.17	402.58	35	9.26**	0.00
	Tenacity	7152.91	204.37	35	7.38**	0.00
	Resilience	10128.	289.38	35	5.99**	0.00

Discussion.

The four way Interaction of Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant for Teacher Grit (F= 9.26, p=0.00), Teacher Tenacity (F= 7.38, p= 0.00) and Teacher Resilience (F= 5.99, p=0.00) at 0.01 level of significance indicating that the mean scores of Grit, Tenacity and Resilience vary within each dependent variable with respect to different groups formed out of the interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial MANOVA for teachers with qualification :under graduation.

Factorial MANOVA with 3*3*3*3 design was used to find out Multivariate interaction effect of Compatibility Factors : Socio- Emotional

Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and the Multivariate interaction effect was calculated for Teachers with Qualification : Under Graduation.

Table 100

Summary of the Result of Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Under Gradate Teachers

Source of variables	Pillais Trace	F	dF	Signi	Partial eta squared
Socio-Emotional Competency*School climate*Cognitive and meta cognitive*Motivational factors	1.06	3.34**	108	0.00	0.35

Discussion

The result of four way MANOVA reveal that the Multivariate Interaction by Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant at 0.01 level of significance as the value of Pillai's Trace obtained is 1.06, partial eta squared= 0.35, F(108, 657)= 3.34, p=0.00. The significant four way Multivariate interaction of Teachers with Qualification: Under Graduation reveal that the vector mean scores of Teacher Grit, Tenacity and Resilience are dissimilar with respect to different groups emerged from the Interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors for under graduation teachers were found out using 3*3*3*3 factorial ANOVA.

Factorial ANOVA with 3*3*3*3 design was used to find out Univariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and Univariate Interaction effects were calculated and the results are presented in table 101.

Table 101

Summary of the result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Teachers with Qualification: Under Graduation

Source	Dependent Variable	Sum of squares	Mean square	df	F	Signi
Socio- Emotional Competency*School Climate* Cognitive and Meta Cognitive*Motivational factors	Grit	11756	326.5	36	8.19**	0.00
	Tenacity	7795.3	216.5	36	8.96**	0.00
	Resilience	10765	299.0	36	6.73**	0.00

Discussion.

The four way Interaction of Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant for Teacher Grit (F= 8.19, p=0.00), Teacher Tenacity (F= 8.96, p= 0.00) and Teacher Resilience

(F= 6.73, p=0.00) at 0.01 level of significance indicating that the mean scores of Grit, Tenacity and Resilience vary within each dependent variable with respect to different groups formed out of the interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors were found out using 3*3*3*3 factorial MANOVA for teachers with qualification : graduation and above.

Factorial MANOVA with 3*3*3*3 design was used to find out Multivariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and the Multivariate interaction effect was calculated for Teachers with Qualification : Graduation and Above.

Table 102

Summary of the result of Factorial MANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Teachers with Qualification Graduation and Above.

Source of variables	Pillais Trace	F	dF	Signi	Partial eta squared
Socio-Emotional Competency*School climate*Cognitive and meta cognitive*Motivational factors	0.94	2.96**	105	0.00	0.31

Discussion.

The result of four way MANOVA reveal that the Multivariate Interaction by Socio- Emotional Competency versus School Climate versus

Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant at 0.01 level of significance as the value of Pillai's Trace obtained is 0.94, partial eta squared= 0.31, F(105, 684)= 2.96, p=0.00. The significant four way Multivariate interaction of Teachers with Qualification: Graduation and above reveal that the vector mean scores of Teacher Grit, Tenacity and Resilience are dissimilar with respect to different groups emerged from the Interaction.

Interaction effect of compatibility factors in teaching on teacher endurance factors for teachers with graduation and above were found out using 3*3*3*3 factorial ANOVA.

Factorial ANOVA with 3*3*3*3 design was used to find out Univariate interaction effect of Compatibility Factors : Socio- Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching on Teacher Endurance (Grit, Tenacity and Resilience) and Univariate Interaction effects were calculated and the results are presented in table 103.

Table 103

Summary of the result of Factorial ANOVA of Special Education Teacher Grit, Tenacity and Resilience by Socio Emotional Competency, School Climate Factors, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching for Teachers with Qualification: Graduation and Above.

Source	Dependent Variable	Sum of squares	Mean square	df	F	Signi
Socio-Emotional Competency*School Climate*Cognitive And Meta Cognitive *Motivational	Grit	13208	377.4	35	9.03**	0.00
	Tenacity	6626.7	189.3	35	7.00**	0.00
	Resilience	10154	290.1	35	5.57**	0.00

Discussion

The four way Interaction of Socio- Emotional Competency versus School Climate versus Cognitive and Meta Cognitive Factors versus Motivational Factors in Teaching is significant for Teacher Grit(F= 9.03, p=0.00), Teacher Tenacity (F=7.00, p= 0.00) and Teacher Resilience (F= 5.57, p=0.00) at 0.01 level of significance indicating that the mean scores of Grit, Tenacity and Resilience vary within each dependent variable with respect to different groups formed out of the interaction.

Conclusion

Third order multivariate effect of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors on teacher grit, tenacity and resilience are significant at 0.01 level indicating strong influence of four strands of effective teaching competencies on endurance factors. The result reveals that grit, tenacity and resilience are three distinct non- cognitive qualities which vary in strength and direction. Multivariate interactions are capable to trace minute differences among variables, but in the study grit, tenacity and resilience depart from one another profoundly (the values of Pillai's Trace and Partial Eta Square provided evidences) .The univariate third order interaction effect of socio-emotional competency , school climate , cognitive and meta cognitive factors and motivational factors on teacher grit, tenacity and resilience are significant which indicates that the groups formed out of the interaction are capable to produce differences within grit, tenacity and resilience individually for total sample and subsamples selected .For new and under graduate teachers, the

third order interaction contributed more to tenacious behavior. While for all other samples, the third order interaction effects are more predominant toward grit than tenacity and resilience. The study concludes that the four independent variables selected are essential components to develop non-cognitive qualities among special education teachers in Kerala.

Chapter V

Summary of Major Findings, Conclusions and Suggestions

- Study in Retrospect
- Major Findings of the study
- Tenability of Hypotheses
- Conclusions based on Findings of the Study
- Educational Implications
- Suggestions for further Research

This chapter includes a recollection of important aspects of different stages of the study, the major findings, the educational implications and suggestions for further research. The chapter is organized under the following headings.

- Study in Retrospect
- Major Findings of the study
- Tenability of Hypotheses
- Conclusions based on Findings of the study
- Educational Implications
- Suggestions for further Research

Study in Retrospect

This section recapitulate major elements of the present study such as the title, variables of the study, objectives of the study, hypotheses and methodology used for the study.

The present study is aimed to find out the four independent variables Socio – Emotional Competency, School Climate, Cognitive and Meta Cognitive Factors and Motivational Factors in Teaching grouped as Compatibility Factors and three dependent variables : Teacher Grit, Tenacity and Resilience grouped as Teacher Endurance Factors. Thus the present study is entitled as "INFLUENCE OF SELECT COMPATIBILITY FACTORS ON TEACHER ENDURANCE AMONG SPECIAL EDUCATION TEACHERS OF PUPILS WITH INTELLECTUAL DIFFERENCES".

Variables Selected for the Study

The independent variables and dependent variables selected for the study are .

Independent variables. Compatibility Factors in Teaching which include

- Socio- Emotional Competency
- School Climate
- Cognitive and Meta Cognitive factors
- Motivational factors

Dependent variables. Teacher Endurance Factors which include

- Grit
- Tenacity
- Resilience

Objectives of the Study

1. To find out the multivariate effect of compatibility Factors in Teaching (Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive, Motivational Factors) on Teacher Endurance Factors (Teacher Grit, Tenacity and Resilience) of special education teachers for total sample and subsamples based on Locality, Type of Management, Experience and Qualification of Teachers.
2. To find out the multivariate interaction effect of compatibility Factors in Teaching (Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive, Motivational Factors) on Teacher Endurance Factors

(Teacher Grit, Tenacity and Resilience) of special education teachers for total sample and subsamples based on Locality, Type of Management, Experience and Qualification of Teachers.

Hypotheses

1. There exist significant multivariate effect of compatibility Factors in Teaching (Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive, Motivational Factors) on Teacher Endurance Factors (Teacher Grit, Tenacity and Resilience) of special education teachers for total sample and subsamples based on
    - Locality (Urban and Rural)
    - Type of Management (Government and Unaided)
    - Experience (Up to 5 years and 5 years and Above)
    - Qualification (Under Graduation and Graduation and Above)
2. There exist significant multivariate interaction effect of compatibility Factors in Teaching (Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive, Motivational Factors) on Teacher Endurance Factors (Teacher Grit, Tenacity and Resilience) of special education teachers for total sample and subsamples based on
    - Locality (Urban and Rural)
    - Type of Management (Government and Unaided)
    - Experience (Up to 5 years and 5 years and Above)
    - Qualification (Under Graduation and Graduation and Above)

Methodology

Method.

Survey method was adopted to collect data from special education teachers across Kerala.

Sample.

The present study included 520 special education teachers from Kerala. The sample comprised of teachers from special Schools, Block Resource Centers, RMSA (Rashtriya Madhyam Siksha Abhiyaan) and Buds Schools, who handle pupil with intellectual differences in Kerala. Samples were drawn from all districts of Kerala using random sampling method by giving due weightage to South (Thiuvanthapuram, Kollam, Pathanamthitta, Kottayam) Central (Alappuzha, Eranakulam, Thrissur and Palakkad) and Northern Kerala(Kasargod, Kannur, Wayanad, Kozhikode and Malappuram) .

Tools used for data collection.

The following tools were used for the study

Socio-Emotional Competency Inventory (Usha & Thankam, 2018)

Socio-Emotional Competency Inventory consist of 30 items, is a three point inventory, comprised of five emotional and social competencies viz., self awareness, social awareness, responsible decision making, self management and relationship management. Initially the inventory consisted of 44 items and was standardized after pilot testing.

Scale of School Climate Factors in teaching (Usha & Thankam, 2018)

The scale of School Climate Factors in teaching is a three point Likert type scale which consisted of 40 items from four major dimensions of School Climate, viz, safety, teaching and learning Relationship, Environmental and structural Factors (Cohen et al., 2006). These dimensions are viewed in teaching contexts rather than learning aspects while constructing the scale. Initially the scale consisted of 50 items and was standardized after pilot testing.

Scale of Cognitive and Meta Cognitive Factors in teaching (Usha & Thankam, 2018).

The scale of cognitive and meta cognitive Factors in teaching consisted of 30 items, representing teacher consciousness towards one's own cognitive and meta cognitive characteristics. The three point scale comprised of cognitive Factors in teaching which were identified from "Learner Centered Principles" put forward by the American psychological Associations Board of Education (1997). The sub components included are the nature of teaching process, Goals of teaching and construction of pedagogical knowledge. The meta cognitive Factors in teaching included meta cognitive knowledge /awareness, meta cognitive experience/regulations, meta cognitive strategies and socially shared meta cognition. Flavell (1976) Brown (1987), and Iiskala et al. (2004).After pilot testing the scale was standardized.

Scale of Motivational Factors in Teaching (Usha & Thankam, 2018).

The scale of Motivational Factors in Teaching is a Likert type scale with three levels of responses comprised of 28 items deduced from the following sub elements of motivational Factors in teaching .viz., Responsibility and autonomy, Leadership style, Advancement and Growth opportunity, Institutional philosophy, working environment, Leisure time utilization, Respect and Recognition, Tactful disciplinary machinery and Fringe benefits and good wages. Initially the scale was consisted of 40 items and was standardized after pilot testing

Scale on Special Education Teacher Grit (Usha & Thankam, 2018).

Scale on special education teacher grit is a 3 point 30 items scale comprised of qualities associated with Grit that are consistency of interest and perseverance of effort .Consistency of interest encompassed sustained commitment, Cognitive framing, consciousness and long term goals in teaching while perseverance of effort comprised of courage, optimistic confidence, Use of differentiated strategies, hard work in Practice and Persistence in the face of challenge .The scale was standardized after pilot testing.

Scale on special education Teacher Tenacity (Usha & Thankam, 2018).

Scale on special education Teacher Tenacity is a 26 items scale represented by the characteristics associated with Tenacious behavior of teachers and the sub components included were mindset, goal orientation, belonging, value affirmation and self regulation. Initially the scale consisted of 38 items and was standardized after pilot study.

A Scale on Special Education Teacher Resilience (Usha & Thankam, 2018).

The Scale on Special Education Teacher Resilience is a 3 point Likert type Scale composed of Emotional, Motivational, Social and Profession related dimensions of Resilience of teacher .The sub components /elements in Emotional dimensions were the quality of bounce back keeping a sense of humor. Manage emotions and cope with job demands .Motivational dimensions of Resilience comprised of the qualities, viz., set realistic expectations. Being positive and optimistic, having confidence and self control. Social dimensions of Resilience comprised of qualities such as seeks help and take advice, build support and relationship, and solve problems. Profession related qualities of resilience included commitment to students, flexible and adaptive behavior. The 30 item Scale was standardized after pilot testing.

Statistics techniques used for the study.

The present study as a quantitative survey type utilized both descriptive and inferential statistics for analysis. The statistical techniques opted for the present study are as follows.

Preliminary analysis.

Basic descriptive statistics: Mean, Median, Mode, Standard deviation, skewness and kurtosis were found out for all independent and dependent

variables for total sample, and subsamples included for the study .Tests recommended for satisfying Assumptions regarding MANOVA were carried out for total sample and subsamples based on the variables selected for the study.

One Way MANOVA.

One way MANOVA was used as the statistical technique to determine the influence of each compatibility Factors in Teaching, viz, socio emotional competency, School climate, cognitive and meta cognitive and motivational Factors on teacher endurance (Teacher Grit, Tenacity and Resilience) Each independent variable was categorized into three levels to conduct MANOVA. The multivariate effect of each independent variable on Dependent variable were calculated along with main effects. Scheffe's Test of post hoc comparison was also done for the significant F values to identify the differences between means among groups within each independent variable.

Factorial MANOVA.

3*3*3*3 Factorial design was used as the statistical technique to explore multivariate interaction effect of selected independent variables on dependent variables and multivariate and univariate interaction effects were calculated. For finding out univariate interaction effect, 3*3*3*3 Factorial ANOVA was done by categorizing each independent variable into three categories.

Major Findings of the Study

The findings of the study are summarized based on the objectives of the study.

Multivariate and main effect of independent variables on dependent variables for total sample.

The Multivariate and Main effect of independent variables, viz., Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in Teaching on dependent variable, viz., Teacher Grit, Tenacity and Resilience for Total sample are presented as follows.

Variable	Multivariate effect			Main effect (F- values)		
	Pillai's Trace	F-value	Partial Eta Squared	Grit	Tenacity	Resilience
Socio-Emotional Competency	0.26	26.03**	0.14	59.63**	48.76**	63.83**
School Climate	0.28	27.87**	0.14	69.26**	82.87**	58.97**
Cognitive and Meta Cognitive factors	0.38	40.64**	0.19	123.82**	104.36**	95.55**
Motivational factors	0.42	45.08**	0.21	144.62**	135.42**	82.32**

- The values of Pillai's Trace, F-values, and Partial η^2 reveal that multivariate and main effect of compatibility factors on teacher endurance factors are significant indicating profound evidences for difference between grit, tenacity, and resilience in dimension and strength and

follow a trend in its effect as motivational factors › cognitive and meta cognitive factors› school climate factors› socio- emotional competency factors for total sample.

- The result of main effects of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors on teacher grit, tenacity and resilience reveal that socio-emotional competency influence more on resilient behavior of teachers, school climate influence more on tenacious behavior of teachers, cognitive and meta cognitive factors and motivational factors influence more on teacher grit for total sample.

  - Result of Scheffés test of Post hoc reveal that Low, Moderate and High groups of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors are dissimilar for teacher grit, tenacity and resilience for total sample. Low and Moderate, Low and High groups show higher differences than Moderate and High groups of all independent variables selected for the study.

Multivariate and main effect of independent variables on dependent variables for urban and rural sample.

The Multivariate and Main effect of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in Teaching on Teacher Grit, Tenacity and Resilience for Urban and Rural sample are given below.

Subsample	Variable	Multivariate Effect			Main Effect (F –values)		
		Pillai's trace	F-value	Partial eta squared	Grit	Tenacity	Resilience
Urban	Socio Emotional Competency	0.25	8.63**	0.13	21.20**	17.23**	22.01**
	School Climate	0.33	11.79**	0.16	24.54**	39.49**	25.39**
	Cognitive and Meta Cognitive factors	0.44	16.54	0.22	58.58**	39.01**	42.40**
	Motivational factors	0.45	17.08**	0.22	68.33**	40.79**	30.54**
Rural	Socio-Emotional Competency	0.28	17.80**	0.14	39.48**	31.68**	42.51**
	School Climate	0.26	16.76**	0.13	43.55**	44.54**	33.67**
	Cognitive and Meta Cognitive factors	0.36	24.16**	0.18	66.25**	64.47**	53.14**
	Motivational factors	0.42	29.61**	0.21	76.40**	97.48**	49.72**

- The values of Pillai's Trace, F-values, and Partial η2 reveal that multivariate and main effect of compatibility factors on teacher endurance factors are significant indicating profound evidences for difference between grit, tenacity, and resilience in its direction and strength for urban and rural school teachers but the trend show some differences for Rural sample which is motivational factors › cognitive and meta cognitive factors› socio- emotional competency factors› school climate factors. For urban sample trend is similar with total sample.

- The result of main effects of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors on teacher grit, tenacity and resilience reveal that for urban and rural sample each strand of teaching competencies influence non-cognitive qualities of teachers. But for urban school teachers socio-emotional competency influence equally well on grit and resilient behavior of teachers, school climate influence more on tenacious behavior of teachers, cognitive and meta cognitive factors and motivational factors influence more on teacher grittiness for urban sample. For rural sample the major difference found in the result is that motivational factors influence more on tenacious behavior of teachers than grit and resilience.
- Result of Scheffe's Post Hoc revealed that Low and Moderate and Low and High groups formed out of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in Teaching among urban teachers posses high difference in Grit, Tenacity and Resilience, while the group formed out of Moderate and High levels of Socio-Emotional Competency, and School Climate show moderate differences for Teacher Grit. Similarly for teacher Tenacity, Moderate and High School Climate groups showed moderate differences and for teacher Resilience, Moderate and High groups formed out of Socio- Emotional Competency, School Climate and Motivational Factors also had moderate differences.
- Results of Scheffe's test of Post Hoc revealed that, the groups formed out of Low and Moderate and Low and High for Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in Teaching posses high differences in Grit, Tenacity and Resilience. Moderate and high groups of Socio- Emotional Competency, School Climate show moderate differences and that of Cognitive and Meta Cognitive and

Motivational groups show high differences in the mean scores of Grit, Tenacity and Resilience for Rural sample.

Multivariate and main effect of independent variables on dependent variables for government and unaided sample.

The Multivariate and Main effect of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in Teaching on Teacher Grit, Tenacity and Resilience for Government and Unaided Sample are given below.

Sample	Variable	Multivariate Effect			Main Effect (F –values)		
		Pillai's Trace	F-value	Partial eta squared	Grit	Tenacity	Resilience
Govt	Socio-Emotional Competency	0.30	4.40**	0.15	7.58**	3.92*	8.56**
	School Climate	0.29	3.98**	0.14	6.68**	10.24**	7.27**
	Cognitive and Meta Cognitive factors	0.41	6.44**	0.21	12.63**	19.89**	14.61**
	Motivational factors	0.53	8.87**	0.26	26.40**	17.29**	22.64**
Unaided	Socio-Emotional Competency	0.26	22.01**	0.13	52.44**	46.16**	55.85**
	School Climate	0.30	45.78**	0.24	66.87**	75.29**	50.94**
	Cognitive and Meta Cognitive factors	0.39	35.20**	0.19	113.79**	85.54**	80.34**
	Motivational factors	0.41	37.95**	0.21	119.41**	118.29**	63.58**

- The values of Pillai's Trace, F-values, and Partial η2 reveal that multivariate effects of compatibility factors on teacher endurance factors are significant indicating profound evidences for difference between grit, tenacity, and resilience in its direction and strength for government and unaided school teachers but the trend show some differences for government sample which is motivational factors › cognitive and meta cognitive factors› socio-emotional competency factors› school climate factors similar to rural teachers. For unaided teachers the trend is similar with total sample.
- The result of main effects of select compatibility factors in teaching on endurance factors reveal that for government and unaided school teachers each strand of teaching competencies influence non-cognitive qualities of teachers.
    - For government school teachers socio-emotional competency influence equally well on grit and resilient behavior of teachers while school climate, and cognitive and meta cognitive factors influence more on tenacious behavior of teachers and motivational factors influence more on teacher grittiness.
    - For unaided school teachers the major difference found in the result is that motivational factors influence equally well on grit and tenacious behavior of teachers than resilience.
- Results of Scheffe's test of Post Hoc for government teachers reveal that
    - Low and high, and moderate and high socio-emotional competency groups are dissimilar for grit while low and moderate groups are similar. For teacher tenacity, only low and high socio-emotional competency

groups are different and for resilience, low and moderate and low and high groups are different for government sample.

- The difference between Low and Moderate and Low and High School Climate groups are significant for Teacher Grit, tenacity and resilience but Moderate and High levels of School Climate groups are similar as far as Teacher grit, Tenacity and Resilience are concerned.
- Low and Moderate, and Low and High Cognitive and Meta Cognitive groups are different for Teacher grit, Tenacity and Resilience but moderate and high groups are similar for teacher resilience and show moderate differences for grit and tenacity.
- Low, Moderate and High Motivational groups show significant differences in Teacher Grit, Tenacity and Resilience. But mean differences between Moderate and High groups of motivational factors show moderate difference for teacher resilience and tenacity as far as Government sample are considered.

- Results of Scheffe's test of Post Hoc for unaided teachers reveal that
  - Low, Moderate and High levels of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in teaching show significant difference in the mean scores of Teacher Grit, Tenacity and Resilience for Unaided Sample. All groups formed are dissimilar in all aspects.

Multivariate and main effect of independent variables on dependent variables for teachers having experience: up to 5 years and 5 years and above.

The Multivariate and Main effect of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in

Teaching on Teacher Grit, Tenacity and Resilience for Teachers having experience: Up to 5 years and 5 years and above are as follows.

	Variable	Multivariate Effect			Main Effect (F –values)		
		Pillai's Trace	F-value	Partial eta squared	Grit	Tenacity	Resilience
Teachers having experience up to 5 years	Socio-Emotional Competency	0.33	14.21**	0.16	38.85**	26.42**	39.37**
	School Climate	0.29	12.44**	0.15	32.52**	28.13**	22.90**
	Cognitive and Meta Cognitive factors	0.46	22.10**	0.23	62.06**	48.25**	53.89**
	Motivational factors	0.47	22.80**	0.24	49.84**	87.87**	47.31**
Experience 5 years and above	Socio-Emotional Competency	0.22	12.09**	0.11	25.26**	21.86**	25.11**
	School Climate	0.31	17.78**	0.15	37.31**	54.51**	36.84**
	Cognitive and Meta Cognitive factors	0.36	21.07**	0.19	67.15**	53.97**	41.18**
	Motivational factors	0.42	25.99**	0.21	100.31**	57.56**	36.63**

- The values of Pillai's Trace, F-values, and Partial η2 reveal that multivariate effects of compatibility factors on teacher endurance factors are significant indicating profound evidences for difference between grit, tenacity, and resilience in its direction and strength for special school teachers having experience upto 5 years, and 5 years and above. The trend show some differences for teachers having experience upto 5 years which

is motivational factors › cognitive and meta cognitive factors› socio-emotional competency factors› school climate factors, a findings similar to rural and government teachers. For more experienced teachers the trend is similar with total and urban sample.

- The result of main effects of each select compatibility factors on teacher endurance factors reveal that for both new and experienced special school teachers each strand of teaching competencies have influence on non-cognitive qualities of teachers.
  - For novice teachers socio-emotional competency influence equally well on grit and resilient behavior of teachers, school climate, and cognitive and meta cognitive factors influence more on teacher grittiness and motivational factors influence more on tenacious behavior of teachers. The findings show significant deviations from other categories of sample selected.
  - For experienced special education teachers too socio-emotional competency influence equally well on grit and resilient behavior of teachers, but school climate influence more on tenacious behavior of teachers while cognitive and meta cognitive factors and motivational factors influence more on teacher grittiness, the result congruent with the findings observed in total and urban sample .
- Results of Scheffés test of Post Hoc for teachers having experience upto 5 years reveal that
  - Among Socio- Emotional Competency groups, Moderate and High Groups are similar for teacher's resilient behavior and other pairs formed are different for grit, tenacity and resilience.

- Moderate and high groups are similar for grit and tenacity but other paired groups are dissimilar for grit, tenacity and resilience among school climate groups.
- While comparing groups formed out of cognitive and meta cognitive factors moderate and high groups are similar for teacher grit, and all other pairs formed are different for grit, tenacity and resilience.
- While comparing groups formed out of motivational factors, Low, Moderate and High motivational factor groups are dissimilar indicating high difference.

- Results of Scheffe's test of Post Hoc for teachers having experience 5 years and above reveal that
  - While comparing Socio- Emotional Competency groups, Moderate and High Groups are similar for teacher's resilient behavior and other pairs compared are different for grit, tenacity and resilience.
  - In school climate groups, moderate and high groups are similar for teachers resilient behavior but other pairs compared are dissimilar for grit, tenacity and resilience.
  - Among cognitive and meta cognitive factors groups, all pairs formed out of Low, Moderate and High cognitive and meta cognitive factors groups are dissimilar indicating high difference.
  - Low, Moderate and High motivational factors groups compared are dissimilar indicating high difference for grit, tenacity and resilience.

Multivariate and main effect of independent variables on dependent variables for teachers with qualification: under graduation and graduation and above.

The Multivariate and Main effect of Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in Teaching on Teacher Grit, Tenacity and Resilience for teachers having Qualification: Under Graduation and Graduation and above.

	Variable	Multivariate Effect			Main Effect (F-values)		
		Pillai's Trace	F-value	Partial eta squared	Grit	Tenacity	Resilience
Teachers with qualification Under graduation	Socio-Emotional Competency	0.22	10.51**	0.11	23.71**	17.97**	28.81**
	School Climate	0.25	12.10**	0.13	28.60**	35.75**	27.22**
	Cognitive and Meta Cognitive factors	0.42	22.48**	0.21	66.43**	57.34**	54.46**
	Motivational factors	0.45	24.53**	0.23	65.64**	81.79**	54.61**
Qualification graduation and above	Socio-Emotional Competency	0.29	14.60**	0.14	33.85**	26.78**	32.52**
	School Climate	0.30	15.27**	0.15	39.66**	44.82**	29.95**
	Cognitive and Meta Cognitive factors	0.36	18.96**	0.18	56.25**	46.79**	40.23**
	Motivational factors	0.41	22.15**	0.20	81.52**	56.29**	29.93**

** means significant at 0.01 level.

- The values of Pillai's Trace, F-values, and Partial η2 reveal that multivariate effects of compatibility factors on teacher endurance factors are significant indicating profound evidences for difference between grit, tenacity, and resilience in its direction and strength for special school teachers having qualification under graduation and graduation and above.

  The effects show the trend that motivational factors › cognitive and meta cognitive factors› school climate factors› socio- emotional competency factors for teachers having qualification under graduation and graduation and above which is similar to total, urban, and more experienced teachers.

- The result of main effects of each select compatibility factors on teacher endurance factors reveal that, for special education teachers having qualification under graduation and graduation and above, each strand of teaching competencies have influence on non-cognitive qualities of teachers.

  - For teachers having qualification under graduation socio-emotional competency influence more on grit than tenacity and resilient behavior of teachers. School climate influence more on tenacious behavior of teachers and cognitive and meta cognitive factors influence more on teacher grittiness and motivational factors influence more on tenacious behavior of teachers.

  - For special education teachers having qualification graduation and above socio-emotional competency influence equally well on grit and resilient behavior of teachers, but school climate influence more on tenacious behavior of teachers while cognitive and meta cognitive factors and motivational factors influence more on teacher grittiness,

the result congruent with the findings observed in total sample and urban sample and more experienced teachers.

- Results of Scheffe's test of Post Hoc for teachers having qualification under graduation reveal that
  - Among Socio- Emotional Competency groups, Moderate and High Groups are similar for teacher grit, tenacity, and resilience and other pairs formed for comparison are different for grit, tenacity and resilience.
  - In school climate groups, moderate and high groups are similar for grit and resilience but show moderate difference for teacher tenacity. Other group comparisons show significant difference for grit, tenacity and resilience.
  - Among cognitive and meta cognitive factor groups moderate and high groups are similar for teacher tenacity but dissimilar for grit, and resilience and all other pairs compared are different for grit, tenacity and resilience.
  - Low, Moderate and High motivational factors groups compared are dissimilar indicating high difference for grit, tenacity and resilience.
- Results of Scheffe's test of Post Hoc for teachers having qualification graduation and above reveal that
  - While comparing Low, Moderate and High Socio-Emotional Competency groups, Moderate and High Groups show moderate difference for teacher resilience but show profound difference for grit and tenacity and other pairs compared are different for grit, tenacity and resilience.

- Among school climate groups, moderate and high groups show moderate difference for resilience but have profound difference for teacher grit and tenacity. Other group comparisons show significant difference for grit, tenacity and resilience.
- Low, Moderate and High cognitive and meta cognitive factors and motivational factors groups compared are different for grit, tenacity and resilience.

Multivariate and Univariate Interaction Effect of Independent Variables on Dependent Variables

Multivariate and Univariate Interaction effect of four Independent variables Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors in Teaching on the dependent variables Teacher Grit, Tenacity and Resilience among special education teachers was done for total sample and subsamples based on Locality, Type of Management, Experience and Qualification of Teachers. Summary of 4- way Multivariate and Univariate Interaction effects are given as follows.

Multivariate and univariate interaction effect of independent variables for total sample and selected sub samples.

Third order Multivariate and Univariate Interaction effects were estimated for independent variables Socio- Emotional Competency, School Climate, Cognitive and Meta Cognitive and Motivational Factors on dependent variables Teacher Grit, Tenacity and Resilience among special education teachers for Total sample and sub samples selected on the basis of

Locality, Type of Management, Experience and Qualification of Special Education Teachers and summary is given as follows.

Variable	Sample	Multivariate Effect			Univariate Effect -F values			Level of Significance
		Pillai's Trace	F Value	Partial Eta Squere	Grit	Tenacity	Resilience	
Socio-Emotional Competency × School Climate × Cognitive and Meta cognitive × Motivational Factors	Total	0.89	4.82	0.30	13.57	13.29	9.73	0.01
	Urban	1.07	2.59	0.36	8.14	6.46	5.51	0.01
	Rural	1.03	4.27	0.35	9.32	11.00	8.08	0.01
	Government	1.32	2.41	0.44	4.40	5.06	7.86	0.01
	Unaided	0.92	4.34	0.31	12.28	12.16	8.36	0.01
	Experience, Up to 5 Years	1.21	3.25	0.40	7.85	8.79	7.14	0.01
	Experience, 5 Years and Above	0.93	3.35	0.31	9.26	7.35	5.99	0.01
	Qualification, Under Graduation	1.06	3.34	0.35	8.15	8.96	6.73	0.01
	Qualification, Graduation and Above	0.94	2.96	0.31	9.03	7.00	5.57	0.01

- Third order multivariate effect of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors on teacher grit, tenacity and resilience are significant which indicate the strong influence of compatibility factors on teacher endurance .The result reveals that grit, tenacity and resilience are three distinct non- cognitive qualities which vary in strength and direction. Multivariate interactions are capable to trace minute differences among variables, but in the study grit,

tenacity and resilience depart from one another profoundly (the values of Pillai's Trace and Partial Eta Square provided evidences.

- The univariate third order interaction effect of socio-emotional competency, school climate , cognitive and meta cognitive factors and motivational factors on teacher grit, tenacity and resilience are significant which indicates that the groups formed out of the interaction are capable to produce differences within grit, tenacity and resilience individually for total sample and subsamples selected .For new and under graduate teachers, the third order interaction contributed more to tenacious behavior. While for all other samples, the third order interaction effects are more predominant toward grit than tenacity and resilience.

Tenability of Hypotheses

There exists significant multivariate effect of Compatibility factors in teaching (Socio-Emotional competency, school climate, cognitive and Meta Cognitive and Motivational factors) on Teacher Endurance (Grit, Tenacity and Resilience) of Special Education Teachers for total sample and subsamples based on

- Locality (Urban and rural sample)
- Type of Management (Government and Unaided)
- Experience (Upto 5 years and 5 years above)
- Qualification of teachers (Under Graduation and Graduation and above)

The result of the study reveal that there is significant multivariate and main effect of independent variables viz. Socio-Emotional Competency,

School climate, cognitive and Meta cognitive factors and Motivational factors in Teaching on Teacher Endurance Factors (Grit, Tenacity and Resilience) for total sample, Urban, Rural, Government, Unaided sample, teacher's having experience upto 5 years, teachers having experience 5 years and above, teachers with qualification, Under Graduation and teaches with qualification, Graduation and above. Thus the first hypothesis is fully accepted.

The second hypothesis states that there exist significant Multivariate Interaction Effect of Compatibility factors in Teaching (Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive, Motivational factors) on Teacher Endurance (Grit, Tenacity and Resilience) of Special Education Teachers for total sample, and sub-samples based on locality (Urban and Rural), type of Management (Government and Unaided), Experience (upto 5 years and 5 years and above) and Qualification of teachers (Under Graduation and Graduation and above).

The findings of the study reveal that there is significant Multivariate Interaction effect by Socio-Emotional Competency, School Climate, Cognitive and Meta Cognitive factors and Motivational factors on Teacher Endurance (Grit, Tenacity and Resilience) for total sample, Urban sample, Rural sample, Government Sample, Unaided Sample, Teachers having experience upto 5 years, teachers having experience 5 years and above, teachers with qualification: Under Graduation and teachers with qualification Graduation and above. The second hypothesis is also fully accepted.

Conclusions

The present study is intended to explore the influence of Compatibility factors in Teaching on Teacher Endurance Factors. Teacher endurance emerge from teachers well being and satisfaction. The multivariate effect of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors on Teacher Endurance factors viz., grit, tenacity and resilience for total sample and selected subsamples based on locality (urban/ rural), type of management (Govt/unaided), experience (up to 5 years and 5 years and above) and qualification (under graduation and graduation and above) revealed that there exist significant difference between grit, tenacity and resilience by selected independent variable. The vector mean scores of grit are different from both tenacity and resilience, and the three enduring factors have distinguishing characteristics in teacher behavior. This finding is in line with Duckworth's (2007, 2009) views and Dweck *et al.* (2011) findings. Among four independent variables, motivational factors and cognitive and meta cognitive factors produce comparatively high influence on teacher grit and tenacity than resilience while making the difference. This result indicate that grit and tenacity are intra-personal than inter-personal in human behavior manifestations while resilience is more inter-related phenomena. As far as teachers are concerned motivation aroused out of intrinsic elements than extrinsic factors and the result reveal that teacher motivation would contribute to inner personal traits like grit and tenacity, a result coincide with the findings of Nzulwa (2014) and Thomson and Strikland (2001) that job motivation resulted from recognition, advancement, autonomy and professional growth and development than monitory factors.

While considering cognitive and meta cognitive factors in teaching, person's thinking processes are valued and prioritized more than social aspects eventhough socially shared meta cognition is one of the sub factor of metacognitive factors in teaching, a finding congruent with Flavell(1979, 1987) and Martinez(2006). Martinez viewed teaching was one form of scientific process involving critical thinking (intra- personal) and incongruent with Volet, Vauras and Salonen's (2009) idea of shared knowledge and meta cognitive reflection. Efklides (2008) and Iiskala(2004) were other authors who projected the phenomena of interaction between individual and social factors in human learning, monitoring and regulating behavior and higher order thinking among humans in collaborative processes. The result indicate that Socio- Emotional factors are determinant of resilient characteristics in teaching and the finding supports the findings of Polidore (2004) and Walsh (2006), they underlined the connection between relatedness and resilient behavior in people.

The main effect of each independent variable: socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors in teaching on teacher endurance factors (grit, tenacity and resilience) for total sample are significant. The results indicate that each compatibility factor has significant influence on each enduring factor. Different levels of each compatibility factor have the capability to produce difference in the mean scores of grit, tenacity and resilience within. The scores reveal that socio-emotional competency has strong effect on resilience than other two variables indicating the importance of social relationship in fostering resilient behavior. The studies conducted by Noble and McGrath

(2015), Bobek (2002), Day and Gu (2010), Goleman (2007) and Jordan (2006) emphasized the role of quality relationships and resonant and trustworthy connections. Jordan (2006) put forward the term "relational resilience" in order to project the relevance of social relationship.

For total sample and subsamples, the influence of school climate is more on tenacious behavior of teachers than grit, and resilience, which reveal that tenacious behavior is emerged from contextual challenges, social support, and belongingness in school, that is a feel of fellowship in school, a view put forward by Dweck et al. (2011). The findings also supports the views of Ostermann and Bybee (2000), their studies proclaimed that belongingness lead to autonomy and willingness to obey rules and norms.

The F-values obtained reveal that cognitive meta cognitive factors in teaching and contributed more to teacher grit than resilience or tenacity, underline the notion that grit is more a personal disposition, which is substantiated by the finding of Duckworth et al. (2007, 2009) and Dweck et al. (2011) while describing sources of grittiness in people. The main effect by motivational factor's in teaching is more predominant on grit than tenacity and resilience indicating purposeful goal orientation aspects of grit among teachers, keeping goals over a sustained period. The result support findings of Gu and Day (2007), Goddard et al. (2004) and Duckworth et al. (2007, 2009) who asserted that gritty teachers are more confident in one's abilities, should keep a sense of purpose and optimistic in words and deeds. The study also underlined the fact that motivation is more intrinsic and value/purpose oriented in teachers than extrinsic benefits/incentives, a result more similar with Fuhrmann (2006) and Nzulwa (2014), who reported that monitory benefits are less motivating than autonomy, recognition, belonging and prestige.

The main effect of each compatibility factors in teaching on endurance factors for teachers having experience up to 5 years is significant. even though different levels of each compatibility has the capability to produce difference in the mean scores of grit, tenacity and resilience within, the scores of F values reveal that the trend of contribution is different for different enduring factor. Socio-emotional competency is more influencing on the resilient behavior of teachers as well as on teacher grit than teacher tenacity. For novice teachers, both grit and resilience are together increased in equal proportion. For new teachers school connectedness plays a vital role to sustain in duties and to adopt coping skills, Klassen et al. (2018) put forward some attributes which are essential for efficiency in early career teacher's include organizational support and communication, and Arnup and Bowles (2015) posited that resilience is not directly associated with length of service but adaptive functioning had a slight influence with years of service. Both studies support the findings obtained for teachers with experience up to 5 years.

The F-values reveal that for early career teachers (teachers having experience up to 5 years), the influence of school climate is more on teacher grit than tenacious behavior, a result deviated from the findings obtained for other samples selected for the study. The results support the result of Clark and Malecki (2019), who proclaimed that grit is a predictor of school satisfaction. The main effect of cognitive and meta cognitive factors for teachers having experience up to 5 years is more toward grit than tenacity and resilience. The finding is in line with the views of Duckworth et al. (2007) who asserted that grit is associated with conscientiousness and self-control,

but self control is emerged from self-regulatory aspect of meta cognition as per Flevell's typology (1979;1987)

The main effect of motivational factors in teaching on endurance factors for teachers having experience up to 5 years is more toward tenacious behavior than grit and resilience, the result shows a slight difference from the findings of other samples in the study. For novice teachers, motivational factors contribute to tenacity much more than grit and resilience.

The multivariate interaction effect of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors on teacher endurance factors are significant for total sample and subsamples selected such as locality (urban rural), type of management (Government. and unaided), experience of teachers (up to 5 years and 5 years and above) and qualification of teachers (under graduation and graduation above). The results reveal that the combinations of four compatibility factors are capable to differentiate grit, tenacity and resilience of teachers for all sample selected for the study. The result supports Duckworth et al. (2007, 2009), Dweck et al. (2011) and Cristenson and Knazek (2014) opinions of success in 21st century. Adaptive behavior, tremendous effort and self control bind them together or overlap the qualities in certain direction while specific characteristics associated with each enduring element make them different.

The Univariate interaction effect of compatibility factors on endurance factors reveal that the influence of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors in teaching on teacher grit, tenacity and resilience are evident and strong enough

to produce differences within. The univariate interaction effect is equally distributed among grit, tenacity and resilience while analyzing the scores of F values which hold nearer values for total sample and all subsamples selected. The interaction of four compatibility elements on endurance factors reveal that the interaction could make difference's within each endurance factor by different categories of teachers emerged out of the four way interaction.

The results support the finding of National Research Council (2012) that all three non-cognitive traits along with other competencies are equally important for success in the present epoch. Effortful control and self regulation are the elements that bind grit, tenacity and resilience together, which are substantiated by analyzing the works of Duckworth et al. (2007, 2009, 2014), Dweck et al. (2011), Day (2007), Gu and Day (2007), Cristenson and Knezek (2014), Goddard et al. (2004) Shea (2010) and Mansfield et al. (2012) who provided various subcomponents associated with grit, tenacity and resilience. There are evidences from the literature that cognitive, affective, social and motivational factors are contributing equally well for better performance in any realm of human enterprise, especially in teaching and learning. The works of Jennings and Greenberg (2009), Cohen (2009), Flavell (1976, 1981), Greenberg and Baron (2008), Praver and Quint (2008) and Spear et al. (2000) underlined the view that human behavior aroused out of, goes through and sustain in commitments, duties and activities because of the collective influence of elements from motivational, social, intellectual and contextual realities. Teachers are human manipulators who shoulder the responsibility to foster or nourish these elements in students especially in special education settings in order to cope with the demands of present era.

Teacher retention, attrition, burnout, and stress are associated with teacher empowerment, teacher flexibility, connectedness in classroom at all times in history either in positive or negative manner. The studies conducted by Hanushek (2005), Brown and Medway (2007), Grundy and Robinson (2000) and Sarri (2002) outlined the causes and suggested remedies for teacher effectiveness.

The Enduring factors grit, tenacity and resilience together pave way for success, determination, altruistic mannerisms and adaptability in teaching. Special education sector, especially schools catering pupil with intellectual differences demand teachers pro-social abilities and qualities than talents to proceed and maintain equilibrium both in academic and non-academic ventures. If the student community is vivid and unpredictable, the responsibilities of teachers mount further to maintain the status-quo in society. The findings with credible evidences from the literature envisage the notion that non-cognitive, progressive and enduring elements are most decisive and relevant in any teacher preparation programs.

Suggestions for Improving Educational Practice

The findings of the study indicate that the compatibility factors in teaching have profound influence on Teacher Endurance Factors. Teaching is viewed as a multifaceted tensor with various dimensionalities and directions in a subjective reality. Each compatibility factor viz., socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors in teaching are covariant elements in teaching, these factors individually and collectively produce significant influence on teacher endurance. The outcome measures are also multi dimensional and distinct in

teaching manifestations. The non-cognitive psychological qualities, grit, tenacity and resilience empower teachers to work hard, follow a long-haul target, sustain interest and adapt effectively in demanding situations. In special education sector, teachers are more vulnerable to occupational hazards and personal setbacks like stress, anxiety and burnout.

Socio-emotional competency factors influences teacher resilience significantly. Resilience enables teachers to bounce back and face difficult situations with ease. For pupil with intellectual difference, set backs are common in academic and personal realms. Teachers who model the quality in front of the students vicariously foster these elements of resilience in student's behavior. A socially and emotionally competent teacher can also nourish social relationship among students. Relations or connectedness is a quality, most welcomed in today's world of disparities. Responsible decisions, pro-social environment, social connectivity and awareness of one's own self make teaching and learning enduring. A democratic school climate is the most conducive platform for effective teaching. School climate factors must influence teacher's progressive qualities in different ways. Tenacious behavior of teacher does arise out of a flexible, safe and resourceful school climate. The findings posit that school climate is one of the determining factors for efficacious behavior of teachers. Tenacity is the word more coined with determination and enthusiasm to pursue a task in hand. Teachers in special education need a surpassing enthusiasm and energy to continue in the profession with zeal and purpose. The main effect of school climate factors directed more towards tenacious behavior than grit and resilience in most of the sample selected, except in the case of early career teachers. The zeal to

work and continue the mission to reach a comfortable destination arouse from physical, spiritual and psychological makeup of the organization in which one occupy. Thus for making an efficient teacher outcome, school climate matters most. Any changes in climate reflect upon teaching and learning.

Cognitive and meta cognitive factors make humans more organized, controlled and resourceful. The findings revealed that cognitive and meta cognitive factors have strong influence on teacher's non-cognitive qualities especially on teacher grit than tenacity and resilience. Gritty teachers can continue in tasks without immediate gratification. Gritty persons view things from entirely different frame of references, thus stick on duties without any reluctance and boredom. In special school teaching, especially while handling pupils with intellectual differences immediate responses or results are seldom occurred. Patience and perseverance emerged from teacher's inner strength in the form of task awareness, self-regulatory mannerisms and appropriate use of teaching-learning strategies. While modifying curriculum and syllabus in both special school sector and teacher preparation programs, these things should be taken into account for better teaching-learning outcome. In the case of early career teachers, cognitive and meta cognitive factors in teaching use to influence more on grit than tenacity and resilience. The self-control aspects of meta cognition should have produced a hike in teacher Grit at early years. Also grit, tenacity and resilience overlap in certain characteristics like effortful control, and self regulatory behavior mannerisms, while grit and tenacity does not require an adversity in front of a task to manifest its peculiarities unlike resilience.

Motivational factors in teaching influence grit, tenacity and resilience, but its influence is more predominant on grit for all samples selected except the case of novice teachers. Motivational factors both intrinsic and extrinsic elements cultivate interest in teaching. But the findings revealed that the motivational factors in teaching is more intrinsic in nature because these factors influences on teaching are manifested more on innate trait like quality "grit". teacher's inner determination tendencies like value affirmation and goal orientation are the key factors that propel them to do an enduring teaching performance. In novice teachers, purposeful goals and value added task performances rarely occur, but a flexible or growth mindset and self control originated from inner motives encourage them to stick on task until success. This aspect of finding can stipulate the mandatory criteria's required to hire people in teaching profession as well as in special schools.

The findings reveal that the compatibility factors in teaching viz., socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors in teaching together influence teacher endurance factors for all sample's selected for the study, indicating the importance of selected compatibility factors in teaching. The results are intimating the necessity to revamp teacher preparation programs and school curriculum. Multivariate Interaction effect of compatibility factors on endurance factors reminded the difference found in teacher grit, tenacity and resilience in literature and in teacher performance outcomes. Even though grit, tenacity and resilience are both distinct and overlapping characteristics found in human behavior, collective interaction effect pave way for the need to

implement intervention programs collectively and individually to foster grit, tenacity and resilience both to teachers and students.

The univariate interaction effect intimates that all endurance factors are equally influenced by compatibility factors in teaching irrespective of the distinguishable behavior manifestations of grit, tenacity and resilience in human behavior. The study recommend intervention programs which include social, emotional, informational, contextual and motivational aspect of teaching/learning devoid of peculiar behavior mannerisms in educating pupil. All teacher education platforms and mindfulness based intervention programs oriented towards children are taken careful measures to nourish these non-cognitive factors among all stakeholders in educational field. The present study focused on the characteristics of special education teachers in Kerala, hence the status of special education institutions, especially the characteristics of personals in the field, and type of student population along with the findings intimate some suggestions to improve the practice of Special education teaching and they are provided below:

1. Teacher Education Programs meant for special education teachers should consider the non-cognitive traits Grit, Tenacity and Resilience in syllabus.
2. Include intervention programs related to Grit, Tenacity and Resilience as part of syllabus in special school curriculum.
3. In service and pre-service teacher education programs should provide equal gravity to socio-emotional competence, school climate, cognitive and meta cognitive factors and motivational factors in teaching.

4. While hiring teachers from regular stream to special education sector either provide special training or take intervention strategies for better functioning.
5. Teacher education platforms at all level should include information's regarding non-cognitive positive psychological elements to withstand the pressures of 21st century.
6. While hiring teacher's in special schools, cautions must be taken to avoid unqualified persons or to provide them special intervention sections to nourish the qualities essential for better teacher performance.
7. Pupils with intellectual differences are incapable to manage emotions, unable to adapt to environment and keep a low self-esteem compared with the peer-age group. Authentic and purposeful mediation in the form of teaching and guidance is essential and mandatory while educating them to lead a fruitful life.
8. Intelligence or talent not matters most in special education classroom, people with commitment and enthusiasm should be recruited to teaching because teacher accountability is the most superior criteria to enter into the teaching profession.
9. Administrative support in the form of policies and programs should implement properly in educational organizations to ensure safety, quality and authenticity.
10. Empowered teacher's are the builders of tomorrow, adequate teacher training programs, curriculum, syllabus structural and technical assistance and compassionate approach from authorities are essential

things to transform special schools into a better place for welcoming all sorts of differences and diversities.

11. Teacher education programs at elementary, secondary and higher secondary level should recognize the syllabus/curriculum to include special education aspects in order to maintain inclusive environment in school.
12. Child-oriented, need-based, evidence-based and authentic teaching strategies should include in both regular classroom and special education classroom to foster Grit, Tenacity and Resilience among students.

The study provided a firsthand opportunity to acknowledge and experience special education settings in Kerala. Most of the institutions are far away from regular schools and owned by non-Governmental organizations and often attached with religious institutions. The school culture and resources vary with management and administrative preferences. Majority of schools are governed by nuns and a very few schools can be found in public sector, more notably Buds schools and BRC's are the only institutions stood for special education in Government sector. In regular schools, resource persons from BRC's are deployed to cater the needs of pupil with intellectual differences. Majority of staff involved in special education sector is either a relative or somehow attached with the institution. The numbers of qualified teachers are limited to handle pupil with individual differences in private and public sector and most of them are trained from a regular teacher preparation program. The teachers from BRC's are deployed on contract basis and each year the teachers may vary.

Some special schools are cordial and authentic in transferring their duties to students while some institutions hold strict measures and use closed doors in classrooms. Poor salaries and inadequate space are other hurdles special education teachers have to navigate. Sending students without proper identification and referrals from regular schools to special schools are another difficulty, teachers have to face.

The regular teacher education programs doesn't cater special professional requirements needed for handling pupil with intellectual differences in curriculum even though the duration of Bachelor program prolonged up to 2 years. Further, in inclusive classrooms, a regular teacher needs to manage all types of children irrespective of differences and giftedness.

Pupil with intellectual differences after a stipulated time period like any other student in any educational stream should have to absorb in real life. Aftermath of a special Education Program the lives of differently able children are still a concern, that is up to what extent such absorptions in society are possible is a dilemma, teachers and authorities should have to attend and the future orientation of special education programs are found still doubtful in that manner. The special schools are accommodating students with various age groups, starting from 5 years up to 30 or more.

Even though lots of peculiarities and inadequacies are par amounted, special education sector in Kerala flourish and continue the functioning without any hindrance. The qualities like Grit, Tenacity and Resilience propel Teachers of special education to continue in work and empower them to provide optimistic and comfortable experiences with students. Teacher

preparation programs both in service and pre-service should give equal importance to socio-emotional competency, school climate, cognitive and Meta cognitive factors and motivational factors in teaching in order to improve non-cognitive qualities among teachers and students. While arranging curriculum and syllabus for teacher preparation programs, positive psychological aspects (Grit, Tenacity and Resilience) of personality should be taken into consideration. In special education learning, orientation is not only vocational but in most of the time, should focus on a better living in this world. Qualities like grit, tenacity and resilience are better equipments for pupil with learning differences to lead a happy and satisfied life in this world.

Suggestions for further Research

The present study is confined to the influence of compatibility factors in teaching viz., socio-emotional competency, school climate factors, cognitive and meta cognitive factors and motivational factors in teaching on teacher endurance among special education teachers in Kerala. By considering certain limitations and scope of the study, the investigator recommended some areas related to the topic on which further research can be possible.

1. Parallel studies can be conducted in special education sector with teachers who handle pupil with physical handicap, and hearing and visual impairment.
2. Studies can be conducted with other personal and social variables which may influences teacher Endurance Factors.
3. Research can be conducted to find out the efficiency of several intervention programs meant for nurturing Grit, Tenacity and Resilience.

4. A comparison of same variables between special education teachers and teachers from regular schools can be done.
5. A study can be conducted to correlate socio-emotional competencies, school climate factors, cognitive and meta cognitive factors and motivational factors in teaching.
6. Studies can be done to identify other socio-cultural elements that predict teacher endurance among teachers in a parallel way.
7. Studies can be done among students and other professionals in occupation settings.
8. Influence of age, socio-Economic status and family support in determining socio-emotional competency, school climate, cognitive and meta cognitive factors, motivational factors, teacher Grit, Teacher Tenacity and Teacher Resilience can be studied.
9. Influence of Grit, Tenacity and Resilience on teacher retention, attrition and burnout can be explored.
10. Studies related with school climate factors that influence motivational factors in teaching/learning can be found out.
11. Development and validation of various intervention programs suitable for developing pro-social and emotional well being of teachers and students can be carried out.
12. Relationship between social and personal variables attached with teaching and teacher endurance can be done.

13. Influence of socio-emotional competency, school climate, cognitive and meta cognitive factors and motivational factors on students achievement can be carried out.
14. A field study of organizational and academic functioning of special education institutions in Kerala can be done.
15. Studies to evaluate the interaction effect of socio-Emotional competency, school-climate factors, cognitive and meta cognitive factors and motivational factors on cognitive and affective variables can be carried out.

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Appendices

Appendix I

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SOCIO-EMOTIONAL COMPETENCY INVENTORY (SECI) (DRAFT)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the inventory provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. I can tolerate a great amount of stress.
   (നല്ലയൊരളവുവരെ മാനസിക സമ്മർദ്ദങ്ങൾ നേരിടാനുള്ള സഹിഷ്ണുത ഞാൻ പുലർത്താറുണ്ട്.)
2. I feel emotionally exhausted after a provocative incident.
   (പ്രകോപനപരമായ സംഭവങ്ങൾ വൈകാരികമായി എന്നെ തളർത്താറുണ്ട്.)
3. I take decisions by considering the situation as a whole.
   (സന്ദർഭത്തെ മൊത്തമായി പരിഗണിച്ചതിനുശേഷമാണ് ഞാൻ തീരുമാനങ്ങൾ എടുക്കുന്നത്.)
4. I try to avoid handling pupil with extreme intellectual disparities.
   (ബുദ്ധിപരമായി വളരെയധികം വ്യത്യസ്ഥരായവരെ പഠിപ്പിക്കുന്നതിൽ എനിക്കു വിമുഖത തോന്നാറുണ്ട്.)
5. I can recognize and understand emotions of my students.
   (വിദ്യാർത്ഥികളുടെ വൈകാരികത തിരിച്ചറിയാനും മനസ്സിലാക്കാനും കഴിയാറുണ്ട്.)
6. I have little interest to promote social equilibrium among students.
   (വിദ്യാർത്ഥികളിൽ സാമൂഹിക സംതുലനത വളർത്തുന്നതിൽ എനിക്കു താല്പര്യമില്ല.)
7. I tactfully utilize my emotions while handling difficult situations.
   (പ്രയാസമേറിയ അവസരങ്ങൾ തരണം ചെയ്യാൻ വൈകാരികതയെ ഞാൻ തന്ത്രപരമായി ഉപയോഗപ്പെടുത്താറുണ്ട്.)

8. I choose a flexible, realistic and impartial attitude while assessing pupil with intellectual differences.
(ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ കുട്ടികളെ വിലയിരുത്തുമ്പോൾ കർക്കശമല്ലാത്തതും, യാഥാർത്ഥ്യബോധത്തോടുകൂടിയതും പക്ഷപാതരഹിതവുമായ സമീപനം സ്വീകരിക്കാറുണ്ട്.)

9. I choose decisions which are safeguarding my position and views.
(എന്റെ സ്ഥാപിത താല്പര്യങ്ങളും കാഴ്ചപ്പാടുകളും പരിരക്ഷിക്കുന്ന തീരുമാനങ്ങളിൽ ഞാൻ ഉറച്ചുനില്ക്കും.)

10. I can accept difference as reality.
(വ്യത്യസ്ഥത യാഥാർതഥ്യബോധത്തോടെ ഉൾക്കൊള്ളാൻ എനിക്കു കഴിയുന്നു.)

11. I feel loneliness and detachment in most of the time at school.
(സ്കൂളിൽ എല്ലായ്പ്പോഴും ഒറ്റപ്പെടുന്നതായും മാറി നില്ക്കപ്പെടുന്നതായും തോന്നാറുണ്ട്.)

12. I feel nervous when I handle painful situations.
(പ്രയാസമേറിയ ക്ലാസ് അന്തരീക്ഷത്തിൽ പരിഭ്രമം തോന്നാറുണ്ട്.)

13. I keep a unifying philosophy of tolerance and patience in painful situations.
(സഹനത്തിന്റെയും ക്ഷമയുടേയും ഏകീകൃത തത്ത്വശാസ്ത്രത്തിൽ നിന്നു കൊണ്ട് വേദനാ ജനകമായ പരിതസ്ഥിതികൾ തരണം ചെയ്യുന്നു.)

14. I am supportive and sensitive to pupil with differences in intellectual functioning.
(ബുദ്ധിപരമായി കാര്യങ്ങൾ ഗ്രഹിക്കുന്നതിൽ വ്യത്യസ്ഥരായവരോട് സൗഹാർദ്ദപരമായും താല്പര്യത്തോടുകൂടിയും ഇടപെടാറുണ്ട്.)

15. I feel difficult to manage pupil with individual difference.
(വ്യത്യസ്ഥരായ കുട്ടികളെ പരിപാലിക്കുവാൻ എനിക്കു ബുദ്ധിമുട്ടാണ്.)

16. I keep a warm and cordial response to provocative incidents.
(പ്രകോപനപരമായ സംഭവങ്ങളോടു വേണ്ടത്ര ആധീകാരികതയോടും ലാഘവത്തോടുംകൂടി സമീപിക്കാൻ സാധിക്കാറുണ്ട്.)

17. I use to avoid emotional outbursts and keep stubbornness in character.
(വൈകാരിക പ്രകടനങ്ങൾക്കുവശംവദമാകാതെ സ്വഭാവത്തിൽ കാർക്കശ്യം പുലർത്തിപോരുന്നു.)

18. I am keen to take the responsibility of my own decisions and actions.
(തന്റേതായ തീരുമാനങ്ങളുടേയും പ്രവർത്തനങ്ങളുടേയും ഉത്തരവാദിത്ത്വം സ്വയം ഏറ്റെടുക്കാറുണ്ട്.)

19. I am not able to manage high levels of conflict and disruptive behavior which occurs frequently in classroom.
(ക്ലാസ്സിൽ ഉയർന്ന തോതിലുള്ള ബഹളങ്ങളും പ്രകോപനപരമായ പെരുമാറ്റങ്ങളും ഇടക്കിടെ ഉണ്ടാകുന്നത് തടയാൻ കഴിയാറില്ല.)

20. I maintain a sense of social well-being in all my deeds and words.
(എന്റെ എല്ലാ പ്രവർത്തികളിലും വാക്കിലും സാമൂഹിക ഉൽക്കർഷ നില നിർത്താൻ ശ്രമിക്കാറുണ്ട്.)

21. My interactions with students are intentional and purposive.
(കുട്ടികളോടുള്ള എന്റെ ഇടപെടലുകൾ ഉദ്ദേശാധിഷ്ഠിതവും ലക്ഷ്യബോധ ത്തോടു കൂടിയതും ആകുന്നു.)

22. I feel uncertain in implementing different learning strategies in classroom.
(ക്ലാസ്റൂമിൽ വൈവിധ്യമാർന്ന പഠനരീതികൾ പ്രയോഗിക്കുന്നതിൽ ആശങ്ക തോന്നാറുണ്ട്.)

23. I am capable to withstand all setbacks in any provocative situations.
(പ്രകോപനപരമായ പരിതസ്ഥിതികളിൽ വിപരീതാനുഭവങ്ങളെ നേരിടാനുള്ള ആർജവം എന്നിലുണ്ട്.)

24. I can adopt different teaching strategies in the classroom.
(വിഭിന്നങ്ങളായ അധ്യാപകരീതികൾ എനിക്കു ക്ലാസ്സിൽ അവലംബിക്കുവാൻ സാധിക്കാറുണ്ട്.)

25. I am not able to control my anger and feelings.
(എന്റെ ദേഷ്യവും മനോവിചാരങ്ങളും നിയന്ത്രിക്കാൻ എനിക്കു കഴിയാറില്ല.)

26. I am disrupted while handling emotionally demanding situations in school.
(വൈകാരികത മുന്നിട്ടു നില്ക്കുന്ന അവസരങ്ങൾ കൈകാര്യം ചെയ്യുമ്പോൾ എന്റെ പ്രവർത്തനങ്ങൾ തടസ്സപ്പെടാറുണ്ട്.)

27. I choose teaching strategies that are highly responsive to students needs and interests.
(വിദ്യാർത്ഥികളുടെ ആവശ്യങ്ങളും താല്പര്യങ്ങളും മുൻനിർത്തികൊണ്ടുള്ള പാഠ്യരീതികളാണ് ഞാൻ അവലംബിക്കാറുള്ളത്.)

28. I lack situational awareness and behave like an automatic pilot.
(സാന്ദർഭിക പരിജ്ഞാനത്തിന്റെ അഭാവത്താൽ പലപ്പോഴും യാന്ത്രികമായി പെരുമാറുന്നു.)

29. I have poor relationship with collegues and parents of students.
(സ്കൂളിലെ സഹപ്രവർത്തകരുമായും കുട്ടികളുടെ മാതാപിതാക്കളുമായും നല്ല ബന്ധം നിലനിർത്താറില്ല.)

30. Most of the time I stick on to the rigid learning environment.
(പലപ്പോഴും കർക്കശമായ പഠനാന്തരീക്ഷത്തിനു ഊന്നൽ നൽകാറുണ്ട്.)

31. I can recognize different perspectives hidden in ones character apart from the overt behavior.
(ഒരു വ്യക്തിയിൽ അന്തർലീനമായ വ്യത്യസ്ഥ സ്വഭാവതലങ്ങളെ അവരുടെ ബാഹ്യപ്രകടനത്തിനും അപ്പുറത്ത് തിരിച്ചറിയാറുണ്ട്.)

32. Social norms and rules abide me to take appropriate decisions.
(അനുയോജ്യമായ തീരുമാനങ്ങൾ എടുക്കുന്നതിൽനിന്ന് സാമൂഹ്യക്രമങ്ങളും നിയമങ്ങളും എന്നെ തടയുന്നു.)

33. I assess consequences before making a new decision.
(അനന്തര ഫലങ്ങൾ വിലയിരുത്തിയതിനുശേഷം മാത്രമേ ഞാൻ പുതിയ തീരുമാനമെടുക്കാറുള്ളു)

34. It is impossible for me to take the responsibility of a wrong decision.
(ഒരു തെറ്റായ തീരുമാനത്തിന്റെ ഉത്തരവാദിത്ത്വം ഏറ്റെടുക്കാൻ എനിക്കു സാധിക്കാറില്ല.)

35. I collect evidences before taking decisive actions.
(വസ്തുതകൾ ശേഖരിച്ചതിനുശേഷം മാത്രമെ നടപടികൾ കൈക്കൊള്ളാറുള്ളൂ)

36. I rarely provide emotional support to students.
(വളരെ വിരളമായി മാത്രമെ ഞാൻ കുട്ടികൾക്ക് വൈകാരിക പിന്തുണ നൽകാറുള്ളൂ.)

37. I give priority to mutual understanding and co-operation among school community.
(സ്കൂളിലെ എല്ലാവരുമായി പരസ്പര ധാരണയോടെയും സഹകരണമനോഭാവത്തിലും വർത്തിക്കുന്നതിനു മുൻഗണന നൽകുന്നു.)

38. I can navigate stressful situations with ease.
(വിഷമഘട്ടങ്ങളെ തൻമയത്വത്തോടെ തരണം ചെയ്യാൻ കഴിയാറുണ്ട്.)

39. I give top priority to academic achievement than social well-being of my students.
(വിദ്യാർത്ഥികളുടെ വിദ്യാഭ്യാസ ഉന്നതിക്കാണ് സാമൂഹിക ഔന്നത്യത്തേക്കാൾ മുൻഗണന നൽകാറുള്ളത്.)

40. Parents interventions make me often stressful.
(മാതാപിതാക്കളുടെ ഇടപെടലുകൾ പലപ്പോഴും പിരിമുറുക്കം ഉണ്ടാക്കാറുണ്ട്.)

41. I can keep my personal and professional relations with outmost satisfaction.
(തികഞ്ഞ മനഃസംതൃപ്തിയോടെ വ്യക്തിപരവും ഔദ്യോഗികവുമായ ബന്ധങ്ങൾ നിലനിർത്താൻ കഴിയാറുണ്ട്.)

42. I follow respectful communication pattern with others.
(മറ്റുള്ളവരുമായി ബഹുമാനത്തോടെയുള്ള ആശയവിനിമയ രീതിയാണ് അവലംബിക്കുന്നത്.)

43. I have little friends in teacher community.
(അധ്യാപക കൂട്ടായ്മകളിൽ എനിക്ക് സുഹൃത്തുക്കൾ വിരളമാണ്.)

44. I prefer rigid decisions than flexible options.
(കർക്കശ തീരുമാനങ്ങളാണ് അയവുള്ള മറ്റു മാർഗ്ഗങ്ങളേക്കാൾ എനിക്കു അഭിലക്ഷണീയം.)

Appendix II

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SOCIO-EMOTIONAL COMPETENCY INVENTORY (SECI) (FINAL)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the inventory provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. I take decisions by considering the situation as a whole.
   (സന്ദർഭത്തെ മൊത്തമായി പരിഗണിച്ചതിനുശേഷമാണ് ഞാൻ തീരുമാനങ്ങൾ എടുക്കുന്നത്.)
2. I feel emotionally exhausted after a provocative incident.
   (പ്രകോപനപരമായ സംഭവങ്ങൾ വൈകാരികമായി എന്നെ തളർത്താറുണ്ട്.)
3. I can recognize and understand emotions of my students.
   (വിദ്യാർത്ഥികളുടെ വൈകാരികത തിരിച്ചറിയാനും മനസ്സിലാക്കാനും കഴിയാറുണ്ട്.)
4. I have little interest to promote social equilibrium among students.
   (വിദ്യാർത്ഥികളിൽ സാമൂഹിക സംതുലനത വളർത്തുന്നതിൽ എനിക്കു താല്പര്യമില്ല.)
5. I choose a flexible, realistic and impartial attitude while assessing pupil with intellectual differences.
   (ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ കുട്ടികളെ വിലയിരുത്തുമ്പോൾ കർക്കശമല്ലാത്തതും, യാഥാർത്ഥ്യബോധത്തോടുകൂടിയതും പക്ഷപാതരഹിതവുമായ സമീപനം സ്വീകരിക്കാറുണ്ട്.)
6. I choose decisions which are safeguarding my position and views.
   (എന്റെ സ്ഥാപിത താല്പര്യങ്ങളും കാഴ്ചപ്പാടുകളും പരിരക്ഷിക്കുന്ന തീരുമാനങ്ങളിൽ ഞാൻ ഉറച്ചുനില്ക്കും.)

7. I can accept difference as reality.
(വ്യത്യസ്ഥത യാഥാർതഥ്യബോധത്തോടെ ഉൾക്കൊള്ളാൻ എനിക്കു കഴിയുന്നു.)

8. I feel loneliness and detachment in most of the time at school.
(സ്കൂളിൽ എല്ലായ്പ്പോഴും ഒറ്റപ്പെടുന്നതായും മാറി നില്ക്കപ്പെടുന്നതായും തോന്നാറുണ്ട്.)

9. I keep a unifying philosophy of tolerance and patience in painful situations.
(സഹനത്തിന്റെയും ക്ഷമയുടേയും ഏകീകൃത തത്ത്വശാസ്ത്രത്തിൽ നിന്നു കൊണ്ട് വേദനാ ജനകമായ പരിതസ്ഥിതികൾ തരണം ചെയ്യുന്നു.)

10. I feel nervous when I handle painful situations.
(പ്രയാസമേറിയ ക്ലാസ് അന്തരീക്ഷത്തിൽ പരിഭ്രമം തോന്നാറുണ്ട്.)

11. I feel difficult to manage pupil with individual difference.
(വ്യത്യസ്ഥരായ കുട്ടികളെ പരിപാലിക്കുവാൻ എനിക്കു ബുഃദ്ധിമുട്ടാണ്.)

12. I keep a warm and cordial response to provocative incidents.
(പ്രകോപനപരമായ സംഭവങ്ങളോടു വേണ്ടത്ര ആധീകാരികതയോടും ലാഘവ ത്തോടുംകൂടി സമീപിക്കാൻ സാധിക്കാറുണ്ട്.)

13. I use to avoid emotional outbursts and keep stubbornness in character.
(വൈകാരിക പ്രകടനങ്ങൾക്കുവശംവദമാകാതെ സ്വഭാവത്തിൽ കാർക്കശ്യം പുലർത്തിപോരുന്നു.)

14. I am keen to take the responsibility of my own decisions and actions.
(തന്റേതായ തീരുമാനങ്ങളുടേയും പ്രവർത്തനങ്ങളുടേയും ഉത്തരവാദിത്ത്വം സ്വയം ഏറ്റെടുക്കാറുണ്ട്.)

15. I am not able to manage high levels of conflict and disruptive behavior which occurs frequently in classroom.
(ക്ലാസ്സിൽ ഉയർന്ന തോതിലുള്ള ബഹളങ്ങളും പ്രകോപനപരമായ പെരുമാറ്റ ങ്ങളും ഇടക്കിടെ ഉണ്ടാകുന്നത് തടയാൻ കഴിയാറില്ല.)

16. I maintain a sense of social well-being in all my deeds and words.
(എന്റെ എല്ലാ പ്രവർത്തികളിലും വാക്കിലും സാമൂഹിക ഉൽക്കർഷ നില നിർത്താൻ ശ്രമിക്കാറുണ്ട്.)

17. I am disrupted while handling emotionally demanding situations in school.
(വൈകാരികത മുന്നിട്ടു നില്ക്കുന്ന അവസരങ്ങൾ കൈകാര്യം ചെയ്യുമ്പോൾ എന്റെ പ്രവർത്തനങ്ങൾ തടസ്സപ്പെടാറുണ്ട്.)

18. My interactions with students are intentional and purposive.
(കുട്ടികളോടുള്ള എന്റെ ഇടപെടലുകൾ ഉദ്ദേശാധിഷ്ഠിതവും ലക്ഷ്യബോധ ത്തോടു കൂടിയതും ആകുന്നു.)

19. I am capable to withstand all setbacks in any provocative situations.
(പ്രകോപനപരമായ പരിതസ്ഥിതികളിൽ വിപരീതാനുഭവങ്ങളെ നേരിടാനുള്ള ആർജവം എന്നിലുണ്ട്.)

20. I have poor relationship with collegues and parents of students.
(സ്കൂളിലെ സഹപ്രവർത്തകരുമായും കുട്ടികളുടെ മാതാപിതാക്കളുമായും നല്ല ബന്ധം നിലനിർത്താറില്ല.)

21. I can recognize different perspectives hidden in ones character apart from the overt behavior.
(ഒരു വ്യക്തിയിൽ അന്തർലീനമായ വ്യത്യസ്ഥ സ്വഭാവതലങ്ങളെ അവരുടെ ബാഹ്യപ്രകടനത്തിനും അപ്പുറത്ത് തിരിച്ചറിയാറുണ്ട്.)

22. It is impossible for me to take the responsibility of a wrong decision.
(ഒരു തെറ്റായ തീരുമാനത്തിന്റെ ഉത്തരവാദിത്ത്വം ഏറ്റെടുക്കാൻ എനിക്കു സാധിക്കാറില്ല.)

23. I collect evidences before taking decisive actions.
(വസ്തുതകൾ ശേഖരിച്ചതിനുശേഷം മാത്രമെ നടപടികൾ കൈക്കൊള്ളാറുള്ളൂ)

24. I rarely provide emotional support to students.
(വളരെ വിരളമായി മാത്രമെ ഞാൻ കുട്ടികൾക്ക് വൈകാരിക പിന്തുണ നൽകാറുള്ളൂ.)

25. I give priority to mutual understanding and co-operation among school community.
(സ്കൂളിലെ എല്ലാവരുമായി പരസ്പര ധാരണയോടെയും സഹകരണമനോഭാവത്തിലും വർത്തിക്കുന്നതിനു മുൻഗണന നൽകുന്നു.)

26. Parents interventions make me often stressful.
(മാതാപിതാക്കളുടെ ഇടപെടലുകൾ പലപ്പോഴും പിരിമുറുക്കം ഉണ്ടാക്കാറുണ്ട്.)

27. I can navigate stressful situations with ease.
(വിഷമഘട്ടങ്ങളെ തൻമയത്വത്തോടെ തരണം ചെയ്യാൻ കഴിയാറുണ്ട്.)

28. I have little friends in teacher community.
(അധ്യാപക കൂട്ടായ്മകളിൽ എനിക്ക് സുഹൃത്തുക്കൾ വിരളമാണ്.)

29. I follow respectful communication pattern with others.
(മറ്റുള്ളവരുമായി ബഹുമാനത്തോടെയുള്ള ആശയവിനിമയ രീതിയാണ് അവലംബിക്കുന്നത്.)

30. I prefer rigid decisions than flexible options.
(കർക്കശ തീരുമാനങ്ങളാണ് അയവുള്ള മറ്റു മാർഗ്ഗങ്ങളേക്കാൾ എനിക്കു അഭിലക്ഷണീയം.)

Appendix III

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SOCIO-EMOTIONAL COMPETENCY INVENTORY (SECI)

RESPONSE SHEET

Name :.....Gender: .....

Name of Working Institution :.....

Type of Management:.....

Locale: Urban/Rural:.....

Educational Qualification: Under Graduation/ Graduation and Above.....

Experience:.....Years

Sl. No.	Agree	No Opinion	Disagree
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

Sl. No.	Agree	No Opinion	Disagree
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

Appendix IV

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SCHOOL CLIMATE FACTORS IN TEACHING
(DRAFT)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. School rules are clearly communicated to the students.
   (വിദ്യാലയത്തിലെ നിയമങ്ങൾ വ്യക്തമായി വിദ്യാർത്ഥികളോട് പറഞ്ഞു മനസ്സിലാക്കി കൊടുക്കാറുണ്ട്.)
2. Teachers are unable to engage all students in the classroom.
   (ക്ലാസ്റൂമിൽ എല്ലാ തരത്തിലുള്ള വിദ്യാർത്ഥികളേയും പഠനപ്രവർത്തനങ്ങളിൽ ഉൾപ്പെടുത്താൻ അധ്യാപകർക്ക് കഴിയാറില്ല.)
3. Co-operative and collaborative learning experiences are widely encouraged in classroom.
   (സഹകരണാത്മകവും സഹവർത്തിത്വത്തിൽ ഊന്നിയതുമായ പഠനാനുഭവങ്ങൾ ക്ലാസ്റൂമിൽ പ്രോൽസാഹിപ്പിക്കപ്പെടുന്നു.)
4. Teachers get little chance to interact with parents.
   (അധ്യാപകർക്ക് മാതാപിതാക്കളുമായി അടുത്തിടപഴകാൻ അവസരം ലഭിക്കാറില്ല.)
5. School compound is neat and clean.
   (വിദ്യാലയപരിസരം വൃത്തിയും വെടിപ്പും ഉള്ളതാണ്.)
6. School building is poorly maintained and managed.
   (സ്കൂൾകെട്ടിടം വളരെ മോശമായിട്ടാണ് പരിപാലിക്കുകയും നിലനിർത്തപ്പെടുകയും ചെയ്യുന്നത്.)
7. The physical space is not utilized effectively.
   (ഭൗതികമായ സ്ഥലസൗകര്യങ്ങൾ വേണ്ടത്ര നന്നായി ഉപയോഗിക്കപ്പെടുന്നില്ല.)

8. Teachers get little time to organize sports programmes inside school.
   (വിദ്യാലയത്തിൽ കായികപരിപാടികൾ സംഘടിപ്പിക്കാൻ അധ്യാപകർക്ക് സമയം ലഭിക്കാറില്ല.)
9. Teachers conduct yoga and meditation classes regularly.
   (അധ്യാപകർ യോഗ, മെഡിറ്റേഷൻ ക്ലാസുകൾ പതിവായി നടത്താറുണ്ട്.)
10. School culture is dominated by competitive factors than co-operative.
    (വിദ്യാലയ സംസ്കാരം സഹകരണാടിസ്ഥാനത്തിലുള്ളതല്ല മറിച്ച് മൽസരബുദ്ധിയുടേത് ആകുന്നു.)
11. Teaching styles are adapted to meet different learning styles of students.
    (വിദ്യാർത്ഥികളുടെ വിവിധ പഠനശൈലികളുമായി ഒത്തുപോകുന്ന അധ്യാപക ശൈലികൾ ആണ് അധ്യാപകർ തിരഞ്ഞെടുക്കുന്നത്.)
12. Students feel secure inside the school.
    (വിദ്യാർത്ഥികൾക്ക് വിദ്യാലയത്തിൽ സുരക്ഷിതത്വം അനുഭവപ്പെടാറുണ്ട്.)
13. Science exhibitions and cultural programmes rarely occur in school.
    (സയൻസ് എക്സിബിഷൻസ്, സാംസ്കാരികപരിപാടികൾ തുടങ്ങിയവ വളരെ വിരളമായി മാത്രമെ വിദ്യാലയത്തിൽ നടത്താറുള്ളൂ.)
14. Members of the institution keeps a supportive and caring relationships for students.
    (വിദ്യാലയത്തിലെ അംഗങ്ങൾ സഹായത്തിലൂന്നിയതും ശ്രദ്ധയോടുകൂടിയതുമായ ബന്ധങ്ങൾ വിദ്യാർത്ഥികളുമായി പുലർത്തുന്നു.)
15. School building have enough space.
    (വിദ്യാലയകെട്ടിടത്തിനു ആവശ്യമായ സ്ഥലസൗകര്യങ്ങൾ ഉണ്ട്.)
16. Teachers often faces situational hazards.
    (അധ്യാപകർ പലപ്പോഴും സാന്ദർഭികമായ തടസ്സങ്ങൾ അഭിമുഖീകരിക്കാറുണ്ട്.)
17. Adequate scaffolding and extra care are provided to students who need special attention.
    (പ്രത്യേക ശ്രദ്ധ ആവശ്യമായ വിദ്യാർത്ഥികൾക്ക് വേണ്ടത്ര സഹായങ്ങളും അധിക പരിപാലനവും നൽകാറുണ്ട്.)
18. Opportunities are provided to teachers for their professional development.
    (ഔദ്യോഗിക വളർച്ചക്കാവശ്യമായ അവസരങ്ങൾ അധ്യാപകർക്ക് ലഭിക്കുന്നുണ്ട്.)
19. There is lack of a disciplinary system with clear expectations and consequences.
    (വ്യക്തമായ ലക്ഷ്യങ്ങളോടു കൂടിയതും അനന്തരഫലങ്ങളെ വിലയിരുത്തിക്കൊണ്ടുമുള്ള അച്ചടക്ക സംവിധാനത്തിന്റെ അഭാവം ഉണ്ട്.)
20. Teacher always possess low expectations of student behavior.
    (അധ്യാപകർക്ക് വിദ്യാർത്ഥികളെ സംബന്ധിച്ച് വലിയ പ്രതീക്ഷകളില്ല.)

21. Teachers show high tolerance towards individual difference of students.

    (അധ്യാപകർ വിദ്യാർത്ഥികളുടെ വ്യക്തിപരമായ വ്യത്യസ്ഥത തികഞ്ഞ സഹിഷ്ണുതയോടെ നോക്കികാണുന്നു.)

22. School library, laboratory and play ground are student friendly.

    (വിദ്യാലയത്തിലെ ലൈബ്രറി, ലബോറട്ടറി, കളിസ്ഥലങ്ങൾ എന്നിവ വിദ്യാർത്ഥികൾക്ക് അനുയോജ്യമായി നിലകൊള്ളുന്നു.)

23. Bathrooms and classrooms are untidy and dirty.

    (ബാത്ത്റൂമുകളും ക്ലാസ്മുറികളും വൃത്തിഹീനമാകുന്നു.)

24. School authorities' emphasis on constructive feedback and do not allow ridiculing inside the school.

    (വിദ്യാലയത്തിലെ മേധാവികൾ ഫലപ്രദമായ അഭിപ്രായങ്ങൾക്ക് ഊന്നൽ കൊടുക്കുകയും അപഹാസ്യമായ പ്രവർത്തികൾ അനുവദിക്കാതിരിക്കുകയും ചെയ്യാറുണ്ട്.)

25. Opportunity for student involvement are provided in school.

    (വിദ്യാർത്ഥികളുടെ പൂർണ്ണമായ പങ്കാളിത്തം ഉറപ്പുവരുത്തുന്ന അവസരങ്ങൾ വിദ്യാലയം നൽകുന്നു.)

26. School rules are unclear and arbitrary and do not cater to children with differences.

    (വിദ്യാലയത്തിലെ നിയമങ്ങൾ അവ്യക്തവും സാങ്കല്പികവുമാകയാൽ വ്യത്യസ്തരായ വിദ്യാർത്ഥികളെ പരിപാലിക്കാൻ ഉതകുന്നതല്ല.)

27. Teachers implement strict routines to maximize instructional time.

    (അധ്യാപനസമയം കൂടുതൽ ലഭിക്കാനായി കണിശമായ സമയക്രമം അധ്യാപകർ പാലിക്കാറുണ്ട്.)

28. Pro-active intergroup interactions among students are approved in school.

    (വിദ്യാർത്ഥികൾക്കിടയിലുള്ള പുരോഗമനപരമായ പരസ്പരകൂട്ടായ്മയുടേതായ ഇടപെടലുകൾ വിദ്യാലയം അംഗീകരിക്കാറുണ്ട്.)

29. There are lot of opportunities both for students and teachers to nourish artistic and aesthetic talents.

    (കലാപരവും ആസ്വാദ്യപരവുമായ കഴിവുകൾ വികസിപ്പിക്കാനുള്ള ധാരാളം അവസരങ്ങൾ അധ്യാപകർക്കും വിദ്യാർത്ഥിക്കും ലഭിക്കാറുണ്ട്.)

30. There is lack of adequate resources and material in laboratory.

    (ലബോറട്ടറിയിൽ വേണ്ടത്ര വസ്തുശേഖരത്തിന്റെ അഭാവം ഉണ്ട്.)

31. Teachers feel that students attitude towards them are less constructive.

    (അധ്യാപകർ വിദ്യാർത്ഥികളുടെ അവരോടുള്ള മനോഭാവത്തിൽ തൃപ്തരല്ല.)

32. Teacher evaluation and feedback procedures are rarely practiced in school.
(അധ്യാപക വിലയിരുത്തലുകളും അവലോകന മാർഗ്ഗങ്ങളും വളരെ വിരളമായി മാത്രമെ വിദ്യാലയത്തിൽ നടത്താറുള്ളു.)

33. Collaboration is encouraged among teachers.
(അധ്യാപകർക്ക് ഇടയിൽ സഹകരണമനോഭാവം പ്രോൽസാഹിപ്പിക്കാറുണ്ട്.)

34. Teachers facilitate student interaction or academic talk.
(അധ്യാപകർ വിദ്യാർത്ഥികളുടെ പഠനകാര്യങ്ങളിലുള്ള പരസ്പര ഇടപെടലുകൾക്ക് അവസരം ഒരുക്കാറുണ്ട്.)

35. There is no platform to hear students opinions and expectations.
(വിദ്യാർത്ഥികളുടെ അഭിപ്രായങ്ങളും ആഗ്രഹങ്ങളും പങ്കുവെക്കാൻ ഉതകുന്ന ഒരു വേദി ഉണ്ടാകാറില്ല.)

36. Text-books, computers and visual aids are available to make teaching effective.
(പാഠപുസ്തകങ്ങളും, കംപ്യൂട്ടറുകളും കാഴ്ച സഹായികളും അധ്യാപനം മികവുറ്റതാക്കാൻ ലഭ്യമാണ്.)

37. Teachers communicate content clearly and accurately.
(അധ്യാപകർ പാഠഭാഗങ്ങൾ വ്യക്തമായും കൃത്യതയോടുകൂടിയും പറഞ്ഞു കൊടുക്കാറുണ്ട്.)

38. Internet and on-line teaching learning facilities are provided at school.
(ഇന്റർനെറ്റും, ഓൺ-ലൈൻ അധ്യാപന പഠനസൗകര്യങ്ങളും സ്കൂളിൽ ലഭ്യമാണ്.)

39. Teachers high expectations with strong support produce desirable learning outcome.
(ആഗ്രഹിക്കുന്ന തരത്തിലുള്ള പഠന ഫലപ്രാപ്തിക്ക് അധ്യാപകരുടെ സഹായത്തോടെയുള്ള ഉയർന്ന ലക്ഷ്യബോധം വഴിയൊരുക്കുന്നു.)

40. Teachers use common assessment pattern to all students regardless of their differences.
(വ്യത്യസ്ഥത പരിഗണിക്കാതെ പൊതുവായ വിലയിരുത്തൽ സംവിധാനങ്ങൾ ആണ് അധ്യാപകർ ഉപയോഗിക്കുന്നത്.)

41. Students treat each other with respect and care.
(വിദ്യാർത്ഥികൾ പരസ്പരം ആദരവോടും ശ്രദ്ധയോടും കൂടി ഇടപഴകുന്നു.)

42. Unavailability of head of institution often create dissatisfaction among teachers.
(വിദ്യാലയമേധാവിയുടെ അസാന്നിദ്ധ്യം പലപ്പോഴും അധ്യാപകർക്കിടയിൽ അസംതൃപ്തി ഉണ്ടാക്കുന്നു.)

43. There is little support to incorporate technology in instruction.
(ടെക്നോളജി, അധ്യാപനവുമായി യോജിപ്പിക്കാൻ ഉതകുന്ന സഹായങ്ങൾ അപര്യാപ്തമാണ്.)

44. Teachers feel less attached to school.

(അധ്യാപകർക്ക് വിദ്യാലയത്തോട് അകൽച്ച തോന്നാറുണ്ട്.)

45. Ratio of students to teachers in the classroom are not adequate.

(വിദ്യാലയത്തിലെ അധ്യാപക വിദ്യാർത്ഥി അനുപാതം തൃപ്തികരമല്ല.)ന

46. Supplementary materials to support the curricula are available at school.

(കരിക്കുലത്തിലെ കാര്യങ്ങൾ നടപ്പിലാക്കാനുള്ള അധിക (സപ്ളിമെന്ററി) വസ്തുക്കൾ വിദ്യാലത്തിൽ ലഭ്യമാണ്.)

47. Peer interaction among students are minimum.

(കുട്ടികൾക്കിടയിലുള്ള ഇടപെടലുകൾ വളരെ കുറവാണ്.)

48. Head of institution behave more diplomatic than humanistic.

(വിദ്യാലയത്തിലെ മേധാവി മാനുഷിക പരിഗണനയേക്കാൾ നയതന്ത്രപരമായിട്ടാണ് പെരുമാറുന്നത്.)

49. There is no interpersonal relation among school leadership, teachers and students.

(വിദ്യാലയമേധാവിയും, അധ്യാപകരും വിദ്യാർത്ഥികളും തമ്മിൽ പരസ്പരബന്ധങ്ങൾ ഉണ്ടാകാറില്ല.)

50. Teachers organize talent search programmes and youth festivals in school.

(കുട്ടികളുടെ കഴിവ് കണ്ടെത്തുന്നതരത്തിലുള്ള പരിപാടികളും യുവജനോത്സവവും സംഘടിപ്പിക്കാറുണ്ട്.)

Appendix V

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

A SCALE ON SCHOOL CLIMATE FACTORS IN TEACHING

(FINAL)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

1. School compound is neat and clean.
   (വിദ്യാലയപരിസരം വൃത്തിയും വെടിപ്പും ഉള്ളതാണ്.
2. Teachers are unable to engage all students in the classroom.
   (ക്ലാസ്റൂമിൽ എല്ലാ തരത്തിലുള്ള വിദ്യാർത്ഥികളേയും പഠനപ്രവർത്തനങ്ങളിൽ ഉൾപ്പെടുത്താൻ അധ്യാപകർക്ക് കഴിയാറില്ല.)
3. Teachers conduct yoga and meditation classes regularly.
   (അധ്യാപകർ യോഗ, മെഡിറ്റേഷൻ ക്ലാസുകൾ പതിവായി നടത്താറുണ്ട്.)
4. Teachers get little chance to interact with parents.
   (അധ്യാപകർക്ക് മാതാപിതാക്കളുമായി അടുത്തിടപഴകാൻ അവസരം ലഭിക്കാറില്ല.)
5. Students feel secure inside the school.
   (വിദ്യാർത്ഥികൾക്ക് വിദ്യാലയത്തിൽ സുരക്ഷിതത്വം അനുഭവപ്പെടാറുണ്ട്.)
6. The physical space is not utilized effectively.
   (ഭൗതികമായ സ്ഥലസൗകര്യങ്ങൾ വേണ്ടത്ര നന്നായി ഉപയോഗിക്കപ്പെടുന്നില്ല.)
7. Teachers get little time to organize sports programmes inside school.
   (വിദ്യാലയത്തിൽ കായികപരിപാടികൾ സംഘടിപ്പിക്കാൻ അധ്യാപകർക്ക് സമയം ലഭിക്കാറില്ല.)
8. Teaching styles are adapted to meet different learning styles of students.
   (വിദ്യാർത്ഥികളുടെ വിവിധ പഠനശൈലികളുമായി ഒത്തുപോകുന്ന അധ്യാപക ശൈലികൾ ആണ് അധ്യാപകർ തിരഞ്ഞെടുക്കുന്നത്.)

9. Members of the institution keeps a supportive and caring relationships for students.
(വിദ്യാലയത്തിലെ അംഗങ്ങൾ സഹായത്തിലൂന്നിയതും ശ്രദ്ധയോടുകൂടിയതുമായ ബന്ധങ്ങൾ വിദ്യാർത്ഥികളുമായി പുലർത്തുന്നു.)
10. Teachers often faces situational hazards.
(അധ്യാപകർ പലപ്പോഴും സാന്ദർഭികമായ തടസ്സങ്ങൾ അഭിമുഖീകരിക്കാറുണ്ട്.)
11. School building have enough space.
(വിദ്യാലയകെട്ടിടത്തിനു ആവശ്യമായ സ്ഥലസൗകര്യങ്ങൾ ഉണ്ട്.)
12. Adequate scaffolding and extra care are provided to students who need special attention.
(പ്രത്യേക ശ്രദ്ധ ആവശ്യമായ വിദ്യാർത്ഥികൾക്ക് വേണ്ടത്ര സഹായങ്ങളും അധിക പരിപാലനവും നൽകാറുണ്ട്.)
13. There is lack of a disciplinary system with clear expectations and consequences.
(വ്യക്തമായ ലക്ഷ്യങ്ങളോടു കൂടിയതും അനന്തരഫലങ്ങളെ വിലയിരുത്തിക്കൊണ്ടുമുള്ള അച്ചടക്ക സംവിധാനത്തിന്റെ അഭാവം ഉണ്ട്.)
14. Opportunities are provided to teachers for their professional development.
(ഔദ്യോഗിക വളർച്ചക്കാവശ്യമായ അവസരങ്ങൾ അധ്യാപകർക്ക് ലഭിക്കുന്നുണ്ട്.)
15. Teacher always possess low expectations of student behavior.
(അധ്യാപകർക്ക് വിദ്യാർത്ഥികളെ സംബന്ധിച്ച് വലിയ പ്രതീക്ഷകളില്ല.)
16. School library, laboratory and play ground are student friendly.
(വിദ്യാലയത്തിലെ ലൈബ്രറി, ലബോറട്ടറി, കളിസ്ഥലങ്ങൾ എന്നിവ വിദ്യാർത്ഥികൾക്ക് അനുയോജ്യമായി നിലകൊള്ളുന്നു.)
17. Bathrooms and classrooms are untidy and dirty.
(ബാത്ത്റൂമുകളും ക്ലാസ്മുറികളും വൃത്തിഹീനമാകുന്നു.)
18. School authorities' emphasis on constructive feedback and do not allow ridiculing inside the school.
(വിദ്യാലയത്തിലെ മേധാവികൾ ഫലപ്രദമായ അഭിപ്രായങ്ങൾക്ക് ഊന്നൽ കൊടുക്കുകയും അപഹാസ്യമായ പ്രവർത്തികൾ അനുവദിക്കാതിരിക്കുകയും ചെയ്യാറുണ്ട്.)
19. Opportunity for student involvement are provided in school.
(വിദ്യാർത്ഥികളുടെ പൂർണ്ണമായ പങ്കാളിത്തം ഉറപ്പുവരുത്തുന്ന അവസരങ്ങൾ വിദ്യാലയം നൽകുന്നു.)
20. School rules are unclear and arbitrary and do not cater to children with differences.
(വിദ്യാലയത്തിലെ നിയമങ്ങൾ അവ്യക്തവും സാങ്കല്പികവുമാകയാൽ വ്യത്യസ്തരായ വിദ്യാർത്ഥികളെ പരിപാലിക്കാൻ ഉതകുന്നതല്ല.)

21. Pro-active intergroup interactions among students are approved in school.
(വിദ്യാർത്ഥികൾക്കിടയിലുള്ള പുരോഗമനപരമായ പരസ്പരകൂട്ടായ്മയുടേതായ ഇടപെടലുകൾ വിദ്യാലയം അംഗീകരിക്കാറുണ്ട്.)

22. There is lack of adequate resources and material in laboratory.
(ലബോറട്ടറിയിൽ വേണ്ടത്ര വസ്തുശേഖരത്തിന്റെ അഭാവം ഉണ്ട്.)

23. There are lot of opportunities both for students and teachers to nourish artistic and aesthetic talents.
(കലാപരവും ആസ്വാദ്യപരവുമായ കഴിവുകൾ വികസിപ്പിക്കാനുള്ള ധാരാളം അവസരങ്ങൾ അധ്യാപകർക്കും വിദ്യാർത്ഥിക്കും ലഭിക്കാറുണ്ട്.)

24. Teachers feel that students attitude towards them are less constructive.
(അധ്യാപകർ വിദ്യാർത്ഥികളുടെ അവരോടുള്ള മനോഭാവത്തിൽ തൃപ്തരല്ല.)

25. Text-books, computers and visual aids are available to make teaching effective.
(പാഠപുസ്തകങ്ങളും, കംപ്യൂട്ടറുകളും കാഴ്ച സഹായികളും അധ്യാപനം മിക വുറ്റതാക്കാൻ ലഭ്യമാണ്.)

26. Teacher evaluation and feedback procedures are rarely practiced in school.
(അധ്യാപക വിലയിരുത്തലുകളും അവലോകന മാർഗ്ഗങ്ങളും വളരെ വിരളമായി മാത്രമെ വിദ്യാലയത്തിൽ നടത്താറുള്ളു.)

27. Teachers communicate content clearly and accurately.
(അധ്യാപകർ പാഠഭാഗങ്ങൾ വ്യക്തമായും കൃത്യതയോടുകൂടിയും പറഞ്ഞു കൊടുക്കാറുണ്ട്.)

28. There is no platform to hear students opinions and expectations.
(വിദ്യാർത്ഥികളുടെ അഭിപ്രായങ്ങളും ആഗ്രഹങ്ങളും പങ്കുവെക്കാൻ ഉതകുന്ന ഒരു വേദി ഉണ്ടാകാറില്ല.)

29. Internet and on-line teaching learning facilities are provided at school.
(ഇന്റർനെറ്റും, ഓൺ-ലൈൻ അധ്യാപന പഠനസൗകര്യങ്ങളും സ്കൂളിൽ ലഭ്യ മാണ്.)

30. Unavailability of head of institution often create dissatisfaction among teachers.
(വിദ്യാലയമേധാവിയുടെ അസാന്നിദ്ധ്യം പലപ്പോഴും അധ്യാപകർക്കിടയിൽ അസംതൃപ്തി ഉണ്ടാക്കുന്നു.)

31. Teachers high expectations with strong support produce desirable learning outcome.
(ആഗ്രഹിക്കുന്ന തരത്തിലുള്ള പഠന ഫലപ്രാപ്തിക്ക് അധ്യാപകരുടെ സഹായ ത്തോടെയുള്ള ഉയർന്ന ലക്ഷ്യബോധം വഴിയൊരുക്കുന്നു.)

32. Students treat each other with respect and care.
(വിദ്യാർത്ഥികൾ പരസ്പരം ആദരവോടും ശ്രദ്ധയോടും കൂടി ഇടപഴകുന്നു.)

33. There is little support to incorporate technology in instruction.
(ടെക്നോളജി, അധ്യാപനവുമായി യോജിപ്പിക്കാൻ ഉതകുന്ന സഹായങ്ങൾ അപര്യാപ്തമാണ്.)

34. Teachers feel less attached to school.
(അധ്യാപകർക്ക് വിദ്യാലയത്തോട് അകൽച്ച തോന്നാറുണ്ട്.)

35. Supplementary materials to support the curricula are available at school.
(കരിക്കുലത്തിലെ കാര്യങ്ങൾ നടപ്പിലാക്കാനുള്ള അധിക (സപ്ളിമെന്ററി) വസ്തുക്കൾ വിദ്യാലത്തിൽ ലഭ്യമാണ്.)

36. Ratio of students to teachers in the classroom are not adequate.
(വിദ്യാലയത്തിലെ അധ്യാപക വിദ്യാർത്ഥി അനുപാതം തൃപ്തികരമല്ല.)

37. Peer interaction among students are minimum.
(കുട്ടികൾക്കിടയിലുള്ള ഇടപെടലുകൾ വളരെ കുറവാണ്.)

38. Teachers organize talent search programmes and youth festivals in school.
(കുട്ടികളുടെ കഴിവ് കണ്ടെത്തുന്നതരത്തിലുള്ള പരിപാടികളും യുവജനോത്സവവും സംഘടിപ്പിക്കാറുണ്ട്.)

39. Head of institution behave more diplomatic than humanistic.
(വിദ്യാലയത്തിലെ മേധാവി മാനുഷിക പരിഗണനയേക്കാൾ നയതന്ത്രപരമായിട്ടാണ് പെരുമാറുന്നത്.)

40. There is no interpersonal relation among school leadership, teachers and students.
(വിദ്യാലയമേധാവിയും, അധ്യാപകരും വിദ്യാർത്ഥികളും തമ്മിൽ പരസ്പരബന്ധങ്ങൾ ഉണ്ടാകാറില്ല.)

Appendix VI

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SCHOOL CLIMATE FACTORS IN TEACHING

RESPONSE SHEET

Name :.....Gender: .....

Name of Working Institution :.....

Type of Management:.....

Locale: Urban/Rural:.....

Educational Qualification: Under Graduation/ Graduation and Above.....

Experience:.....Years

Sl. No.	Agree	No Opinion	Disagree
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			

Sl. No.	Agree	No Opinion	Disagree
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
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30.			
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40.			

Appendix VII

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON COGNITIVE AND META COGNITIVE FACTORS IN TEACHING

(DRAFT)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. Adopting a particular teaching method is always beneficial.
   (ഒരു പ്രത്യേക അധ്യാപനമാർഗ്ഗം സ്വീകരിക്കുന്നതാണ് അഭികാമ്യം.)
2. Teaching cultivate problem solving abilities in children with difference.
   (അധ്യാപനം വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളിൽ പ്രശ്നനിവാരണത്തിനുള്ള കഴിവുകൾ വളർത്തിയെടുക്കുന്നു)
3. One can't stipulate the outcomes of teaching in special schools.
   (പ്രത്യേക വിദ്യാലയങ്ങളിൽ അധ്യാപനത്തിന്റെ പരിണിതഫലങ്ങൾ നിർണ്ണയിക്കുക അസാധ്യമാകുന്നു.)
4. Less importance is given to students mental effort.
   (അധ്യാപനരീതികൾ ആസൂത്രണം ചെയ്യുമ്പോൾ കുട്ടികളുടെ മാനസികഭാരത്തിനു മതിയായ പ്രാധാന്യം നൽകാറില്ല.)
5. Teachers should know how pupil learn and process information.
   (വിദ്യാർത്ഥികൾ പഠിക്കുന്നതെങ്ങനെയന്നും വിവരങ്ങൾ സ്വായത്തമാക്കുന്നത് എപ്രകാരമെന്നും അധ്യാപകർ അറിയേണ്ടതുണ്ട്.)
6. Self-appraisal on teaching make no difference.
   (അധ്യാപനത്തിൽ സ്വയം അവലോകനം ചെയ്യുന്നത് മാറ്റങ്ങൾ വരുത്തുവാൻ പര്യാപ്തമല്ല)

7. Teachers are comfortable with the possibility of differently abled students under achievement.

   (കഴിവിൽ വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുടെ പഠനനേട്ടങ്ങളിൽ ഉള്ള കുറവ് സ്വാഭാവികമാണെന്ന് അധ്യാപകർ കരുതുന്നു)

8. Teachers should not stick on a pre-determined and time scheduled teaching task.

   (മുൻകൂട്ടി നിശ്ചയിച്ചതും സമയബന്ധിതവുമായ അധ്യായന പ്രവർത്തനങ്ങൾ തുടർന്നുപോകാറില്ല.)

9. Collaborative approaches facilitate peer tutoring and ability grouping among students with intellectual differences.

   (സഹപ്രവർത്തിത സമീപനങ്ങൾ വിദ്യാർത്ഥികൾക്കിടയിലുള്ള അധ്യാപനത്തിനും, കഴിവിനനുസൃതമായ സംഘാടനത്തിനും വഴിയൊരുക്കുന്നു.)

10. Teachers feel uncomfortable while choosing a new approach in teaching.

    (അധ്യാപനത്തിലെ നൂതന സമീപനങ്ങൾ അധ്യാപകരിൽ അസ്വസ്ഥത ഉളവാക്കുന്നു.)

11. Shared experiences are not required in successful teaching.

    (അനുഭവങ്ങൾ പങ്കുവെയ്ക്കുന്നത് വിജയകരമായ അദ്ധ്യാപനത്തിന് ആവശ്യമില്ല.)

12. There is no pre-determined goals in teaching students with intellectual difference.

    (ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുടെ അധ്യാപനത്തിൽ മുൻകൂട്ടി നിശ്ചയിച്ച ലക്ഷ്യങ്ങൾ ഉണ്ടാകാറില്ല.)

13. Teaching pave way for understanding a text or situation.

    (ഒരു പാഠഭാഗത്തേയോ സന്ദർഭത്തേയോ മനസ്സിലാക്കുന്നതിനുള്ള ഒരു ഉപാധിയായി അധ്യാപനം വർത്തിക്കുന്നു.)

14. Teaching is not instrumental to behavior modification in pupil with less adaptive behavior.

    (അനുയോജ്യമായ സ്വഭാവരൂപീകരണത്തിനു, അധ്യാപനത്തിനുള്ള പങ്ക് വളരെ പരിമിതമാണ്)

15. To teach pupil with intellectual difference, teachers have to prepare lessons in accordance with Bloom's taxonomy.

    (ബുദ്ധിയിൽ വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുടെ അധ്യാപകൻ/അധ്യാപിക എന്ന നിലക്ക് പാഠഭാഗങ്ങൾ തയ്യാറാക്കുന്നത് ബ്ലൂമിന്റെ വർഗ്ഗീകരണം (പഠനലക്ഷ്യങ്ങളുടെ വിവിധ തലങ്ങൾ) അനുസരിച്ചാവണം).

16. Teachers rely on conventional teaching than example based teaching.

    (അധ്യാപകർ ഉദാഹരണസഹിത അധ്യാപനത്തേക്കാൾ വ്യവസ്ഥാപിത മാർഗ്ഗത്തെ അവലംബിക്കുന്നു.)

17. Any hurdle while teaching will be removed without any difficulty.
(അധ്യാപനത്തിനിടയിൽ ഉണ്ടാകുന്ന എല്ലാ തടസ്സങ്ങളും ബുദ്ധിമുട്ടില്ലാത്ത രീതിയിൽ തരണം ചെയ്യാറുണ്ട്.)

18. Planning, monitoring and evaluating a teaching activity require a great amount of tolerance among teachers.
(അധ്യാപന പ്രവൃത്തികൾ ആസൂത്രണം ചെയ്യാനും നിരീക്ഷിക്കാനും വിലയിരുത്താനും അധ്യാപകരുടെ ഉയർന്ന അളവിലുള്ള സഹിഷ്ണുത അനിവാര്യമാകുന്നു.)

19. Overcome students limitations in classroom is a common thing in special schools.
(വിദ്യാർത്ഥികളുടെ പരിമിതികൾ തരണം ചെയ്യുക എന്നതു സ്പെഷ്യൽ സ്കൂളുകളിൽ സാധാരണ കാര്യമാകുന്നു.)

20. Gifted children need exploratory teaching methods.
(പ്രഗത്ഭരായ വിദ്യാർത്ഥികൾക്ക് അന്വേഷണാത്മകവും കണ്ടെത്തലുകളുടേതുമായ അധ്യാപനരീതി ആവശ്യമാണ്.)

21. Proper understanding of difference is not necessary for teaching pupil with intellectual differences.
(വ്യത്യസ്ഥതയെക്കുറിച്ച് ശരിയായുള്ള അറിവ് ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പഠിപ്പിക്കുമ്പോൾ അനിവാര്യമല്ല.)

22. Teachers tries to understand pupils previous knowledge before teaching a topic in special schools.
(പഠിപ്പിക്കുന്ന വിഷയത്തിലുള്ള കുട്ടികളുടെ മുന്നറിവ് മനസ്സിലാക്കാൻ പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപകർ ശ്രമിക്കാറുണ്ട്.)

23. Teachers should know one's own peculiarities and limitations on teaching.
(അധ്യാപനപ്രക്രിയയിൽ തന്റേതായ പ്രത്യേകതകളും പരിമിതികളും അധ്യാപകർ തിരിച്ചറിയേണ്ടതാകുന്നു.)

24. Concept maps or charts are rarely used while teaching pupil with intellectual differences.
(ആശയമാപിനികൾ/ചാർട്ടുകൾ എന്നിവ ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പഠിപ്പിക്കുമ്പോൾ വിരളമായി ഉപയോഗിക്കുന്നു.)

25. Thinking whether the teaching strategies chosen are correct or not is ridiculous.
(തിരഞ്ഞെടുത്ത അധ്യാപനരീതികൾ ശരിയാണോ, അല്ലയോ എന്ന് വിലയിരുത്തുന്നത് വിഡ്ഢിത്തമാകുന്നു.)

26. Teachers should estimate or assess features of a teaching task and pupils response towards it.
(അധ്യാപന പ്രവർത്തനങ്ങളുടെ സ്വഭാവവും അതിനോടുള്ള പ്രതികരണവും അധ്യാപകർ വിലയിരുത്തേണ്ടതാകുന്നു.)

27. In special education, providing proper cues to students to facilitate a learning task is impossible.
(പ്രത്യേക വിദ്യാഭ്യാസസരണിയിൽ ഒരു പഠനപ്രവർത്തി പ്രാവർത്തികമാക്കാനായി ശരിയായ സൂചനകൾ കുട്ടികൾക്ക് നൽകുക എന്നത് അസാദ്ധ്യമാകുന്നു.)

28. Teachers should analyse a teaching strategy before it is implemented for better functioning in special schools.
(പ്രത്യേകവിദ്യാലയങ്ങളുടെ നല്ല പ്രവർത്തനത്തിന് അധ്യാപനരീതികൾ നടപ്പിലാക്കുന്നതിനു മുൻപ് വിശകലനം ചെയ്യേണ്ടത് അനിവാര്യമാകുന്നു.)

29. Meta cognitive skill training have little scope on teacher preparation programmes.
(അതിവൈജ്ഞാനിക നൈപുണികളുടെ പരിശീലനത്തിനു അധ്യാപക പരിശീലന പദ്ധതികളിൽ പ്രാതിനിധ്യം കുറവാകുന്നു.)

30. Teachers beliefs about difference should be refined by shared vision than individual thought processes.
(വ്യത്യസ്ഥതയോടുള്ള അധ്യാപകരുടെ വിശ്വാസങ്ങൾ വ്യക്തിപരമായ ചിന്തകളേക്കാൾ കൂട്ടായ കാഴ്ചപ്പാടിലൂടെയാണ് രൂപപ്പെടുന്നത്.)

31. Effective teaching stems out from individual characteristics than shared experience.
(പ്രാഗ്ലഭ്യത്തോടെയുള്ള അധ്യാപനം വ്യക്തിപരമായ സ്വഭാവസവിശേഷതകളിൽ നിന്നുമാണ് ഉത്ഭവിക്കുന്നത് കൂട്ടായ അനുഭവങ്ങളിൽ നിന്നല്ല.)

32. Teaching can be tailored to individual needs with proper planning and thinking.
(ശരിയായ രൂപകല്പനയിലൂടേയും ചിന്തയിലൂടേയും അധ്യാപനം വിദ്യാർത്ഥികളുടെ വ്യക്തിഗത ആവശ്യങ്ങൾക്കനുസൃതമായി രൂപപ്പെടുത്താവുന്നതാകുന്നു.)

33. Problem-solving abilities in one's real life is not absorbed from teaching.
(ഒരാളുടെ യഥാർത്ഥ ജീവിതവുമായി ബന്ധപ്പെട്ട പ്രശ്നങ്ങൾ പരിഹരിക്കുന്നതിലുള്ള കഴിവ് ആർജിക്കാൻ അധ്യാപനം കാരണമാകുന്നില്ല.)

34. Recalling phenomena already learned is happened through effective teaching.
(ഫലവത്തായ അധ്യാപനത്തിലൂടെ മുൻപ് സ്വായത്തമാക്കിയ (പഠിച്ചെടുത്ത) സംഭവങ്ങൾ വിദ്യാർത്ഥികൾക്ക് ഓർത്തെടുക്കാൻ കഴിയുന്നു.)

35. Competency-based educational strategies are suited for pupil with intellectual differences.
(കഴിവിനനുസൃതമായ വിദ്യാഭ്യാസരീതികളാണ് ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികൾക്ക് യോജിക്കുന്നത്.)

36. Teachers are keen about the end product of teaching than the procedures that have to follow while teaching differently abled.
(കഴിവിൽ വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പഠിപ്പിക്കുമ്പോൾ അധ്യാപകർ അധ്യാപനത്തിന്റെ ഫലപ്രാപ്തിയ്ക്ക് എന്നല്ലാതെ സ്വീകരിക്കുന്ന മാർഗ്ഗങ്ങൾക്ക് ഊന്നൽ നല്കാറില്ല.)

37. Teachers with knowledge of different teaching strategies and its consequences are better equipped in handling pupil with less adaptive behavior.
(വ്യത്യസ്ഥ അധ്യാപക രീതികളെക്കുറിച്ചും അതിന്റെ അനന്തരഫലങ്ങളെക്കുറിച്ചും അറിയുന്ന അധ്യാപകർ പഠനാന്തരീക്ഷവുമായി ഇണങ്ങിച്ചേരാൻ വിമുഖത കാണിക്കുന്ന പഠിതാക്കളെ പരിപാലിക്കുന്നതിൽ കൂടുതൽ പ്രാവീണ്യമുള്ളവരാകുന്നു.)

38. Using differentiated strategies in teaching increase cognitive load among special school teachers.
(വ്യത്യസ്ഥ അധ്യാപകരീതികൾ അവലംബിക്കുന്നത് പ്രത്യേക വിദ്യാലയങ്ങലിലെ അധ്യാപകരിൽ മാനസിക സമ്മർദ്ദം വർദ്ധിപ്പിക്കുന്നതിനു കാരണമാകുന്നു.)

39. Shared regulation in behavior is essential for better social functioning in special schools.
(പ്രത്യേക വിദ്യാലയങ്ങളിൽ കൂട്ടായ സ്വഭാവക്രമീകരണം നല്ല രീതിയിലുള്ള സാമൂഹ്യ പ്രവർത്തനങ്ങൾക്ക് അത്യന്താപേക്ഷിതമാകുന്നു.)

40. Proper judgement of teaching task is not possible in special education sector
(പ്രത്യേക വിദ്യാഭ്യാസമേഖലയിൽ അധ്യാപകപ്രവൃത്തികളുടെ ശരിയായ വിലയിരുത്തൽ അസാധ്യമാണ്.)

41. Teachers set learning standards that are attained by many in special school classroom.
(ഭൂരിഭാഗം പേർക്കും എത്തിച്ചേരാവുന്ന പഠനനിലവാരമാണു പ്രത്യേകവിദ്യാലയങ്ങളിലെ പഠനമുറികളിൽ അധ്യാപകർ ഒരുക്കുന്നത്.)

42. Teaching should follow the psychological maxim simple to complex/ concrete to abstract.
(അധ്യാപനം എളുപ്പമായതിൽനിന്നും കഠിനമായതിലേക്ക്/യഥാർത്ഥ വസ്തുതകളിൽനിന്നും അയഥാർത്ഥമായവയിലേക്ക് എന്ന സൈക്കോളജിക്കൽ തത്ത്വങ്ങൾ അനുസരിച്ചാകുന്നു.)

43. A flexible teaching style is most appropriate when handling pupil with difference.
(വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പരിപാലിക്കുമ്പോൾ അയവുള്ള അധ്യാപനരീതിയാണ് ഏറ്റവും അനുയോജ്യം.)

44. Teachers require less ideas and vision for handling pupil with difference.
(അധ്യാപകർക്ക് കുറഞ്ഞ അളവിലുള്ള ആലോചനയും കാഴ്ചപ്പാടും മാത്രമെ വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പരിപാലിക്കുന്നതിൽ ആവശ്യമുള്ളു.)

Appendix VIII

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON COGNITIVE AND META COGNITIVE FACTORS IN TEACHING

(FINAL)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

1. Teaching cultivate problem solving abilities in children with difference.
   (അധ്യാപനം വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളിൽ പ്രശ്നനിവാരണത്തിനുള്ള കഴിവുകൾ വളർത്തിയെടുക്കുന്നു)
2. Less importance is given to students mental effort.
   (അധ്യാപനരീതികൾ ആസൂത്രണം ചെയ്യുമ്പോൾ കുട്ടികളുടെ മാനസികഭാരത്തിനു മതിയായ പ്രാധാന്യം നൽകാറില്ല.)
3. Self-appraisal on teaching make no difference.
   (അധ്യാപനത്തിൽ സ്വയം അവലോകനം ചെയ്യുന്നത് മാറ്റങ്ങൾ വരുത്തുവാൻ പര്യാപ്തമല്ല)
4. Teachers are comfortable with the possibility of differently abled students under achievement.
   (കഴിവിൽ വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുടെ പഠനനേട്ടങ്ങളിൽ ഉള്ള കുറവ് സ്വാഭാവികമാണെന്ന് അധ്യാപകർ കരുതുന്നു)
5. There is no pre-determined goals in teaching students with intellectual difference.
   (ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുടെ അധ്യാപനത്തിൽ മുൻകൂട്ടി നിശ്ചയിച്ച ലക്ഷ്യങ്ങൾ ഉണ്ടാകാറില്ല.)
6. Collaborative approaches facilitate peer tutoring and ability grouping among
   students with intellectual differences.
   (സഹപ്രവർത്തിത സമീപനങ്ങൾ വിദ്യാർത്ഥികൾക്കിടയിലുള്ള അധ്യാപനത്തിനും, കഴിവിനനുസൃതമായ സംഘാടനത്തിനും വഴിയൊരുക്കുന്നു.)
7. Teaching is not instrumental to behavior modification in pupil with less adaptive behavior.
   (അനുയോജ്യമായ സ്വഭാവരൂപീകരണത്തിനു, അധ്യാപനത്തിനുള്ള പങ്ക് വളരെ പരിമിതമാണ്)

8. Any hurdle while teaching will be removed without any difficulty.
   (അധ്യാപനത്തിനിടയിൽ ഉണ്ടാകുന്ന എല്ലാ തടസ്സങ്ങളും ബുദ്ധിമുട്ടില്ലാത്ത രീതിയിൽ തരണം ചെയ്യാറുണ്ട്.)

9. Teachers rely on conventional teaching than example based teaching.
   (അധ്യാപകർ ഉദാഹരണസഹിത അധ്യാപനത്തേക്കാൾ വ്യവസ്ഥാപിത മാർഗ്ഗത്തെ അവലംബിക്കുന്നു.)

10. Gifted children need exploratory teaching methods.
    (പ്രഗത്ഭരായ വിദ്യാർത്ഥികൾക്ക് അന്വേഷണാത്മകവും കണ്ടെത്തലുകളുടേതുമായ അധ്യാപനരീതി ആവശ്യമാണ്.)

11. Proper understanding of difference is not necessary for teaching pupil with intellectual differences.
    (വ്യത്യസ്ഥതയെക്കുറിച്ച് ശരിയായുള്ള അറിവ് ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പഠിപ്പിക്കുമ്പോൾ അനിവാര്യമല്ല.)

12. Teachers tries to understand pupils previous knowledge before teaching a topic in special schools.
    (പഠിപ്പിക്കുന്ന വിഷയത്തിലുള്ള കുട്ടികളുടെ മുന്നറിവ് മനസ്സിലാക്കാൻ പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപകർ ശ്രമിക്കാറുണ്ട്.)

13. Teachers should know one's own peculiarities and limitations on teaching.
    (അധ്യാപനപ്രക്രിയയിൽ തന്റേതായ പ്രത്യേകതകളും പരിമിതികളും അധ്യാപകർ തിരിച്ചറിയേണ്ടതാകുന്നു.)

14. Concept maps or charts are rarely used while teaching pupil with intellectual differences.
    (ആശയമാപിനികൾ/ചാർട്ടുകൾ എന്നിവ ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പഠിപ്പിക്കുമ്പോൾ വിരളമായി ഉപയോഗിക്കുന്നു.)

15. Thinking whether the teaching strategies chosen are correct or not is ridiculous.
    (തിരഞ്ഞെടുത്ത അധ്യാപനരീതികൾ ശരിയാണോ, അല്ലയോ എന്ന് വിലയിരുത്തുന്നത് വിഡ്ഢിത്തമാകുന്നു.)

16. Teachers should estimate or assess features of a teaching task and pupils response towards it.
    (അധ്യാപന പ്രവർത്തനങ്ങളുടെ സ്വഭാവവും അതിനോടുള്ള പ്രതികരണവും അധ്യാപകർ വിലയിരുത്തേണ്ടതാകുന്നു.)

17. In special education, providing proper cues to students to facilitate a learning task is impossible.
    (പ്രത്യേക വിദ്യാഭ്യാസസരണിയിൽ ഒരു പഠനപ്രവർത്തി പ്രാവർത്തികമാക്കാനായി ശരിയായ സൂചനകൾ കുട്ടികൾക്ക് നൽകുക എന്നത് അസാദ്ധ്യമാകുന്നു.)

18. Teachers should analyse a teaching strategy before it is implemented for better functioning in special schools.

    (പ്രത്യേകവിദ്യാലയങ്ങളുടെ നല്ല പ്രവർത്തനത്തിന് അധ്യാപനരീതികൾ നടപ്പിലാക്കുന്നതിനു മുൻപ് വിശകലനം ചെയ്യേണ്ടത് അനിവാര്യമാകുന്നു.)

19. Teachers beliefs about difference should be refined by shared vision than individual thought processes.

    (വ്യത്യസ്ഥതയോടുള്ള അധ്യാപകരുടെ വിശ്വാസങ്ങൾ വ്യക്തിപരമായ ചിന്തകളേക്കാൾ കൂട്ടായ കാഴ്ചപ്പാടിലൂടെയാണ് രൂപപ്പെടുന്നത്.)

20. Effective teaching stems out from individual characteristics than shared experience.

    (പ്രാഗ്ലഭ്യത്തോടെയുള്ള അധ്യാപനം വ്യക്തിപരമായ സ്വഭാവസവിശേഷതകളിൽ നിന്നുമാണ് ഉത്ഭവിക്കുന്നത് കൂട്ടായ അനുഭവങ്ങളിൽ നിന്നല്ല.)

21. Teaching can be tailored to individual needs with proper planning and thinking.

    (ശരിയായ രൂപകല്പനയിലൂടേയും ചിന്തയിലൂടേയും അധ്യാപനം വിദ്യാർത്ഥികളുടെ വ്യക്തിഗത ആവശ്യങ്ങൾക്കനുസൃതമായി രൂപപ്പെടുത്താവുന്നതാകുന്നു.)

22. Problem-solving abilities in one's real life is not absorbed from teaching.

    (ഒരാളുടെ യഥാർത്ഥ ജീവിതവുമായി ബന്ധപ്പെട്ട പ്രശ്നങ്ങൾ പരിഹരിക്കുന്നതിലുള്ള കഴിവ് ആർജിക്കാൻ അധ്യാപനം കാരണമാകുന്നില്ല.)

23. Recalling phenomena already learned is happened through effective teaching.

    (ഫലവത്തായ അധ്യാപനത്തിലൂടെ മുൻപ് സ്വായത്തമാക്കിയ (പഠിച്ചെടുത്ത) സംഭവങ്ങൾ വിദ്യാർത്ഥികൾക്ക് ഓർത്തെടുക്കാൻ കഴിയുന്നു.)

24. Teachers are keen about the end product of teaching than the procedures that have to follow while teaching differently abled.

    (കഴിവിൽ വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പഠിപ്പിക്കുമ്പോൾ അധ്യാപകർ അധ്യാപനത്തിന്റെ ഫലപ്രാപ്തിയ്ക്ക് എന്നല്ലാതെ സ്വീകരിക്കുന്ന മാർഗ്ഗങ്ങൾക്ക് ഊന്നൽ നല്കാറില്ല.)

25. Teachers with knowledge of different teaching strategies and its consequences are better equipped in handling pupil with less adaptive behavior.

    (വ്യത്യസ്ഥ അധ്യാപക രീതികളെക്കുറിച്ചും അതിന്റെ അനന്തരഫലങ്ങളെക്കുറിച്ചും അറിയുന്ന അധ്യാപകർ പഠനാന്തരീക്ഷവുമായി ഇണങ്ങിച്ചേരാൻ വിമുഖത കാണിക്കുന്ന പഠിതാക്കളെ പരിപാലിക്കുന്നതിൽ കൂടുതൽ പ്രാവീണ്യമുള്ളവരാകുന്നു.)

26. Using differentiated strategies in teaching increase cognitive load among special school teachers.

    (വ്യത്യസ്ഥ അധ്യാപകരീതികൾ അവലംബിക്കുന്നത് പ്രത്യേക വിദ്യാലയങ്ങലിലെ അധ്യാപകരിൽ മാനസിക സമ്മർദ്ദം വർദ്ധിപ്പിക്കുന്നതിനു കാരണമാകുന്നു.)

27. Shared regulation in behavior is essential for better social functioning in special schools.
(പ്രത്യേക വിദ്യാലയങ്ങളിൽ കൂട്ടായ സ്വഭാവക്രമീകരണം നല്ല രീതിയിലുള്ള സാമൂഹ്യ പ്രവർത്തനങ്ങൾക്ക് അത്യന്താപേക്ഷിതമാകുന്നു.)

28. Proper judgement of teaching task is not possible in special education sector
(പ്രത്യേക വിദ്യാഭ്യാസമേഖലയിൽ അധ്യാപകപ്രവൃത്തികളുടെ ശരിയായ വില യിരുത്തൽ അസാധ്യമാണ്.)

29. Teaching should follow the psychological maxim simple to complex/ concrete to abstract.
(അധ്യാപനം എളുപ്പമായതിൽനിന്നും കഠിനമായതിലേക്ക്/യഥാർത്ഥ വസ്തുതക ളിൽനിന്നും അയഥാർത്ഥമായവയിലേക്ക് എന്ന സൈക്കോളജിക്കൽ തത്ത്വങ്ങൾ അനുസരിച്ചാകുന്നു.)

30. A flexible teaching style is most appropriate when handling pupil with difference.
(വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളെ പരിപാലിക്കുമ്പോൾ അയവുള്ള അധ്യാപനരീ തിയാണ് ഏറ്റവും അനുയോജ്യം.)

Appendix IX

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON COGNITIVE AND META COGNITIVE FACTORS IN TEACHING

RESPONSE SHEET

Name :.....Gender: .....

Name of Working Institution :.....

Type of Management:.....

Locale: Urban/Rural:.....

Educational Qualification: Under Graduation/ Graduation and Above.....

Experience:.....Years

Sl. No.	Agree	No Opinion	Disagree
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

Sl. No.	Agree	No Opinion	Disagree
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

Appendix X

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON MOTIVATIONAL FACTORS IN TEACHING

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. There is no pressure or interruption from higher authorities while fulfilling my teaching obligation.
   (എന്റെ അദ്ധ്യാപനചുമതലകൾ നിർവ്വഹിക്കുമ്പോൾ മേധാവികളിൽ നിന്നുള്ള സമ്മർദ്ദമൊ തടസ്സങ്ങളൊ ഉണ്ടാകാറില്ല.)
2. Freedom while teaching makes teachers lazy and less productive
   (സ്വാതന്ത്ര്യം അധ്യാപകരെ മടിയന്മാരും നഷ്ക്രിയരും ആക്കുന്നു.)
3. There is little opportunity for enhancement of my knowledge abilities and skills.
   (എന്റെ അറിവും കഴിവുകളും നൈപുണികളും വികസിപ്പിക്കാനുള്ള അവസരങ്ങൾ കുറവാണ്.)
4. Institution follow a democratic outlook.
   (വിദ്യാലയം ജനാധിപത്യരിതികളാണ് പിൻതുടരുന്നത്.)
5. Teachers are given chances to use innovative strategies for better performance.
   (നല്ല പ്രകടനത്തിനാവശ്യമായ നൂതനമായ രീതികൾ ഉപയോഗിക്കുവാൻ അധ്യാപകർക്ക് അവസരം നൽകാറുണ്ട്.)
6. Decisions and actions are scrutinized and implemented by school authority only.
   (തീരുമാനങ്ങളും പ്രവർത്തനങ്ങളും രൂപകല്പന ചെയ്യുന്നതും നടപ്പിലാക്കുന്നതും വിദ്യാലയത്തിലെ അധികാരികൾ മാത്രമാകുന്നു.)

7. I consider teaching as modelling for transforming good habits and virtues to next generation.

   (നല്ല സ്വഭാവങ്ങളും ഗുണങ്ങളും പുതിയ തലമുറയിലേക്ക് എത്തിക്കാനുള്ള മൂർത്തീകരണമാണ് അധ്യാപനമെന്നാണ് എന്റെ വിശ്വാസം.)

8. Teaching needs large amount of preparation and so is boring.

   (അധ്യാപനത്തിൽ വളരെയധികം മുന്നൊരുക്കങ്ങൾ ആവശ്യമായതിനാൽ വിര സമാകുന്നു.)

9. Teachers get ample time to spend with friends and family

   (അധ്യാപകർക്ക് സുഹൃത്തുക്കളുമായും കുടുംബവുമായും ഇടപഴകാൻ ധാരാളം സമയം ലഭിക്കാറുണ്ട്.)

10. Teachers are committed to spend more time with students than family

    (അധ്യാപകർ കുടുംബത്തേക്കാൾ വിദ്യാർത്ഥികളോടൊപ്പം സമയം ചെലവഴി ക്കാൻ നിർബന്ധിതരാകുന്നു.)

11. Students disrespectful behavior redeem teaching performance.

    (വിദ്യാർത്ഥികളുടെ ബഹുമാനരഹിതമായ പെരുമാറ്റങ്ങൾ അധ്യാപകരുടെ പ്രവർത്തനക്ഷമതയെ ലഘൂകരിക്കും.)

12. School possess an excellent monitor system to foster discipline in school.

    (വിദ്യാലയത്തിൽ അച്ചടക്കം നിലനിർത്താൻ വളരെ വിദഗ്ദമായ നിരീക്ഷ ണമാർഗ്ഗം ഉണ്ട്.)

13. Fringe benefits like leave, health and medical care facilities are adequate for teachers.

    (അദ്ധ്യാപകർക്ക് ലീവ്, ആരോഗ്യ പരിരക്ഷ തുടങ്ങിയ ആനുകൂല്യങ്ങൾ പര്യാ പ്തമാണ്.)

14. In special education sector, teachers get less salary when compared with general school teachers.

    (പൊതുവിദ്യാലയങ്ങളിലെ അധ്യാപകരുമായി താരതമ്യം ചെയ്യുമ്പോൾ പ്രത്യേക വിദ്യാഭ്യാസ മേഖലയിലെ അധ്യാപകർക്ക് കുറഞ്ഞ വേതനമാണു ലഭിക്കുന്നത്.)

15. Handling independent and initiative works enhance teacher efficacy.

    (സ്വതന്ത്രമായി അദ്ധ്യാപനജോലികൾ കൈകാര്യം ചെയ്യുമ്പോൾ അധ്യാപക രുടെ കഴിവ് പരിപോഷിപ്പിക്കപ്പെടുന്നു.)

16. There is little opportunity for teachers to take decision in special education.

    (പ്രത്യേക വിദ്യാഭ്യാസത്തിൽ അധ്യാപകർക്ക് തീരുമാനങ്ങൾ എടുക്കുന്നതി നുള്ള അവസരങ്ങൽ കുറവാകുന്നു.)

17. Realistic feedback from higher authorities improves teaching.

    (യാഥാർത്ഥ്യ ബോധത്തോടെയുള്ള അധികാരികളുടെ വിലയിരുത്തലുകൾ അധ്യാപനം മികവുറ്റതാക്കുന്നു.)

18. Ridiculing in front of parents by the head teacher affects teaching.

    (രക്ഷിതാക്കളുടെ മുൻപിൽ അധ്യാപകരെ അപഹാസ്യരാക്കുന്നത് അദ്ധ്യാപനത്തെ ബാധിക്കും.

19. School administrators behave as trouble shooters.

    (സ്കൂൾ ഭരണാധികാരികൾ സംശയദൃഷ്ടിയോടെ കാര്യങ്ങൾ നോക്കിക്കാണുന്നു.)

20. Transparent interaction among teachers, students and parents are promoted in school.

    (അധ്യാപകരും വിദ്യാർത്ഥികളും, രക്ഷിതാക്കളും തമ്മിലുള്ള തുറന്ന ആശയവിനിമയം വിദ്യാലയം പ്രോൽസാഹിപ്പിക്കാറുണ്ട്.)

21. Teachers get less chance for teamwork.

    (അധ്യാപകർക്ക് കൂട്ടായ സംരംഭങ്ങളിൽ പങ്കാളികളാവാനുള്ള അവസരം വിരളമാണ്.)

22. Teaching provides a platform to interact with society positively.

    (അധ്യാപനം സമൂഹവുമായി നല്ല രീതിയിൽ ഇടപഴകാനുള്ള ഒരു അടിത്തറ പ്രദാനം ചെയ്യുന്നു.)

23. Teachers are viewed as less productive compared with other professionals.

    (മറ്റ് ജോലികളുമായി താരതമ്യം ചെയ്യുമ്പോൾ അധ്യാപനം നിരുൽസാഹജനകമാണ്.)

24. Teachers have to spent free hours in library and computer lab for perfecting their performance.

    (അധ്യാപനം മികച്ചതാക്കാനായി ഒഴിവുള്ള സമയങ്ങളിൽ അധ്യാപകർ ലൈബ്രറിയിലും കംപ്യൂട്ടർ ലാബിലും ചെലവഴിക്കണം.)

25. Teachers rarely get time to attend social gatherings or programs.

    (അദ്ധ്യാപകർക്ക് വളരെ ചുരുക്കമായി മാത്രമേ സാമൂഹ്യ കൂട്ടായ്മകളിൽ പങ്കെടുക്കാൻ അവസരം ലഭിക്കാറുള്ളൂ.)

26. Teachers hardwork and outstanding are least valued by authoirities.

    (അധ്യാപകരുടെ കഠിനാധ്വാനവും മികച്ച പ്രകടനങ്ങളും മേലധികാരികൾ വേണ്ട രീതിയിൽ കാണാറില്ല.)

27. Most of the rules and norms are targeted towards teachers than students.

    (വിദ്യാലയത്തിലെ ഭൂരിഭാഗം നിയമങ്ങളും നിബന്ധനകളും വിദ്യാർത്ഥികളെയല്ല മറിച്ച് അധ്യാപകരെ ഉദ്ദേശിച്ചിട്ടുള്ളതാകുന്നു.)

28. Compulsory overtime duties are assigned to teachers.

    (നിർബന്ധിത അധിക ജോലികൾ അധ്യാപകർക്ക് ചെയ്യേണ്ടതായുണ്ട്.)

29. Promotion prospects are encouraged in schools.

(ഉദ്യോഗകയറ്റത്തിനുള്ള അവസരങ്ങൾ വിദ്യാലയം പ്രോൽസാഹിപ്പിക്കാറുണ്ട്.)

30. Institution stands for the betterment of all its members regardless of gender cast or any other differences.

(വിദ്യാലയം ജാതിമതലിംഗ വ്യത്യാസങ്ങൾക്കുമപ്പുറം എല്ലാ വ്യക്തികളുടേയും നന്മക്കായി നിലകൊള്ളുന്നു.)

31. Heavy workload and exploitation are common phenomena in the institution.

(അധിക ജോലിഭാരവും ചൂഷണവും വിദ്യാലയത്തിൽ സാധാരണ സംഭവങ്ങളാകുന്നു.)

32. Teachers are valued and respected by all in school

(വിദ്യാലയത്തിൽ എല്ലാവരും അധ്യാപകരെ വിലമതിക്കുകയും ബഹുമാനിക്കുകയും ചെയ്യാറുണ്ട്.)

33. There are gangs and cliques among teachers which stands for personal gains.

(അധ്യാപകരുടെ ഇടയിൽ ഗ്യാങ്ങുകളും ക്ലിക്കുകളും വ്യക്തിപരമായ നേട്ടങ്ങൾക്കായി നിലനിൽക്കുന്നു.)

34. I consider teaching as a passionate act than mechanical servitude

(എന്നെ സംബന്ധിച്ചിടത്തോളം അധ്യാപനം യാന്ത്രികമായ ജോലിയെന്നതിനേക്കാൾ ആഗ്രഹസാഫല്യമാകുന്നു.)

35. Teaching pupil with intellectual difference are tedious and time consuming.

(ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ കുട്ടികളെ പഠിപ്പിക്കുന്നത് ശ്രമകരവും കൂടുതൽ സമയം നഷ്ടപ്പെടുത്തുന്നതുമാകുന്നു.)

36. Support from head of institution and other teachers inspire teaching differently abled students.

(മേലധികാരികളുടേയും മറ്റു അധ്യാപകരുടേയും സഹായസഹകരണങ്ങൾ വ്യത്യസ്തരായ വിദ്യാർത്ഥികളുടെ അധ്യാപനത്തിനു പ്രചോദനമാകുന്നു.)

37. I choose teaching as a profession for its own sake not for any external reason.

(അധ്യാപനം പ്രവർത്തന മേഖലയാക്കിയതു അതിനോടുള്ള പ്രതിപത്തി മൂലമാണ് മറ്റു ബാഹ്യ പ്രേരണകൾ കൊണ്ടല്ല.)

38. Heavy workload and stress discourage teachers.

(ഉയർന്ന ജോലിഭാരവും സമ്മർദ്ദവും അധ്യാപകരെ നിരുൽസാഹപ്പെടുത്തുന്നു.)

39. Teachers are permitted flexibility in teaching.

(അധ്യാപനത്തിൽ മാറ്റങ്ങൾ ഉൾപ്പെടുത്താൻ അധ്യാപകരെ അനുവദിക്കാറുണ്ട്.)

40. Prevailing system and procedures are adequate for better teaching.

(നിലവിലുള്ള സിസ്റ്റവും രീതികളും നല്ല അധ്യാപനത്തിന് പറ്റിയതുതന്നെയാകുന്നു.)

Appendix XI

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON MOTIVATIONAL FACTORS IN TEACHING

(FINAL)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. Institution follow a democratic outlook.
   (വിദ്യാലയം ജനാധിപത്യരിതികളാണ് പിൻതുടരുന്നത്.)
2. Freedom while teaching makes teachers lazy and less productive
   (സ്വാതന്ത്ര്യം അധ്യാപകരെ മടിയന്മാരും നഷ്ക്രിയരും ആക്കുന്നു.)
3. There is little opportunity for enhancement of my knowledge abilities and skills.
   (എന്റെ അറിവും കഴിവുകളും നൈപുണികളും വികസിപ്പിക്കാനുള്ള അവസരങ്ങൾ കുറവാണ്.)
4. Teachers are given chances to use innovative strategies for better performance.
   (നല്ല പ്രകടനത്തിനാവശ്യമായ നൂതനമായ രീതികൾ ഉപയോഗിക്കുവാൻ അധ്യാപകർക്ക് അവസരം നൽകാറുണ്ട്.)
5. Decisions and actions are scrutinized and implemented by school authority only.
   (തീരുമാനങ്ങളും പ്രവർത്തനങ്ങളും രൂപകല്പന ചെയ്യുന്നതും നടപ്പിലാക്കുന്നതും വിദ്യാലയത്തിലെ അധികാരികൾ മാത്രമാകുന്നു.)
6. I consider teaching as modelling for transforming good habits and virtues to next generation.
   (നല്ല സ്വഭാവങ്ങളും ഗുണങ്ങളും പുതിയ തലമുറയിലേക്ക് എത്തിക്കാനുള്ള മൂർത്തീകരണമാണ് അധ്യാപനമെന്നാണ് എന്റെ വിശ്വാസം.)

7. Teaching needs large amount of preparation and so is boring.
(അധ്യാപനത്തിൽ വളരെയധികം മുന്നൊരുക്കങ്ങൾ ആവശ്യമായതിനാൽ വിര സമാകുന്നു.)

8. Teachers get ample time to spend with friends and family
(അധ്യാപകർക്ക് സുഹൃത്തുക്കളുമായും കുടുംബവുമായും ഇടപഴകാൻ ധാരാളം സമയം ലഭിക്കാറുണ്ട്.)

9. Fringe benefits like leave, health and medical care facilities are adequate for teachers.
(അദ്ധ്യാപകർക്ക് ലീവ്, ആരോഗ്യ പരിരക്ഷ തുടങ്ങിയ ആനുകൂല്യങ്ങൾ പര്യാപ്തമാണ്.)

10. There is little opportunity for teachers to take decision in special education.
(പ്രത്യേക വിദ്യാഭ്യാസത്തിൽ അധ്യാപകർക്ക് തീരുമാനങ്ങൾ എടുക്കുന്നതിനുള്ള അവസരങ്ങൽ കുറവാകുന്നു.)

11. Realistic feedback from higher authorities improves teaching.
(യാഥാർത്ഥ്യ ബോധത്തോടെയുള്ള അധികാരികളുടെ വിലയിരുത്തലുകൾ അധ്യാപനം മികവുറ്റതാക്കുന്നു.)

12. School administrators behave as trouble shooters.
(സ്കൂൾ ഭരണാധികാരികൾ സംശയദൃഷ്ടിയോടെ കാര്യങ്ങൾ നോക്കിക്കാണുന്നു.)

13. Transparent interaction among teachers, students and parents are promoted in school.
(അധ്യാപകരും വിദ്യാർത്ഥികളും, രക്ഷിതാക്കളും തമ്മിലുള്ള തുറന്ന ആശയവിനിമയം വിദ്യാലയം പ്രോൽസാഹിപ്പിക്കാറുണ്ട്.)

14. Teachers get less chance for teamwork.
(അധ്യാപകർക്ക് കൂട്ടായ സംരംഭങ്ങളിൽ പങ്കാളികളാവാനുള്ള അവസരം വിരളമാണ്.)

15. Teaching provides a platform to interact with society positively.
(അധ്യാപനം സമൂഹവുമായി നല്ല രീതിയിൽ ഇടപഴകാനുള്ള ഒരു അടിത്തറ പ്രദാനം ചെയ്യുന്നു.)

16. Teachers are viewed as less productive compared with other professionals.
(മറ്റ് ജോലികളുമായി താരതമ്യം ചെയ്യുമ്പോൾ അധ്യാപനം നിരുൽസാഹജനകമാണ്.)

17. Teachers are valued and respected by all in school
(വിദ്യാലയത്തിൽ എല്ലാവരും അധ്യാപകരെ വിലമതിക്കുകയും ബഹുമാനിക്കുകയും ചെയ്യാറുണ്ട്.)

18. Teachers rarely get time to attend social gatherings or programs.
(അദ്ധ്യാപകർക്ക് വളരെ ചുരുക്കമായി മാത്രമേ സാമൂഹ്യ കൂട്ടായ്മകളിൽ പങ്കെടുക്കാൻ അവസരം ലഭിക്കാറുള്ളൂ.)

19. Teachers hardwork and outstanding are least valued by authoirities.
(അധ്യാപകരുടെ കഠിനാധ്വാനവും മികച്ച പ്രകടനങ്ങളും മേലധികാരികൾ വേണ്ട രീതിയിൽ കാണാറില്ല.)

20. I consider teaching as a passionate act than mechanical servitude
(എന്നെ സംബന്ധിച്ചിടത്തോളം അധ്യാപനം യാന്ത്രികമായ ജോലിയെന്നതിനേക്കാൾ ആഗ്രഹസാഫല്യമാകുന്നു.)

21. Most of the rules and norms are targeted towards teachers than students.
(വിദ്യാലയത്തിലെ ഭൂരിഭാഗം നിയമങ്ങളും നിബന്ധനകളും വിദ്യാർത്ഥികളെയല്ല മറിച്ച് അധ്യാപകരെ ഉദ്ദേശിച്ചിട്ടുള്ളതാകുന്നു.)

22. Teachers are permitted flexibility in teaching.
(അധ്യാപനത്തിൽ മാറ്റങ്ങൾ ഉൾപ്പെടുത്താൻ അധ്യാപകരെ അനുവദിക്കാറുണ്ട്.)

23. Prevailing system and procedures are adequate for better teaching.
(നിലവിലുള്ള സിസ്റ്റവും രീതികളും നല്ല അധ്യാപനത്തിന് പറ്റിയതുതന്നെയാകുന്നു.)

24. Heavy workload and exploitation are common phenomena in the institution.
(അധിക ജോലിഭാരവും ചൂഷണവും വിദ്യാലയത്തിൽ സാധാരണ സംഭവങ്ങളാകുന്നു.)

25. There are gangs and cliques among teachers which stands for personal gains.
(അധ്യാപകരുടെ ഇടയിൽ ഗ്യാങ്ങുകളും ക്ലിക്കുകളും വ്യക്തിപരമായ നേട്ടങ്ങൾക്കായി നിലനിൽക്കുന്നു.)

26. Institution stands for the betterment of all its members regardless of gender cast or any other differences.
(വിദ്യാലയം ജാതിമതലിംഗ വ്യത്യാസങ്ങൾക്കുമപ്പുറം എല്ലാ വ്യക്തികളുടേയും നന്മക്കായി നിലകൊള്ളുന്നു.)

27. Teaching pupil with intellectual difference are tedious and time consuming.
(ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ കുട്ടികളെ പഠിപ്പിക്കുന്നത് ശ്രമകരവും കൂടുതൽ സമയം നഷ്ടപ്പെടുത്തുന്നതുമാകുന്നു.)

28. Heavy workload and stress discourage teachers.
(ഉയർന്ന ജോലിഭാരവും സമ്മർദ്ദവും അധ്യാപകരെ നിരുൽസാഹപ്പെടുത്തുന്നു.)

Appendix XII

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON MOTIVATIONAL FACTORS IN TEACHING

RESPONSE SHEET

Name :.....Gender: .....

Name of Working Institution :.....

Type of Management:.....

Locale: Urban/Rural:.....

Educational Qualification: Under Graduation/ Graduation and Above.....

Experience:.....Years

Sl. No.	Agree	No Opinion	Disagree
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Sl. No.	Agree	No Opinion	Disagree
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			

Appendix XIII

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SPECIAL EDUCATION TEACHER GRIT
(DRAFT)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

1. Meticulous teachers are successful.
   (പ്രവർത്തനോന്മുഖരായ അധ്യാപകർ വിജയികളുമാണ്.)
2. Troublesome situations discourage teachers.
   (പ്രശ്നാധിഷ്ഠിത സാഹചര്യങ്ങൾ അധ്യാപകരെ നിരുൽസാഹപ്പെടുത്തുന്നു.)
3. Deliberate acts seldom produce desired outcome in students performance.
   (ഉദ്ദേശശുദ്ധിയോടെയുള്ള പ്രവർത്തനങ്ങൾ കുട്ടികളിൽ പ്രതീക്ഷിച്ച പ്രതികരണങ്ങൾ ഉണ്ടാക്കാൻപര്യാപ്തമല്ല.)
4. Teachers are doubtful to handle setbacks.
   (തിരിച്ചടികൾ നേരിടുമ്പോൾ അധ്യാപകർ സംശയാലുക്കൾ ആകുന്നു.)
5. Differentiated strategies in teaching are time-consuming acts.
   (വിഭിന്നങ്ങളായ അധ്യാപന രീതികൾ അവലംബിക്കുന്നത് സമയനഷ്ടം ഉണ്ടാക്കുന്നു.)
6. Teachers should clearly define learning tasks and goals.
   (അദ്ധ്യാപകർ പഠന പ്രവർത്തനങ്ങളും ലക്ഷ്യങ്ങളും വ്യക്തമായി നിർവചിക്കേണ്ടതുണ്ട്.)
7. Failure in classroom management diminishes teaching attitude.
   (ക്ലാസ്സ്റൂം പരിപാലനത്തിൽ ഉണ്ടാകുന്ന പരാജയം അധ്യാപനത്തിനോടുള്ള മനോഭാവം കുറക്കുവാൻ കാരണമാകുന്നു.)
8. Sustained efforts make things easier while teaching in special schools.
   (നിതാന്തമായ പരിശ്രമം പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപനം കൂടുതൽ എളുപ്പമുള്ളതാക്കുന്നു.)
9. Structure the learning environment is a difficult things in special education.
   (പഠനാന്തരീക്ഷം ചിട്ടയോടെ രൂപപ്പെടുത്തുക എന്നത് പ്രത്യേക വിദ്യാഭ്യാസ മേഖലയിൽ വിഷമകരമാകുന്നു.)
10. Teachers acts should be focused, purposeful and continuous.
    (അധ്യാപകരുടെ പ്രവൃത്തികൾ ദിശാബോധം ഉള്ളതും ഉപകാരപ്രദവും നിലനിൽക്കുന്നതും ആകണം.)

11. Distraction from a committed activity is a common phenomenon while teaching.

    (ഏറ്റെടുത്ത പ്രവർത്തനത്തിൽ നിന്ന് വ്യതിചലിക്കുന്നത് അധ്യാപനത്തിൽ സർവ്വസാധാരണമാണ്.)

12. Teaching is not seeking choices rather keeping tradition.

    (അധ്യാപനം പുതിയ മാർഗ്ഗങ്ങളെ അവലംബിക്കലല്ല മറിച്ച് പാരമ്പര്യം നില നിർത്തലാക്കുന്നു.)

13. Teachers must possess tolerance and dedication while teaching pupil with intellectual differences.

    (ബുദ്ധിപരമായി വ്യത്യസ്തരായ വിദ്യാർത്ഥികളുടെ ആധ്യാപനത്തിൽ അദ്ധ്യാപ കരുടെ ക്ഷമയും അർപ്പണ മനോഭാവവും ഉണ്ടാകണം.)

14. Over involvement in teaching leads to mental exhaustion among teachers.

    (അധ്യാപനത്തിലുള്ള അമിത ഇടപെടലുകൾ മാനസികമായ ശൂന്യതയിലേക്ക് എത്തിക്കുന്നു.)

15. Long vision and hard work enable teachers to attain everlasting output.

    (ദീർഘവീക്ഷണവും കഠിനാധ്വാനവും എന്നും നിലനിൽക്കുന്ന നേട്ടങ്ങൾ കൈവരിക്കാൻ അധ്യാപകരെ പ്രാപ്തരാക്കുന്നു.)

16. Teachers view difficulties in teaching only as stepping stones in one's career.

    (അധ്യാപകർ അധ്യാപനത്തിലെ വെല്ലുവിളികളെ ഉയർന്ന മേഖലകളിൽ എത്തി പ്പെടാനുള്ള കാൽവെപ്പുകളായി കാണുന്നു.)

17. Adversity is the difference that arises out of rectifiable things in teaching.

    (അധ്യാപനത്തിൽ വിപരീതാനുഭവങ്ങൾ എന്നത് മാറ്റിയെടുക്കാവുന്ന കാര്യ ങ്ങൾ കൊണ്ടുള്ള വ്യത്യസ്തതയാണ്.)

18. There is no need to seek help to overcome a difficult situation.

    (പ്രയാസമേറിയ സന്ദർഭങ്ങൾ തരണം ചെയ്യാൻ മറ്റുള്ളവരുടെ സഹായം സ്വീക രിക്കുന്നതിന്റെ ആവശ്യകതയില്ല.)

19. Teachers should provide hands on learning opportunities to students.

    (അധ്യാപകർ കുട്ടികൾക്ക് സ്വയം ചെയ്യാൻ കഴിയുന്ന തരത്തിലുള്ള പഠനാവസ രങ്ങൾ നൽകേണ്ടതുണ്ട്.)

20. It is difficult to find out strategies suited for each child in special school classroom.

    (പ്രത്യേക വിദ്യാലയത്തിലെ ക്ലാസ്റൂമിൽ ഓരോ വിദ്യാർത്ഥിക്കും അനുയോജ്യ മായ രീതികൾ കണ്ടെത്തുക എന്നതു ബുദ്ധിമുട്ടുള്ളതാകുന്നു.)

21. Teachers have to stick on to their duties whatever happens negatively while teaching.

    (അധ്യാപനത്തിൽ എന്തുതന്നെ വിപരീതഫലങ്ങളുണ്ടായാലും അധ്യാപകർ അവരുടെ ജോലിയിൽ തുടരേണ്ടതാകുന്നു.)

22. Over involvement in students affairs devalue teaching.

    (വിദ്യാർത്ഥികളുടെ കാര്യങ്ങളിൽ അമിതമായി ഇടപെടുന്നത് അധ്യാപനത്തിന്റെ മൂല്യം കുറക്കുന്നു.)

23. New ideas should assimilate with previous one in order to perform well in teaching.

    (പുതിയ അറിവുകൾ പഴയതുമായി ഇടകലർത്തുമ്പോൾ നല്ല അധ്യാപനം കാഴ്ചവെക്കാനാകും.)

24. Interests in teaching are like seasons that comes and goes while teaching.

    (അധ്യാപനത്തിനിടയിലുള്ള താല്പര്യം ഋതുക്കളെപോലെ വന്നും പോയും ഇരിക്കും.)

25. Accept the difference and rearrange learning environment are to be followed in special education teaching.

    (വ്യത്യസ്തതയെ സ്വീകരിക്കുകയും അതനുസരിച്ച് പരിതസ്ഥിതികളിൽ മാറ്റം വരുത്തുകയും ചെയ്യുക എന്നത് പ്രത്യേക വിദ്യാലയങ്ങളിൽ അവലംബിക്കേണ്ടതാണ്.)

26. Flexible options in teaching are more encouraging in special education sector.

    (സ്വതന്ത്രമായ അധ്യാപനമാർഗ്ഗങ്ങൾ സ്വീകരിക്കുന്നത് സ്പെഷ്യൽ വിദ്യാഭ്യാസ മേഖലയിൽ കൂടുതൽ ആശാവഹമാണ്.)

27. Teaching can have little influence on students intellectual capabilities.

    (അധ്യാപനത്തിനു കുട്ടികളിലെ ബുദ്ധിപരമായ കഴിവുകളെ സ്വാധീനിക്കുവാനുള്ള കഴിവില്ല.)

28. A little bit of risks and challenges can improve performance and confidence in teaching.

    (ചെറിയ തോതിലുള്ള ബുദ്ധിമുട്ടുകളും പ്രയാസങ്ങളും അധ്യാപനം മെച്ചപ്പെടുത്താനും ആത്മവിശ്വാസം വർദ്ധിപ്പിക്കുന്നതിനും കാരണമാകുന്നു.)

29. Patience and long term commitment are essential qualities in special school training.

    (പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപനത്തിൽ ക്ഷമയും ദീർഘദർശനത്തോടെയുള്ള പ്രതിബദ്ധതയും ഒഴിച്ചുകൂടാനാവത്തതാണ്.)

30. One's willingness to approach tiresome situations in teaching is an indication of a better teacher.

    (അധ്യാപനത്തിൽ ശ്രമകരമായ കാര്യങ്ങളെ നേരിടാനുള്ള സന്നദ്ധത ഒരു നല്ല അധ്യാപകൻ/അധ്യാപികയുടെ ലക്ഷണമാകുന്നു.)

31. Longer expectations in teaching are discourageous.

    (വിദൂരമായ പ്രതീക്ഷകൾ അധ്യാപനത്തെ നിരുൽസാഹപ്പെടുത്തുന്നു.)

32. It is better not to take risk in teaching pupil with less adaptive behavior.

    (പഠനാന്തരീക്ഷവുമായി യോജിക്കാനാവാത്ത വിദ്യാർത്ഥികളെ പഠിപ്പിക്കുമ്പോൾ അധികം വെല്ലുവിളികൾ ഏറ്റെടുക്കാത്തതാണ് അഭികാമ്യം.)

33. Teachers should maintain support seeking attitude.

    (അധ്യാപകർ സഹായാന്വേഷികളുടേതായ മനോഭാവം നിലനിർത്തേണ്ടതുണ്ട്.)

34. Teachers should possess adaptive coping skills for better involvement in teaching.

    (അധ്യാപനത്തിൽ വ്യാപൃതരാകുന്നതിന് സാഹചര്യങ്ങളുമായി പൊരുത്തപ്പെടാനുള്ള നൈപുണികൾ ഉണ്ടാകണം.)

35. Ego involved learning tasks are better options for pupil with less adaptive behavior in special schools.

    (പ്രത്യേക വിദ്യാലയങ്ങളിൽ പഠനാന്തരീക്ഷവുമായി ഇഴുകിച്ചേരാൻ വിമുഖതയുള്ള കുട്ടികൾക്ക് അവരുടെ സംതൃപ്തി ഉണർത്തുന്ന തരത്തിലുള്ള പഠന പ്രവർത്തനങ്ങൾ തിരഞ്ഞെടുക്കേണ്ടതാകുന്നു.)

36. Lazy approaches are appropriate in handling pupil with intellectual differences.

    (ബുദ്ധിപരമായി വ്യത്യസ്തരായ കുട്ടികളെ പരിപാലിക്കുമ്പോൾ നിഷ്ക്രിയസമീപനമാണ് കൂടുതൽ അനുയോജ്യമായത്.)

37. A strange experience with a differently abled child should not reduce determination in teaching.

    (കഴിവിൽ വ്യത്യസ്തരായ കുട്ടിയിൽനിന്നുള്ള മോശം പെരുമാറ്റം അധ്യാപനത്തിലുള്ള ഉറച്ച വിശ്വാസം കുറക്കുവാൻ പര്യാപ്തമല്ല.)

38. Teachers are not comfortable with continuous setbacks in classroom management.

    (ക്ലാസ്റൂം പരിപാലനത്തിലുള്ള തുടർച്ചയായ തിരിച്ചടികൾ അധ്യാപകരെ അസ്വസ്ഥരാക്കാറുണ്ട്.)

39. Clear and authentic teaching tasks are needed in problem solving situation.

    (പ്രശ്നപരിഹാരത്തിന് വ്യക്തവും വസ്തുനിഷ്ഠവുമായ അധ്യാപന പ്രവർത്തികളാണ് ഉചിതമായിട്ടുള്ളത്.)

40. Taking risk create problems in teaching.

    (സാഹസങ്ങൾ ഏറ്റെടുക്കുന്നത് അധ്യാപനത്തിൽ ബുദ്ധിമുട്ടുകൾ സൃഷ്ടിക്കുന്നു.)

Appendix XIV

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SPECIAL EDUCATION TEACHER GRIT

(FINAL)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. Meticulous teachers are successful.
   (പ്രവർത്തനോന്മുഖരായ അധ്യാപകർ വിജയികളുമാണ്.)
2. Deliberate acts seldom produce desired outcome in students performance.
   (ഉദ്ദേശശുദ്ധിയോടെയുള്ള പ്രവർത്തനങ്ങൾ കുട്ടികളിൽ പ്രതീക്ഷിച്ച പ്രതികരണങ്ങൾ ഉണ്ടാക്കാൻപര്യാപ്തമല്ല.)
3. Sustained efforts make things easier while teaching in special schools.
   (നിതാന്തമായ പരിശ്രമം പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപനം കൂടുതൽ എളുപ്പമുള്ളതാക്കുന്നു.)
4. Teachers are doubtful to handle setbacks.
   (തിരിച്ചടികൾ നേരിടുമ്പോൾ അധ്യാപകർ സംശയാലുക്കൾ ആകുന്നു.)
5. Differentiated strategies in teaching are time-consuming acts.
   (വിഭിന്നങ്ങളായ അധ്യാപന രീതികൾ അവലംബിക്കുന്നത് സമയനഷ്ടം ഉണ്ടാക്കുന്നു.)
6. Teachers must possess tolerance and dedication while teaching pupil with intellectual differences.
   (ബുദ്ധിപരമായി വ്യത്യസ്തരായ വിദ്യാർത്ഥികളുടെ ആധ്യാപനത്തിൽ അദ്ധ്യാപകരുടെ ക്ഷമയും അർപ്പണ മനോഭാവവും ഉണ്ടാകണം.)
7. Failure in classroom management diminishes teaching attitude.
   (ക്ലാസ്സ്റൂം പരിപാലനത്തിൽ ഉണ്ടാകുന്ന പരാജയം അധ്യാപനത്തിനോടുള്ള മനോഭാവം കുറക്കുവാൻ കാരണമാകുന്നു.)

8. Distraction from a committed activity is a common phenomenon while teaching.
   (ഏറ്റെടുത്ത പ്രവർത്തനത്തിൽ നിന്ന് വ്യതിചലിക്കുന്നത് അധ്യാപനത്തിൽ സർവ്വ സാധാരണമാണ്.)
9. Teachers view difficulties in teaching only as stepping stones in one's career.
   (അധ്യാപകർ അധ്യാപനത്തിലെ വെല്ലുവിളികളെ ഉയർന്ന മേഖലകളിൽ എത്തി പ്പെടാനുള്ള കാൽവെപ്പുകളായി കാണുന്നു.)
10. Teaching is not seeking choices rather keeping tradition.
    (അധ്യാപനം പുതിയ മാർഗ്ഗങ്ങളെ അവലംബിക്കലല്ല മറിച്ച് പാരമ്പര്യം നില നിർത്തലാക്കുന്നു.)
11. Over involvement in teaching leads to mental exhaustion among teachers.
    (അധ്യാപനത്തിലുള്ള അമിത ഇടപെടലുകൾ മാനസികമായ ശൂന്യതയിലേക്ക് എത്തിക്കുന്നു.)
12. Teachers should provide hands on learning opportunities to students.
    (അധ്യാപകർ കുട്ടികൾക്ക് സ്വയം ചെയ്യാൻ കഴിയുന്ന തരത്തിലുള്ള പഠനാവസ രങ്ങൾ നൽകേണ്ടതുണ്ട്.)
13. There is no need to seek help to overcome a difficult situation.
    (പ്രയാസമേറിയ സന്ദർഭങ്ങൾ തരണം ചെയ്യാൻ മറ്റുള്ളവരുടെ സഹായം സ്വീക രിക്കുന്നതിന്റെ ആവശ്യകതയില്ല.)
14. New ideas should assimilate with previous one in order to perform well in teaching.
    (പുതിയ അറിവുകൾ പഴയതുമായി ഇടകലർത്തുമ്പോൾ നല്ല അധ്യാപനം കാഴ്ച വെക്കാനാകും.)
15. It is difficult to find out strategies suited for each child in special school classroom.
    (പ്രത്യേക വിദ്യാലയത്തിലെ ക്ലാസ്റൂമിൽ ഓരോ വിദ്യാർത്ഥിക്കും അനുയോജ്യ മായ രീതികൾ കണ്ടെത്തുക എന്നതു ബുദ്ധിമുട്ടുള്ളതാകുന്നു.)
16. Accept the difference and rearrange learning environment are to be followed in special education teaching.
    (വ്യത്യസ്തതയെ സ്വീകരിക്കുകയും അതനുസരിച്ച് പരിതസ്ഥിതികളിൽ മാറ്റം വരുത്തുകയും ചെയ്യുക എന്നത് പ്രത്യേക വിദ്യാലയങ്ങളിൽ അവലംബിക്കേണ്ട താണ്.)
17. Over involvement in students affairs devalue teaching.
    (വിദ്യാർത്ഥികളുടെ കാര്യങ്ങളിൽ അമിതമായി ഇടപെടുന്നത് അധ്യാപനത്തിന്റെ മൂല്യം കുറക്കുന്നു.)
18. A little bit of risks and challenges can improve performance and confidence in teaching.
    (ചെറിയ തോതിലുള്ള ബുദ്ധിമുട്ടുകളും പ്രയാസങ്ങളും അധ്യാപനം മെച്ചപ്പെടു ത്താനും ആത്മവിശ്വാസം വർദ്ധിപ്പിക്കുന്നതിനും കാരണമാകുന്നു.)

19. Interests in teaching are like seasons that comes and goes while teaching.
(അധ്യാപനത്തിനിടയിലുള്ള താല്പര്യം ഋതുക്കളെപോലെ വന്നും പോയും ഇരിക്കും.)

20. Patience and long term commitment are essential qualities in special school training.
(പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപനത്തിൽ ക്ഷമയും ദീർഘദർശനത്തോടെയുള്ള പ്രതിബദ്ധതയും ഒഴിച്ചുകൂടാനാവത്തതാണ്.)

21. Teaching can have little influence on students intellectual capabilities.
(അധ്യാപനത്തിനു കുട്ടികളിലെ ബുദ്ധിപരമായ കഴിവുകളെ സ്വാധീനിക്കുവാനുള്ള കഴിവില്ല.)

22. One's willingness to approach tiresome situations in teaching is an indication of a better teacher.
(അധ്യാപനത്തിൽ ശ്രമകരമായ കാര്യങ്ങളെ നേരിടാനുള്ള സന്നദ്ധത ഒരു നല്ല അധ്യാപകൻ/ അധ്യാപികയുടെ ലക്ഷണമാകുന്നു.)

23. Longer expectations in teaching are discourageous.
(വിദൂരമായ പ്രതീക്ഷകൾ അധ്യാപനത്തെ നിരുൽസാഹപ്പെടുത്തുന്നു.)

24. Teachers should possess adaptive coping skills for better involvement in teaching.
(അധ്യാപനത്തിൽ വ്യാപൃതരാകുന്നതിന് സാഹചര്യങ്ങളുമായി പൊരുത്തപ്പെടാനുള്ള നൈപുണികൾ ഉണ്ടാകണം.)

25. It is better not to take risk in teaching pupil with less adaptive behavior.
(പഠനാന്തരീക്ഷവുമായി യോജിക്കാനാവാത്ത വിദ്യാർത്ഥികളെ പഠിപ്പിക്കുമ്പോൾ അധികം വെല്ലുവിളികൾ ഏറ്റെടുക്കാത്തതാണ് അഭികാമ്യം.)

26. Ego involved learning tasks are better options for pupil with less adaptive behavior in special schools.
(പ്രത്യേക വിദ്യാലയങ്ങളിൽ പഠനാന്തരീക്ഷവുമായി ഇഴുകിച്ചേരാൻ വിമുഖതയുള്ള കുട്ടികൾക്ക് അവ രുടെ സംതൃപ്തി ഉണർത്തുന്ന തരത്തിലുള്ള പഠനപ്രവർത്തനങ്ങൾ തിരഞ്ഞെടുക്കേണ്ടതാകുന്നു.)

27. Lazy approaches are appropriate in handling pupil with intellectual differences.
(ബുദ്ധിപരമായി വ്യത്യസ്തരായ കുട്ടികളെ പരിപാലിക്കുമ്പോൾ നിഷ്ക്രിയസമീപനമാണ് കൂടുതൽ അനുയോജ്യമായത്.)

28. A strange experience with a differently abled child should not reduce determination in teaching.
(കഴിവിൽ വ്യത്യസ്തരായ കുട്ടിയിൽനിന്നുള്ള മോശം പെരുമാറ്റം അധ്യാപനത്തിലുള്ള ഉറച്ച വിശ്വാസം കുറക്കുവാൻ പര്യാപ്തമല്ല.)

29. Clear and authentic teaching tasks are needed in problem solving situation.
(പ്രശ്നപരിഹാരത്തിന് വ്യക്തവും വസ്തുനിഷ്ഠവുമായ അധ്യാപന പ്രവർത്തികളാണ് ഉചിതമായിട്ടുള്ളത്.)

30. Taking risk create problems in teaching.
(സാഹസങ്ങൾ ഏറ്റെടുക്കുന്നത് അധ്യാപനത്തിൽ ബുദ്ധിമുട്ടുകൾ സൃഷ്ടിക്കുന്നു.)

Appendix XV

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SPECIAL EDUCATION TEACHER GRIT

RESPONSE SHEET

Name :.....Gender: .....

Name of Working Institution :.....

Type of Management:.....

Locale: Urban/Rural:.....

Educational Qualification: Under Graduation/ Graduation and Above.....

Experience:.....Years

Sl. No.	Agree	No Opinion	Disagree
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

Sl. No.	Agree	No Opinion	Disagree
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

Appendix XVI

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SPECIAL EDUCATION TEACHER TENACITY
(DRAFT)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. Teachers remain problem-oriented than solution oriented while teaching.
(അധ്യാപകർ അധ്യാപനവേളയിൽ പ്രശ്നനിവാരണ മാർഗ്ഗത്തേക്കാൾ പ്രശ്നത്തിനു ഊന്നൽ നല്കാറുണ്ട്.)
2. Teachers should have a sense of fellowship toward school community.
(വിദ്യാലയ സമൂഹത്തോട് അധ്യാപകർക്ക് സ്വന്തമെന്ന ബോധം ഉണ്ടാകേണ്ടതാണ്.)
3. Special school teaching should be problem oriented than character building.
(പ്രത്യേക വിദ്യാലത്തിലെ അധ്യാപനം സ്വഭാവരൂപീകരണത്തേക്കാൾ പ്രശ്നാധിഷ്ഠിതമാകേണ്ടതാണ്.)
4. Teachers should possess a sense of humour while teaching.
(അധ്യാപകർക്ക് അധ്യാപനത്തിനിടയിൽ തമാശകൾ ആസ്വദിക്കാനുള്ള ഒരു മനസ്സ് ഉണ്ടാകേണ്ടതുണ്ട്.)
5. Emancipation value concepts are eroded from teacher behavior.
(ജനാധിപത്യപരമായ ആശയമൂല്യങ്ങൽ അധ്യാപകപെരുമാറ്റത്തിൽ നിന്ന് കൈമോശം വന്നിട്ടുണ്ട്.)
6. Teachers need external measures to keep on time at school.
(കൃത്യനിഷ്ഠ പരിപാലിക്കാൻ പുറത്തുനിന്നുള്ള നിയന്ത്രണങ്ങൾ അധ്യാപകർക്ക് ആവശ്യമാണ്.)

7. Successful teachers possess confidence and high self esteem in teaching.
(വിജയികളായ അധ്യാപകർ അധ്യാപനത്തിൽ ആത്മവിശ്വാസവും ഉൽക്കർഷേച്ഛയും ഉള്ളവരാണ്)

8. Teachers neglect academic goals while focusing on day to day tasks.
(ദൈനംദിന പ്രവർത്തികളിൽ ശ്രദ്ധാലുക്കാളാകുമ്പോൾ അദ്ധ്യാപകർ പഠനലക്ഷ്യങ്ങൾ അവഗണിക്കാറുണ്ട്.)

9. Special school teaching needs both mastery of content and knowledge regarding intellectual differences
(പ്രത്യേകവിദ്യാലയത്തിലെ അധ്യാപനത്തിനു വിഷയത്തിലും ബുദ്ധിപരമായി വ്യത്യസ്ഥത ഉള്ളവരെകുറിച്ചും ഉള്ള അറിവ് അനിവാര്യമാണ്)

10. Teachers show interest and enthusiasm while mingling with students who are intellectually different.
(ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുമായി ഇടപഴകുമ്പോൾ അധ്യാപകർ താല്പര്യവും ഉണർവ്വും പ്രകടിപ്പിക്കാറുണ്ട്.)

11. Teachers should maintain a distance from students in all matters.
(അധ്യാപകർ എല്ലാ കാര്യങ്ങളിലും വിദ്യാർത്ഥികളിൽനിന്ന് ഒരു നിശ്ചിത അകലം പാലിക്കേണ്ടതാകുന്നു.)

12. Teachers must value their relationship with students.
(വിദ്യാർത്ഥികളുമായുള്ള ബന്ധത്തിനു അധ്യാപകർ വില കല്പിക്കേണ്ടതാണ്.)

13. Teachers rely mostly on their own values or beliefs than others.
(തന്റേതായ മൂല്യങ്ങളേയും വിശ്വാസപ്രമാണങ്ങളേയുമാണ് അധ്യാപകർ മറ്റുള്ളവരുടേതിനേക്കാൾ കൂടുതൽ ആശ്രയിക്കാറുള്ളത്.)

14. Classroom environment determine teaching strategies,
(അധ്യാപനരീതികൾ തീരുമാനിക്കപ്പെടുന്നത് ക്ലാസ്റൂം പരിതസ്ഥിതിക്കനുസരിച്ചാണ്.)

15. It is difficult to taper lessons for each intellectually different pupil in a classroom.
(ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ ഓരോ വിദ്യാർത്ഥിക്കുവേണ്ടിയും ക്ലാസ്റൂമിൽ പാഠഭാഗങ്ങൾ ക്രമീകരിക്കുക എന്നത് വിഷമകരമാണ്.)

16. Teachers give over importance to performance aspects of teaching than mastering the situation in a special school.
(പ്രത്യേകവിദ്യാലയങ്ങളിൽ പ്രകടനപരമായ അധ്യാപനത്തിനു സാന്ദർഭിക പരിജ്ഞാനത്തേക്കാൾ മുൻഗണന കൊടുക്കുന്നു.)

17. Teachers enjoy flexibility and autonomy within school premise.
(വിദ്യാലയത്തിനുള്ളിൽ അധ്യാപകർ ആദരവും സ്വാതന്ത്ര്യവും ആസ്വദിക്കാറുണ്ട്.)

18. Empathy toward students with less adaptive behavior leads to compromise in teaching.
(സാഹചര്യങ്ങളുമായി പൊരുത്തപ്പെടാൻ ബുദ്ധിമുട്ടുള്ള കുട്ടികളോടുള്ള സഹാനുഭൂതി അധ്യാപനത്തിൽ വിട്ടുവീഴ്ചകൾ വരുത്താൻ കാരണമാകാറുണ്ട്.)

19. Teachers should know the self within to understand others feelings and values.
(മറ്റുള്ളവരുടെ വിചാരങ്ങളും, മൂല്യങ്ങളും മനസ്സിലാക്കാൻ അദ്ധ്യാപകർ സ്വയം അറിയേണ്ടതുണ്ട്.)

20. Teachers put little effort in cultivating a democratic outlook in classroom.
(ക്ലാസ്റൂമിൽ ജനാധിപത്യപരമായ കാഴ്ചപ്പാട് രൂപപ്പെടുത്താൻ അധ്യാപകർ ശ്രമിക്കാറില്ല.)

21. Self-monitoring have little impact on teacher behavior.
(സ്വയം നിരീക്ഷണത്തിനു അധ്യാപകപെരുമാറ്റങ്ങളിൽ സ്വാധീനം കുറവാ കുന്നു.)

22. Teachers need a self-regulated behavior throughout their career.
(അധ്യാപന ജീവിതത്തിൽ ഉടനീളം സ്വയം നിയന്ത്രിതമായ സ്വഭാവവിശേഷ ങ്ങൾ പുലർത്തേണ്ടത് അവശ്യമാണ്.)

23. Conflict among staff discourage teachers to take risk while teaching.
(അധ്യാപകർക്കിടയിലുള്ള പ്രശ്നങ്ങൾ അധ്യാപനത്തിലെ വെല്ലുവിളികൾ ഏറ്റെ ടുക്കാൻ അധ്യാപകരെ നിരുൽസാഹപ്പെടുത്തുന്നു.)

24. Self-monitoring enable teachers to resolve almost all conflicts within themselves.
(സ്വയം വിലയിരുത്തലുകൾ അധ്യാപകരെ പ്രശ്നങ്ങൾ സ്വയം പരിഹരിക്കാൻ പ്രാപ്തരാക്കുന്നു.)

25. Teachers are aware that not all students are alike in a special school.
(സ്പെഷ്യൽ സ്കൂളുകളിൽ എല്ലാ കുട്ടികളും ഒരുപോലെയല്ല എന്നറിവ് അധ്യാ പർക്ക് ഉണ്ട്.)

26. Special school teaching is the tough job.
(സ്പെഷ്യൽ വിദ്യാലയത്തിലെ അധ്യാപനം വളരെ പ്രയാസമേറിയ ജോലിയാ കുന്നു)

27. Setting ambitions goals in teaching require collaborative effort.
(അധ്യാപനത്തിൽ ഉയർന്ന ലക്ഷ്യങ്ങൾ ഉയർത്തിപിടിക്കാൻ സഹവർത്തിത പ്രയത്നം ആവശ്യമാകുന്നു)

28. Teachers get little opportunities for meaningful participation in school events.
(അധ്യാപകർക്ക് വിദ്യാലയത്തിലെ പരിപാടികളിൽ അർത്ഥവത്തായ പങ്കാ ളിത്തം ഉറപ്പാക്കുന്ന അവസരങ്ങൾ വിരളമാകുന്നു.)

29. Teachers should be compassionate and considerate toward pupil with intellectual differences.
(ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ കുട്ടികളോട് അധ്യാപകർക്ക് അനുകമ്പയും പരിഗണനയും ഉണ്ടാകേണ്ടതുണ്ട്.)

30. Teachers should not give adequate importance on the activities organized in classroom.
(ക്ലാസ്റൂമിൽ സംഘടിപ്പിക്കുന്ന പ്രവർത്തനങ്ങൾക്ക് അധ്യാപകർ വേണ്ടത്ര പ്രാധാന്യം നൽകേണ്ടതില്ല.)

31. All teacher activities should be time bounded and syllabus oriented.
(എല്ലാ അധ്യാപക പ്രവർത്തനങ്ങളും സമയബന്ധിതവും സിലബസ് മുൻനിർത്തിയുള്ളതും ആകേണ്ടതുണ്ട്.)

32. Teachers need to respect and value other's beliefs and ideas inorder to incorporate those virtues in classroom.
(അധ്യാപകർ മറ്റുള്ളവരുടെ വിശ്വാസങ്ങളേയും മൂല്യങ്ങളേയും ആദരിക്കുകയും വിലമതിക്കുകയും ചെയ്യുന്നത് അത്തരം ഗുണങ്ങൾ ക്ലാസ്റൂമിൽ ഉൾപ്പെടുത്താൻ ഉപകരിക്കും.)

33. Students life skill attainment activities inside the classroom should be promoted.
(ക്ലാസ്റൂമിനുള്ളിൽ വിദ്യാർത്ഥികളുടെ ജീവിതവിജയത്തിനാധാരമായ നൈപുണികൾ കൈവരിക്കാൻ ഉതകുന്ന പ്രവർത്തനങ്ങൾ പ്രോൽസാഹിപ്പിക്കേണ്ടതാകുന്നു.)

34. Teachers should be strict and stubborn before pupil with intellectual differences.
(ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുടെ മുമ്പിൽ അധ്യാപകർ കർക്കശ സ്വഭാവക്കാർ ആകേണ്ടതുണ്ട്.)

35. Teachers should have high vision on teaching.
(അധ്യാപനത്തെകുറിച്ച് ഉയർന്ന കാഴ്ചപ്പാട് ഉള്ളവരായിരിക്കണം അധ്യാപകർ)

36. Teaching methods can't dilute differences among children.
(അധ്യാപന മാർഗ്ഗങ്ങളിലെ വ്യത്യാസം വ്യത്യസ്ഥതയെ കുറയ്ക്കാൻ ഉതകുകയില്ല.)

37. Teaching in special education sector should be flexible and humanistic.
(പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപനം അയവുള്ളതും മാനുഷികപരിഗണനയുള്ളതും ആയിരിക്കണം)

38. Each activity in classroom has its own purpose and value while teaching.
(അധ്യാപനസമയത്ത് ക്ലാസ്റൂമിനുള്ളിലെ ഓരോ പ്രവർത്തനത്തിനും അതിന്റേതായ ഉദ്ദേശ്യശുദ്ധിയും മൂല്യവും ഉണ്ട്.)

Appendix XVII

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SPECIAL EDUCATION TEACHER TENACITY
(FINAL)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. Teachers remain problem-oriented than solution oriented while teaching.
   (അധ്യാപകർ അധ്യാപനവേളയിൽ പ്രശ്നനിവാരണ മാർഗ്ഗത്തേക്കാൾ പ്രശ്നത്തിനു ഊന്നൽ നല്കാറുണ്ട്.)
2. Teachers should possess a sense of humour while teaching.
   (അധ്യാപകർക്ക് അധ്യാപനത്തിനിടയിൽ തമാശകൾ ആസ്വദിക്കാനുള്ള ഒരു മനസ്സ് ഉണ്ടാകേണ്ടതുണ്ട്.)
3. Special school teaching should be problem oriented than character building.
   (പ്രത്യേക വിദ്യാലത്തിലെ അധ്യാപനം സ്വഭാവരൂപീകരണത്തേക്കാൾ പ്രശ്നാധിഷ്ഠിതമാകേണ്ടതാണ്.)
4. Successful teachers possess confidence and high self esteem in teaching.
   (വിജയികളായ അധ്യാപകർ അധ്യാപനത്തിൽ ആത്മവിശ്വാസവും ഉൽക്കർഷേച്ഛയും ഉള്ളവരാണ്)
5. Emancipation value concepts are eroded from teacher behavior.
   (ജനാധിപത്യപരമായ ആശയമൂല്യങ്ങൽ അധ്യാപകപെരുമാറ്റത്തിൽ നിന്ന് കൈമോശം വന്നിട്ടുണ്ട്.)
6. Teachers show interest and enthusiasm while mingling with students who are intellectually different.
   (ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുമായി ഇടപഴകുമ്പോൾ അധ്യാപകർ താല്പര്യവും ഉണർവ്വും പ്രകടിപ്പിക്കാറുണ്ട്.)

7. Teachers should maintain a distance from students in all matters.
(അധ്യാപകർ എല്ലാ കാര്യങ്ങളിലും വിദ്യാർത്ഥികളിൽനിന്ന് ഒരു നിശ്ചിത അകലം പാലിക്കേണ്ടതാകുന്നു.)

8. Teachers must value their relationship with students.
(വിദ്യാർത്ഥികളുമായുള്ള ബന്ധത്തിനു അധ്യാപകർ വില കല്പിക്കേണ്ടതാണ്.)

9. Teachers rely mostly on their own values or beliefs than others.
(തന്റേതായ മൂല്യങ്ങളേയും വിശ്വാസപ്രമാണങ്ങളേയുമാണ് അധ്യാപകർ മറ്റുള്ള വരുടേതിനേക്കാൾ കൂടുതൽ ആശ്രയിക്കാറുള്ളത്.)

10. Teachers enjoy flexibility and autonomy within school premise.
(വിദ്യാലയത്തിനുള്ളിൽ അധ്യാപകർ ആദരവും സ്വാതന്ത്ര്യവും ആസ്വദിക്കാറുണ്ട്.)

11. Teachers should know the self within to understand others feelings and values.
(മറ്റുള്ളവരുടെ വിചാരങ്ങളും, മൂല്യങ്ങളും മനസ്സിലാക്കാൻ അദ്ധ്യാപകർ സ്വയം അറിയേണ്ടതുണ്ട്.)

12. Teachers put little effort in cultivating a democratic outlook in classroom.
(ക്ലാസ്റൂമിൽ ജനാധിപത്യപരമായ കാഴ്ചപ്പാട് രൂപപ്പെടുത്താൻ അധ്യാപകർ ശ്രമിക്കാറില്ല.)

13. Self-monitoring enable teachers to resolve almost all conflicts within themselves.
(സ്വയം വിലയിരുത്തലുകൾ അധ്യാപകരെ പ്രശ്നങ്ങൾ സ്വയം പരിഹരിക്കാൻ പ്രാപ്തരാക്കുന്നു.)

14. Self-monitoring have little impact on teacher behavior.
(സ്വയം നിരീക്ഷണത്തിനു അധ്യാപകപെരുമാറ്റങ്ങളിൽ സ്വാധീനം കുറവാകുന്നു.)

15. Conflict among staff discourage teachers to take risk while teaching.
(അധ്യാപകർക്കിടയിലുള്ള പ്രശ്നങ്ങൾ അധ്യാപനത്തിലെ വെല്ലുവിളികൾ ഏറ്റെടുക്കാൻ അധ്യാപകരെ നിരുൽസാഹപ്പെടുത്തുന്നു.)

16. Setting ambitions goals in teaching require collaborative effort.
(അധ്യാപനത്തിൽ ഉയർന്ന ലക്ഷ്യങ്ങൾ ഉയർത്തിപിടിക്കാൻ സഹവർത്തിത പ്രയത്നം ആവശ്യമാകുന്നു)

17. Teachers get little opportunities for meaningful participation in school events.
(അധ്യാപകർക്ക് വിദ്യാലയത്തിലെ പരിപാടികളിൽ അർത്ഥവത്തായ പങ്കാളിത്തം ഉറപ്പാക്കുന്ന അവസരങ്ങൾ വിരളമാകുന്നു.)

18. Teachers should be compassionate and considerate toward pupil with intellectual differences.
(ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ കുട്ടികളോട് അധ്യാപകർക്ക് അനുകമ്പയും പരിഗണനയും ഉണ്ടാകേണ്ടതുണ്ട്.)

19. Teachers should not give adequate importance on the activities organized in classroom.

    (ക്ലാസ്റൂമിൽ സംഘടിപ്പിക്കുന്ന പ്രവർത്തനങ്ങൾക്ക് അധ്യാപകർ വേണ്ടത്ര പ്രാധാന്യം നൽകേണ്ടതില്ല.)

20. Teachers need to respect and value other's beliefs and ideas inorder to incorporate those virtues in classroom.

    (അധ്യാപകർ മറ്റുള്ളവരുടെ വിശ്വാസങ്ങളേയും മൂല്യങ്ങളേയും ആദരിക്കുകയും വിലമതിക്കുകയും ചെയ്യുന്നത് അത്തരം ഗുണങ്ങൾ ക്ലാസ്റൂമിൽ ഉൾപ്പെടുത്താൻ ഉപകരിക്കും.)

21. Students life skill attainment activities inside the classroom should be promoted.

    (ക്ലാസ്റൂമിനുള്ളിൽ വിദ്യാർത്ഥികളുടെ ജീവിതവിജയത്തിനാധാരമായ നൈപുണികൾ കൈവരിക്കാൻ ഉതകുന്ന പ്രവർത്തനങ്ങൾ പ്രോൽസാഹിപ്പിക്കേണ്ടതാകുന്നു.)

22. Teachers should be strict and stubborn before pupil with intellectual differences.

    (ബുദ്ധിപരമായി വ്യത്യസ്ഥരായ വിദ്യാർത്ഥികളുടെ മുമ്പിൽ അധ്യാപകർ കർക്കശ സ്വഭാവക്കാർ ആകേണ്ടതുണ്ട്.)

23. Teachers should have high vision on teaching.

    (അധ്യാപനത്തെകുറിച്ച് ഉയർന്ന കാഴ്ചപ്പാട് ഉള്ളവരായിരിക്കണം അധ്യാപകർ)

24. Teaching methods can't dilute differences among children.

    (അധ്യാപന മാർഗ്ഗങ്ങളിലെ വ്യത്യാസം വ്യത്യസ്ഥതയെ കുറയ്ക്കാൻ ഉതകുകയില്ല.)

25. Teaching in special education sector should be flexible and humanistic.

    (പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപനം അയവുള്ളതും മാനുഷികപരിഗണനയുള്ളതും ആയിരിക്കണം)

26. Each activity in classroom has its own purpose and value while teaching.

    (അധ്യാപനസമയത്ത് ക്ലാസ്റൂമിനുള്ളിലെ ഓരോ പ്രവർത്തനത്തിനും അതിന്റേതായ ഉദ്ദേശ്യശുദ്ധിയും മൂല്യവും ഉണ്ട്.)

Appendix XVIII

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SPECIAL EDUCATION TEACHER TENACITY

RESPONSE SHEET

Name :.....Gender: .....

Name of Working Institution :.....

Type of Management:.....

Locale: Urban/Rural:.....

Educational Qualification: Under Graduation/ Graduation and Above.....

Experience:.....Years

Sl. No.	Agree	No Opinion	Disagree
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			

Sl. No.	Agree	No Opinion	Disagree
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			

Appendix XIX

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SPECIAL EDUCATION TEACHER RESILIENCE
(DRAFT)

Dr. P. Usha — Professor of Education
Thankam, P.K. — Research Scholar

Instruction

Read carefully each of the statements in the inventory provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. Teachers should not take things personally.
(അധ്യപകർ വ്യക്തിപരമായി കാര്യങ്ങളെ നോക്കി കാണരുത്.)
2. Teachers need not humorous and sociable in public.
(പൊതുവേദികളിൽ സരസമായ സംഭാഷണങ്ങളോ, സാമൂഹ്യബന്ധങ്ങളോ അധ്യാപകർ പുലർത്തേണ്ടതില്ല.)
3. Teachers are able to set realistic expectations and goals in special school classroom.
(സ്പെഷ്യൽ വിദ്യാലയങ്ങളിലെ ക്ലാസ്മുറികൾക്കനുയോജ്യമായ ലക്ഷ്യങ്ങളും, യാഥാർത്ഥ്യബോധമുള്ള പ്രതീക്ഷകളും നിശ്ചയിക്കാൻ അധ്യാപകർക്ക് കഴിയാറുണ്ട്.)
4. Teaching in special school is a casual employment for earning something.
(മറ്റോതൊരു ജോലിയെപ്പോലെ സ്പെഷ്യൽ സ്കൂളിലെ അധ്യാപനവും ഒരു വരുമാന മാർഗ്ഗം മാത്രമാണ്.)
5. Teachers with strong interpersonal skills are successful in special schools.
(വ്യക്ത്യാന്തര നൈപുണികളിൽ പ്രാവീണ്യമുള്ള അധ്യാപകർ സ്പെഷ്യൽ സ്കൂളിൽ വിജയിക്കാറുണ്ട്.)
6. It is difficult to maintain mutually empathetic relationships in special schools.
(പരസ്പരപൂരകങ്ങളായ വൈകാരികബന്ധങ്ങൾ സ്പെഷ്യൽ വിദ്യാലയങ്ങളിൽ നിലനിർത്തുക അസാധ്യമാണ്.)
7. Teachers seek alternative solutions to a difficult problem.
(അധ്യാപകർ ബുദ്ധിമുട്ടുള്ള പ്രശ്നങ്ങൾക്ക് വ്യത്യസ്ഥമായ പോംവഴികൾ അന്വേഷിക്കാറുണ്ട്.)

8. Teachers have the capability to bounce back while experiencing difficult situations.
(വിഷമസന്ദർഭങ്ങളെ അതിജീവിക്കാനുള്ള കഴിവ് അധ്യാപകർക്കുണ്ട്.)

9. Teachers lack the ability to manage emotions in a productive way.
(വികാരങ്ങൾ ഫലപ്രദമായി കൈകാര്യം ചെയ്യുന്നതിൽ അധ്യാപകർ മികവ് പുലർത്താറില്ല.)

10. Teachers do not give up a chance to improve themselves.
(അധ്യാപകർ പുരോഗതി കൈവരിക്കാൻ ലഭ്യമാകുന്ന അവസരങ്ങൾ പാഴാക്കാറില്ല.)

11. While teaching, it is difficult to learn from mistakes.
(അധ്യാപനവൃത്തിയിലേർപ്പെടുമ്പോൾ തെറ്റുകളിൽ നിന്നും ശരികൾ കണ്ടെത്താൻ പ്രയാസമാണ്.)

12. Seeking help and taking advice is essential in special school teaching.
(സഹായങ്ങൾ സ്വീകരിക്കുന്നതും, ഉപദേശങ്ങൾ തേടുന്നതും സ്പെഷ്യൽ വിദ്യാലയഅധ്യാപനത്തിൽ അത്യന്താപേക്ഷിതമാണ്.)

13. Teachers lack a flexible locus of control.
(അധ്യാപകരിൽ കാർക്കശ്യത്തോടെയല്ലാത്ത ആത്മനിയന്ത്രണം നിലനിൽക്കുന്നില്ല.)

14. Reflective evaluation enhance special school teaching.
(പ്രതിഫലനത്തിൽ അധിഷ്ഠിതമായ മൂല്യനിർണ്ണയം പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപനത്തെ മികച്ചതാക്കുന്നു.)

15. Special school teachers can't be objective in difficult situation.
(സ്പെഷ്യൽ വിദ്യാലയങ്ങളിലെ അധ്യാപകർക്ക് വിഷമസന്ദർഭങ്ങളെ വസ്തുനിഷ്ഠമായി സമീപിക്കാൻ കഴിയാറില്ല.)

16. Teachers view things as a whole than in a narrow perspective.
(വസ്തുതകളെ സമഗ്രമായി വീക്ഷിക്കുന്നവരാണ് അധ്യാപകർ.)

17. For teachers, setting limits is inappropriate.
(അധ്യാപകരെ സംബന്ധിച്ചിടത്തോളം അവർക്ക് പരിധികൾ നിശ്ചയിക്കുന്നത് അനുയോജ്യമല്ല.)

18. Teachers should maintain a supportive relationship with collegues and students.
(അധ്യാപകർ സഹവർത്തിത്വത്തിലധിഷ്ഠിതമായ ബന്ധം സഹപ്രവർത്തകരോടും, കുട്ടികളോടും നിലനിർത്തേണ്ടതുണ്ട്.)

19. Social connectedness is a mirage in special schools.
(സ്പെഷ്യൽ വിദ്യാലയങ്ങളിൽ സാമൂഹിക ബന്ധങ്ങൾ മരീചികയാകുന്നു.)

20. Teachers commitment towards students should get top priority in special schools.
(അധ്യാപകരുടെ കുട്ടികളോടുള്ള പ്രതിബദ്ധതയ്ക്ക് സ്പെഷ്യൽ വിദ്യാലയങ്ങളിൽ മുൻതൂക്കം ലഭിക്കുന്നു.)

21. Deeply committed teachers are rare in special education sector.
(സ്പെഷ്യൽ വിദ്യാലയ വിഭാഗത്തിൽ അർപ്പണബോധമുള്ള അധ്യാപകർ വിരളമാണ്.)

22. Teachers should possess a friendly and calm disposition towards teaching.
(അധ്യാപനത്തോട് സൗഹാർദപരവും, സൗമ്യപരവുമായ സമീപനം പുലർത്തുന്നവരാകണം അധ്യാപകർ.)

23. Small set backs make special school teachers anxious and depressed.
(ചെറിയ തിരച്ചടികൾ സ്പെഷ്യൽ വിദ്യാലയങ്ങളിലെ അധ്യാപകരിൽ മാനസിക പിരിമുറുക്കവും, നൈരാശ്യവും ഉണ്ടാക്കുന്നു.)

24. Teachers work hard to maintain a positive outlook.
(കർമ്മോൻമുഖമായ സ്വഭാവസവിശേഷത നിലനിർത്താൻ അധ്യാപകർ നിരന്തരം പരിശ്രമിക്കാറുണ്ട്.)

25. In special school teaching, changes are not taken into consideration.
(സ്പെഷ്യൽ സ്കൂളിലെ അധ്യാപനത്തിൽ മാറ്റങ്ങൾ പരിഗണിക്കപ്പെടാറില്ല.)

26. A strong mentor can elevate the capabilities of a new special education teacher through proper guidance.
(സ്പെഷ്യൽ സ്കൂളിലെ പുതിയ അധ്യാപകരുടെ കഴിവുകളെ അനുഭവസമ്പത്തുള്ള ഒരു ടീച്ചർക്ക് ഉയർത്താനാകും.)

27. Teachers lack courage to face hesitant situations.
(അധ്യാപകർക്ക് സമ്മർദ്ദങ്ങളെ അതിജീവിക്കാൻ ധൈര്യം കുറവാണ്.)

28. Supportive leadership is an essential criteria for conducive teaching environment.
(പ്രയോജനപ്രദമായ അധ്യാപനത്തിന് സഹായ സന്നദ്ധതയുള്ള മേലധികാരികൾ അനിവാര്യമാണ്.)

29. Classroom management is a hectic task in special schools.
(സ്പെഷ്യൽ വിദ്യാലയത്തിൽ ക്ലാസ്റൂം പരിപാലനം ബുദ്ധിമുട്ടുള്ള ജോലിയാണ്.)

30. Teachers can cope with teaching demands and stress while teaching in special schools.
(സ്പെഷ്യൽ വിദ്യാലയങ്ങളിലെ അധ്യാപനത്തിലെ ആവശ്യകതകളോടും, സമ്മർദ്ദങ്ങളോടും പൊരുത്തപ്പെടാൻ അധ്യാപകർക്ക് കഴിയാറുണ്ട്.)

31. Keeping a positive outlook is rarely possible in teaching profession.
(അധ്യാപനത്തിൽ എല്ലായ്പ്പോഴും അനുകൂലമായ വീക്ഷണം പുലർത്താൻ സാധ്യമല്ല.)

32. Teaching is an altruistic profession.
(അധ്യാപനം നിസ്വാർത്ഥ സേവനമനോഭാവമുള്ള ജോലിയാണ്.)

33. Special school teachers can't align their own values with others.
(സ്പെഷ്യൽ സ്കൂളിലെ അധ്യാപകർക്ക് തങ്ങളുടെ മൂല്യബോധത്തെ മറ്റുള്ളവരുമായി ഒത്തുകൊണ്ടുപോകാൻ കഴിയാറില്ല.)

34. Teachers find it difficult to meet the demands of individual student in special schools.
(പ്രത്യേക വിദ്യാലയങ്ങളിൽ കുട്ടികളുടെ വ്യക്ത്യാധിഷ്ഠിതമായ പഠനാവശ്യങ്ങൾ നിറവേറ്റുക ബുദ്ധിമുട്ടുള്ളതാകുന്നു.)

35. Teachers should maintain optimism in all their words and deeds.
(വാക്കിലും, പ്രവർത്തിയിലും ശുഭാപ്തി വിശ്വാസം പുലർത്തുന്നവരാകണം അധ്യാപകർ.)

36. Intrinsically motivated teachers possess high self-worth.
(ആന്തരികപ്രചോദനമുള്ള അധ്യാപകർ ഉയർന്ന മൂല്യബോധമുള്ളവരായിരിക്കും.)

37. Challenges reduce optimism among special school teachers.
(പ്രതിബന്ധങ്ങൾ അധ്യാപകരിൽ ശുഭാപ്തിവിശ്വാസത്തെ കെടുത്തി കളയാറുണ്ട്.)

38. Teachers should have a sense of tolerance towards pupil with less adaptive behaviour in classroom.
(ക്ലാസ്റൂം അന്തരീക്ഷവുമായി യോജിക്കാൻ വിമുഖരായ വിദ്യാർത്ഥികളോട് അധ്യാപകർക്ക് സഹനത്തിന്റേതായ ഒരവബോധം ഉണ്ടായിരിക്കണം.)

39. Teachers should focus on student improvement and learning.
(അധ്യാപകർ കുട്ടിയുടെ നൻമയ്ക്കും, പഠനപുരോഗതിക്കും പ്രാധാന്യം നൽകുന്നവരായിരിക്കണം.)

40. Special school teaching is less profitable than general school teaching.
(പ്രത്യേക വിദ്യാലയങ്ങൾ പൊതുവിദ്യാലയങ്ങളേക്കാൾ സാമ്പത്തികമായി പിന്നോക്കം നിൽക്കുന്നു.)

Appendix XX

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

A SCALE ON SPECIAL EDUCATION TEACHER RESILIENCE

(FINAL)

Dr. P. Usha
Professor of Education

Thankam, P.K.
Research Scholar

Instruction

Read carefully each of the statements in the scale provided. Each statement are given with three responses 'Agree', 'No Opinion' and 'Disagree'

Your responses, should be noted in the given "response sheet" only. Please put a tick (✓) mark in the column below your correct response. Kindly pay special attention to mark your response against each statement. The information collected will be used only for research purpose and will be kept confidential.

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1. Teachers need not humorous and sociable in public.
   (പൊതുവേദികളിൽ സരസമായ സംഭാഷണങ്ങളോ, സാമൂഹ്യബന്ധങ്ങളോ അധ്യാപകർ പുലർത്തേണ്ടതില്ല.)
2. Teachers with strong interpersonal skills are successful in special schools.
   (വ്യക്ത്യാന്തര നൈപുണികളിൽ പ്രാവീണ്യമുള്ള അധ്യാപകർ സ്പെഷ്യൽ സ്കൂളിൽ വിജയിക്കാറുണ്ട്.)
3. Teaching in special school is a casual employment for earning something.
   (മറ്റോതൊരു ജോലിയെപ്പോലെ സ്പെഷ്യൽ സ്കൂളിലെ അധ്യാപനവും ഒരു വരുമാന മാർഗ്ഗം മാത്രമാണ്.)
4. Teachers seek alternative solutions to a difficult problem.
   (അധ്യാപകർ ബുദ്ധിമുട്ടുള്ള പ്രശ്നങ്ങൾക്ക് വ്യത്യസ്ഥമായ പോംവഴികൾ അന്വേഷിക്കാറുണ്ട്.)
5. Teachers have the capability to bounce back while experiencing difficult situations.
   (വിഷമസന്ദർഭങ്ങളെ അതിജീവിക്കാനുള്ള കഴിവ് അധ്യാപകർക്കുണ്ട്.)
6. Teachers lack the ability to manage emotions in a productive way.
   (വികാരങ്ങൾ ഫലപ്രദമായി കൈകാര്യം ചെയ്യുന്നതിൽ അധ്യാപകർ മികവ് പുലർത്താറില്ല.)
7. Teachers do not give up a chance to improve themselves.
   (അധ്യാപകർ പുരോഗതി കൈവരിക്കാൻ ലഭ്യമാകുന്ന അവസരങ്ങൾ പാഴാക്കാറില്ല.)

8. While teaching, it is difficult to learn from mistakes.
(അധ്യാപനവൃത്തിയിലേർപ്പെടുമ്പോൾ തെറ്റുകളിൽ നിന്നും ശരികൾ കണ്ടെത്താൻ പ്രയാസമാണ്.)

9. Teachers lack a flexible locus of control.
(അധ്യാപകരിൽ കാർക്കശ്യത്തോടെയല്ലാത്ത ആത്മനിയന്ത്രണം നിലനിൽക്കുന്നില്ല.)

10. Reflective evaluation enhance special school teaching.
(പ്രതിഫലനത്തിൽ അധിഷ്ഠിതമായ മൂല്യനിർണ്ണയം പ്രത്യേക വിദ്യാലയങ്ങളിലെ അധ്യാപനത്തെ മികച്ചതാക്കുന്നു.)

11. Special school teachers can't be objective in difficult situation.
(സ്പെഷ്യൽ വിദ്യാലയങ്ങളിലെ അധ്യാപകർക്ക് വിഷമസന്ദർഭങ്ങളെ വസ്തുനിഷ്ഠമായി സമീപിക്കാൻ കഴിയാറില്ല.)

12. Teachers view things as a whole than in a narrow perspective.
(വസ്തുതകളെ സമഗ്രമായി വീക്ഷിക്കുന്നവരാണ് അധ്യാപകർ.)

13. Teachers should maintain a supportive relationship with collegues and students.
(അധ്യാപകർ സഹവർത്തിത്വത്തിലധിഷ്ഠിതമായ ബന്ധം സഹപ്രവർത്തകരോടും, കുട്ടികളോടും നിലനിർത്തേണ്ടതുണ്ട്.)

14. Social connectedness is a mirage in special schools.
(സ്പെഷ്യൽ വിദ്യാലയങ്ങളിൽ സാമൂഹിക ബന്ധങ്ങൾ മരീചികയാകുന്നു.)

15. Teachers commitment towards students should get top priority in special schools.
(അധ്യാപകരുടെ കുട്ടികളോടുള്ള പ്രതിബദ്ധതയ്ക്ക് സ്പെഷ്യൽ വിദ്യാലയങ്ങളിൽ മുൻതൂക്കം ലഭിക്കുന്നു.)

16. Deeply committed teachers are rare in special education sector.
(സ്പെഷ്യൽ വിദ്യാലയ വിഭാഗത്തിൽ അർപ്പണബോധമുള്ള അധ്യാപകർ വിരളമാണ്.)

17. Teachers should possess a friendly and calm disposition towards teaching.
(അധ്യാപനത്തോട് സൗഹാർദപരവും, സൗമ്യപരവുമായ സമീപനം പുലർത്തുന്നവരാകണം അധ്യാപകർ.)

18. Small set backs make special school teachers anxious and depressed.
(ചെറിയ തിരച്ചടികൾ സ്പെഷ്യൽ വിദ്യാലയങ്ങളിലെ അധ്യാപകരിൽ മാനസിക പിരിമുറുക്കവും, നൈരാശ്യവും ഉണ്ടാക്കുന്നു.)

19. Teachers work hard to maintain a positive outlook.
(കർമ്മോൻമുഖമായ സ്വഭാവസവിശേഷത നിലനിർത്താൻ അധ്യാപകർ നിരന്തരം പരിശ്രമിക്കാറുണ്ട്.)

20. In special school teaching, changes are not taken into consideration.
(സ്പെഷ്യൽ സ്കൂളിലെ അധ്യാപനത്തിൽ മാറ്റങ്ങൾ പരിഗണിക്കപ്പെടാറില്ല.)

21. A strong mentor can elevate the capabilities of a new special education teacher through proper guidance.
(സ്പെഷ്യൽ സ്കൂളിലെ പുതിയ അധ്യാപകരുടെ കഴിവുകളെ അനുഭവസമ്പത്തുള്ള ഒരു ടീച്ചർക്ക് ഉയർത്താനാകും.)

22. Teachers lack courage to face hesitant situations.
(അധ്യാപകർക്ക് സമ്മർദ്ദങ്ങളെ അതിജീവിക്കാൻ ധൈര്യം കുറവാണ്.)

23. Supportive leadership is an essential criteria for conducive teaching environment.
(പ്രയോജനപ്രദമായ അധ്യാപനത്തിന് സഹായ സന്നദ്ധതയുള്ള മേലധികാരികൾ അനിവാര്യമാണ്.)

24. Classroom management is a hectic task in special schools.
(സ്പെഷ്യൽ വിദ്യാലയത്തിൽ ക്ലാസ്റൂം പരിപാലനം ബുദ്ധിമുട്ടുള്ള ജോലിയാണ്.)

25. Teaching is an altruistic profession.
(അധ്യാപനം നിസ്വാർത്ഥ സേവനമനോഭാവമുള്ള ജോലിയാണ്.)

26. Special school teachers can't align their own values with others.
(സ്പെഷ്യൽ സ്കൂളിലെ അധ്യാപകർക്ക് തങ്ങളുടെ മൂല്യബോധത്തെ മറ്റുള്ളവരുമായി ഒത്തുകൊണ്ടുപോകാൻ കഴിയാറില്ല.)

27. Teachers should maintain optimism in all their words and deeds.
(വാക്കിലും, പ്രവർത്തിയിലും ശുഭാപ്തി വിശ്വാസം പുലർത്തുന്നവരാകണം അധ്യാപകർ.)

28. Intrinsically motivated teachers possess high self-worth.
(ആന്തരികപ്രചോദനമുള്ള അധ്യാപകർ ഉയർന്ന മൂല്യബോധമുള്ളവരായിരിക്കും.)

29. Challenges reduce optimism among special school teachers.
(പ്രതിബന്ധങ്ങൾ അധ്യാപകരിൽ ശുഭാപ്തിവിശ്വാസത്തെ കെടുത്തി കളയാറുണ്ട്.)

30. Teachers should focus on student improvement and learning.
(അധ്യാപകർ കുട്ടിയുടെ നൻമയ്ക്കും, പഠനപുരോഗതിക്കും പ്രാധാന്യം നൽകുന്നവരായിരിക്കണം.)

Appendix XXI

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE ON SPECIAL EDUCATION TEACHER RESILIENCE

RESPONSE SHEET

Name :.....Gender: .....

Name of Working Institution :.....

Type of Management:.....

Locale: Urban/Rural:.....

Educational Qualification: Under Graduation/ Graduation and Above.....

Experience:.....Years

Sl. No.	Agree	No Opinion	Disagree
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

Sl. No.	Agree	No Opinion	Disagree
16.			
17.			
18.			
19.			
20.			
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