

INTERNATIONAL JOURNAL OF EDUCATIONAL RESEARCH, DEVELOPMENT AND EXTENSION (IJERDE)

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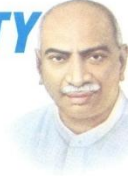
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MESSAGE

Educational research analyses the strategies employed in the transmission of knowledge at grass root level. The Centre for Educational Research of Madurai Kamaraj University (MKU-CER), a unique and first-of-its-kind centre in the country brought out the International Journal of Educational Research, Development and Extension (IJERDE), which is peer-reviewed. IJERDE deals with the following education related aspects in this volume XII.

Surveying the school climate among teachers in the state of Kerala has collected the data and discussed about its impact. Analyzing the concentration level of students on mathematics in Madurai district is studied. An interesting study on problem identification and solving capabilities of higher secondary students is also reported. Reorganizing the student's attitude with corporal punishments in practice among high school students was discussed. We all faced the distress during the pandemic situation. A study on the academic stress during the pandemic period among the school students is reported.

I am glad to see the research publication from the CER, MKU in the name of IJERDE to disseminate the knowledge to colleges/universities in this part of the country. It provides opportunities to the research scholars, faculty members and administrators of education institutes to share their views which will help in the policy making process.

I firmly believe that the contents presented in this volume will be helpful for the stake holders working on this area and general public of various organizations.

I congratulate the IJERDE editorial team and wish the journal every success.

VICE CHANCELLOR

Editor's Note

We are glad to bring the current issue (Vol. XII) of the International Journal of Educational Research Development and Extension (IJERDE), the official research journal of Centre for Education Research, Madurai Kamaraj University (MKU-CER). IJERDE has been publishing up-to-date, high quality and original research articles on various aspects of education research from stake holders and policy makers. The mission of the journal is to provide the vibrant platform, which can be accessible to every individual in this field.

The current issue of IJERDE presents a collection of research papers on multiple themes such as school climate in Kerala, concentration level of school students in Madurai district, problem solving abilities of secondary school students, attitude towards corporal punishments and academic stress created by the pandemic situation, etc.

- Dr.Muthupandi has presented a study on Survey of school climate among teachers in Kerala schools.
- The research article from Dr.Anbalagan has presented an analysis of concentration among higher Secondary students in Madurai District.
- Ulaganathan and Parimala Fathima has dealt with the efficacy of problem identification and solving abilities in differential calculus among high school students.
- Dr.Allimuthu has studied the attitude towards corporal punishment among the high school students.
- Interestingly, Mr.Sathishkumar and Dr.Sengamalam have presented the academic stress faced by the students under pandemic situation.

Above publications in the current issue is the outcome of the efforts taken many people, though many of them contributed for these accomplishments, some of them deserve a special mention and abundant gratitude, especially Prof. A. Jahitha Begam, Professor and Head, Department of Education, Gandhigram Rural University, Dindigul. We also thank our Vice-Chancellor and Registrar for extending their support in revamping IJERDE. I also, deeply appreciate my colleagues in CER, MKU for their efforts in arranging the peer-review.

I hope the articles presented in the current issue are within the scope and interests of the readers. We welcome your manuscripts for publication in IJERDE. Thank you.

Dr. R. Annadurai
Editor-in-Chief

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A SURVEY ON SCHOOL CLIMATE AMONG TEACHERS OF KERALA AT HIGHER SECONDARY LEVEL

Muthupandi. P

Abstract

Well-trained, highly skilled and great teachers form a strong relationship with their students and are considered the soul of the school and play a key role in nation-building. A positive school climate is essential for both teachers' and students' positive well-being. This paper deals with the survey of school climate among teachers of Kerala schools based on background variables. The main objective of the study is to find out the significant difference in the school climate of Kerala school teachers with respect to gender, subjects, locality, type of school, educational board, districts and seniority. The random sampling technique was used in the selection of a sample of 110 teachers from various schools in the districts of Kerala. The tool used for data collection was the institutional climate rating scale constructed and standardized by Sathyagirirajan. Data was analysed through mean, stand ard deviation, t-test and ANOVA. The major findings of the study are(i) there is no significant difference in the school climate between male and female teachers.(ii) there is no significant difference in the school climate between arts and science subject teachers.(iii) there is no significant difference in the school climate among the school teachers based on locality (iv) there is no significant difference in the school climate among the school teachers based on the type of school.(v) there is no significant difference in the school climate between the state and other educational board teachers.(vi) there is no significant difference in the school climate of teachers belonging to Thiruvananthapuram and other districts. (vii) there is no significant difference in the school climate among the teachers based on seniority.

Keywords: School Climate, School Teachers, Kerala Schools.

Introduction

Schools are social institutions (Getzels & Guba, 1970). Within school organizations, there are students, teachers, administrators, and many kinds of service personnel. Members of each of these groups occupy distinctive positions and are expected to behave in certain ways. The role expectations of these groups and the norms ascribed to them are different from each other. Clearly, the relationships among many kinds of people in schools are varied and complex. Only if those relationships are understood and generally accepted can the school organization function effectively (Campell, Corbally & Nystrand, 1983).

A conducive school climate will help the institution achieve its objectives. Factors which facilitate a conducive climate are effective management with a judicious blend of task orientation and person orientation, resourceful leadership and a free flow of communication. The quality of teaching determines the quality of education. The teacher, his/her personal qualities, attitude and dedication towards the teaching profession, educational qualification and professional training etc. play a vital role in modern education. Achievement of effective education can be brought about by the efforts of a team of high-quality teachers. Teachers truly shape the future of our children - and, therefore, the future of our nation. The motivation and empowerment of teachers is required to ensure the best possible future for our children and our nation. (NEP 2020)

Need for the Study

School climate is an important context variable in the psycho educational development and school adjustment of students. Students' interactions and experiences have an enduring impact on their academic success and psychosocial adjustment later in life. How an individual learns and how a school perform are largely determined by the competence and effectiveness of teachers. The performance of the teachers which influence the quality of education is in turn determined by the climate of the institution he/she imparts his/her service. The researcher wants to analyse the prevailing school climate in the schools of Kerala by conducting a survey among teachers who are the backbone of the schools.

Objectives of the Study

The specific objectives of the study are as follows:

1. To find out the significant difference in the school climate between male and female teachers.
2. To find out the significant difference in the school climate between the arts and science subject teachers.
3. To find out the significant difference in the school climate between the rural and urban/semiurban school teachers.
4. To find out the significant difference in the school climate between the government/aided and unaided school teachers.
5. To find out the significant difference in the school climate between the state and other educational board school teachers.
6. To find out the significant difference in the school climate between Thiruvananthapuram district and other district school teachers.

7. To find out the significant difference in the school climate among teachers based on seniority.

Hypotheses of the Study

The hypotheses formulated for the study are as follows:

1. There is no significant difference in the school climate between male and female teachers.
2. There is no significant difference in the school climate between the arts and science subject teachers.
3. There is no significant difference in the school climate between rural and urban/semi-urban school teachers.
4. There is no significant difference in the school climate between the government / aided and unaided school teachers.
5. There is no significant difference in the school climate between the state and other educational board school teachers.
6. There is no significant difference in the school climate between Thiruvananthapuram district and other district school teachers.
7. There is no significant difference in the school climate among teachers based on seniority.

Design of the Study

Method & Sample

The survey method was adopted for this study. The random sampling technique was used in the selection of a sample of 110 teachers from various schools in the districts of Kerala.

Tools

The tool used for data collection was the institutional climate rating scale constructed and standardized by Dr. Sathyagirirajan.

Statistical Techniques

The following statistical techniques were used for the present study:

Mean, Standard Deviation, 't' Test and ANOVA

Analysis and Interpretation

Table – 1 The significant difference in the school climate among teachers of Kerala with respect to background variables

Variables	Sub-variables	N	Mean	S.D.	't' value	Level of Significance
Gender	Male	41	108.76	8.37	0.51	NS
	Female	69	107.90	8.56		
Subject	Arts	59	107.03	8.24	1.59	NS
	Science	51	109.59	8.59		
Locality	Rural	49	107.24	8.37	1.08	NS
	Urban/Semi-urban	61	109.00	8.52		
Type of school	Govt./Aided	65	108.09	8.18	0.19	NS
	Unaided	45	108.40	8.94		
Educational Board	State	71	108.42	8.48	0.34	NS
	Other boards	39	107.84	8.52		
District	Thiruvananthapuram	49	108.86	9.62	0.69	NS
	Other districts	61	107.70	7.44		

NS – Not Significant

- From the table it is inferred that there is no significant difference in the school climate between male and female teachers. Hence the hypothesis stating that there is no significant difference in the school climate among the teachers based on gender is accepted.
- It is noted that there is no significant difference in the school climate between arts and science subject teachers. Hence the hypothesis stating that there is no significant difference in the school climate among the school teachers based on subjects is accepted.
- With reference to the rural and urban/semi-urban localities, there is no significant difference in the school climate among the teachers. Hence the hypothesis stating that there is no significant difference in the school climate among the school teachers based on locality is accepted.
- On the basis of the Government/aided and unaided schools, there is no significant difference in the school climate among the teachers. Hence the hypothesis stating that there is no significant difference in the school climate among the teachers based on the type of school is accepted.
- It is also noted that there is no significant difference in the school climate between the state and other educational board school teachers. Hence the hypothesis stating

that there is no significant difference in the school climate among the teachers based on educational board is accepted.

- It is also understood that there is no significant difference in the school climate among teachers belonging to Thiruvananthapuram and other districts schools. Hence the hypothesis stating that there is no significant difference in the school climate among the school teachers based on the districts of Kerala is accepted.

Table -2 ANOVA The significant difference in the school climate among teachers of Kerala with respect to seniority

Variable	Source of Variation	df	Sum of squares	Mean square	'F' value	Level of Significance
Seniority	Between	2	74.33	7.17	0.52	NS
	Within	107	7728.43	72.23		

From the above table it can be analysed that there is no significant difference in the school climate among the teachers based on seniority. Hence the hypothesis stating that there is no significant difference in school climate among teachers based on seniority is accepted.

Educational Implications

School climate is a situation formed by a relationship between the principal and teachers, teachers and teachers, teachers and staff, teachers and students or relationships among students that characterize a school and distinguishes a school from others. School climate might influence and determine the success of the teaching and learning process at schools.

School climate can be a variable influencing other variables, such as learning achievement, behaviour and teacher job satisfaction, teacher work motivation, teacher morale, teacher creativity, teacher work performance, and teacher discipline.

Teachers' role is pivotal in arousing enthusiasm and inspiring a person for learning and sharpening one's intelligence and wisdom. Poor school climate depresses teacher satisfaction, motivation and teachers' plans to stay in teaching.

The way staff are treated by senior management is reflected in the way staff members interact with each other, finally presenting in how staff treat students. Teachers need to be involved in decision-making that affects their work.

Teachers recognise that positive teacher-student relationships are important for effective learning, and want time to get to know their students. With the heavy curriculum-content focus in many schools, teachers feel that they spend their days teaching subjects rather than teaching students. Teachers need professional development to promote and maintain teacher well-being.

Leadership behaviour, administrative behaviour and communication behaviour of the head of the institution will be instrumental to the institutional climate. So, when the school principal wants to improve those practices, he or she has to make a better school climate through common stages namely preliminary assessment, feedback, reflection and discussion, intervention, and finally reassessment.

Conclusion

The present study conducted serves to look at the school climate in different schools in Kerala based on the view of teachers of different sections. In the survey conducted among teachers based on background variables, there is no significant difference in the school climate of schools in Kerala. The investigator concluded that a positive school climate that includes high expectations, respectful and dignified treatment, positive interaction with colleagues and recognition for effort and achievement is essential for both teachers' and students' well-being. A positive school climate should be present in educational institutions to impart better education to our students and create a better world.

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AN ANALYSIS ON CONCENTRATION SKILL AMONG HIGHER SECONDARY SCHOOL STUDENTS OF MADURAI DISTRICT

Anbalagan. S

Abstract

The goal of this study is to determine the importance of differences in concentration skills and academic achievement among higher secondary school students. The sample was drawn from the Madurai district higher secondary school and was adopted with the normative survey approach. The investigator chose a sample from the population using a basic random sampling approach. A total of 300 higher secondary students from ten Madurai District schools were included in the study. The three following major results were obtained: The findings of this study demonstrated that there is no substantial variation in the ability of students to concentrate based on their gender. The finding of the present study result points out that there is no significant difference in the concentration skill of higher secondary school students in terms of residence. The Results of the present study clearly revealed that there is a considerable variation in the student's concentration skills of locality, according to the results. As a result, rural students are expected to do better than urban students in terms of skill concentration. Additionally, students in rural schools have a higher degree of concentration than students in urban schools.

Keywords: Skill of Concentration, Academic Achievement, Higher Secondary Students

Introduction

School is a learning temple. However, 'learning' is one of the few things that youngsters dislike doing well in school. Every student has the same difficulty in learning efficiently. Students' academic achievement depends on effective study tactics and learning methodologies. Some strategies are effective, while others are not. Today, we'll look at several effective learning approaches for pupils that may help them achieve great learning results.

Concentration

Concentration is the ability to direct one's attention in accordance with one's will. It means control of attention. It is the ability to focus the mind on one subject, object or thought without being distracted. This is the ability to focus attention, and at the same time, ignore other unrelated thoughts (Yip, 2007). It also means the ability to do one thing at a time, instead of jumping from one subject to another, and losing attention, time, and energy.

Concentration is a state, in which one's whole attention is engrossed in one thing only, and is being oblivious to everything else. Remez Sasson (2015).

Review of Related Literature

Eva Monsma et al. (2017) conducted a study on Focus! Techniques for Improving Concentration in Open-Skill Sports. For athletes, shouting "concentrate" and "anticipate" from the sidelines can be unpleasant and unhelpful, especially when they are new to dynamic sports conditions. Coaching players to recognize that focusing is a concentration skill that increases with practice is an alternative approach. Three keys to concentration are selective attention, attentional focus style, and attentional shifting, all of which have significant consequences for motor performance and decision-making in open-skill sports. These traits are outlined and linked to practical practices to help athletes enhance their focus skills in this article.

Su Ting Yong et al. (2019) conducted a study on Learning Metacognitive Skills: Similarities and Differences: A mixed-methods approach was used, with a quantitative survey (n=174 students) and a qualitative interview (six mathematics teachers, eight students) conducted simultaneously at two Malaysian secondary schools. The data obtained revealed that there is no clear and direct link between the two learning settings. Multitasking, land navigation, teamwork, a bottom-up approach to problem-solving, and focus abilities could all be learned through computer games. It is understandable, however, that a mathematics education (a) is single-tasking, e.g., solves problems step-by-step, (b) uses graphic representation, (c) involves collaborative learning, (d) uses a top-down approach to problem-solving, and (e) could use multiple sensory modalities to improve learning.

Significance of the Study

A skill is an ability to complete a job with certain results in a specific amount of time, energy, or both. Domain-general and domain-specific abilities are frequently distinguished.(Yip, 2007; Meneghetti et al., 2007).Time management, teamwork and leadership, self-motivation, and other general abilities are employed across the work domain, whereas domain-specific skills are used just for a certain profession (Boller, 2008).To measure the degree of skill being demonstrated and applied, specific contextual triggers and scenarios are normally required. Focusing on one's own breath is the easiest and most straightforward way to improve mental stability and attention.(Meneghetti, et al, 2007). If you fully participate in a martial art form, a gesture or mudra repeated over and over, a yoga position, or even running and cycling, you can begin to build the earliest stages

of focus. If you have strong concentration abilities, you can devote all of your attention to the task at hand. Concentration may also refer to something that is grouped together, as well as a solution's density or strength. To claim you have high focus abilities implies that you pay close attention. She has properly developed for his investigation the title, research on the skill of attention among upper secondary school pupils of Madurai district in their activities, to conceive about developing ways to develop examination writing style in other future generations.

Statement of the Problem

The problem selected for the present study is entitled as “An Analysis on concentration among Higher Secondary School Students of Madurai District”

Definition of Terms

Skill

A trained ability or mastery in a certain talent is characterized as a skill. Robbins and Hunsakar (1996) defined “Skill as a system of behavior that can be applied in a wide range of situations”.

Concentration

The capacity to control one's attention according to one's will is known as concentration. It refers to the ability to manage one's attention. It is the capacity to concentrate one's mind on a single subject, object, or concept while blocking out all other thoughts, ideas, feelings, and sensations.

Concentration Skill

For the development of focus abilities, a concentration skill is prescribed. Concentration on divine traits such as strength, might, compassion, beauty, or mercy was emphasized in several ancient cultures. Others advise meditating on the earth, water, fire, air, and space components, both coarse and subtle. Some systems place a strong emphasis on focusing on specific bodily centres, as well as sacred artifacts, symbols, and prayers.

Higher Secondary School Students

Students in the XI and XII standard at government, aided, and unaided schools in Madurai District who are following the state board syllabus of Tamil Nadu are referred to as higher secondary school students.

Methodology

Design : Descriptive

Method : Normative

Technique: Survey

Area of the Study

The study's coverage is confined to the Madurai District.

Objectives of the Study

The following are the objectives of the present study:

1. To find out whether there is any significant difference in skill of concentration among higher secondary school students' background variables with regard to gender, residence locality and family type.

Hypotheses of the Present Study

On the basis of the objectives of the present study, the investigator framed the following

1. There is no significant difference in skill of Concentration among higher secondary school students' background variables with regard to gender, residence locality and family type.

Population

The individual members of the population whose characteristics are to be measured are called elementary units or elements of the population. (Paul S. Levy & Stanley Lemeshow, 2013). The population for the study consists of all higher secondary students in Madurai district.

Sample

The sample is a small proportion of a population selected for observation and analysis. John. E. Conklin defines, "A sample is a representative group of people chosen from a large population". The investigator chose a sample from the population using a basic random sampling approach. A total of 300 higher secondary students from ten Madurai District schools were included in the study.

Tool Used for Present Study

The degree to which a measure actually measures the characteristics or phenomenon it claims to measure is called validity. Several types of validity are relevant to different types of measures and testing situations. (Borg, 1979, p.25-26). The tool used for the present

study was a concentration skill scale developed and standardized by the investigator himself with technical assistance were used in the study. The Reliability value of the research tool is 0.796.

Statistical Treatments

In order to attain the objectives of the study, the investigators used Mean, S.D., and t-test techniques.

Data Analysis

Percentage Analysis

Table – 1 Gender wise distribution

Gender	N	%
Male	162	54
Female	138	46

With regard to gender, the preceding table reveals that male students have a skill of concentration of 54 % and female students have a skill of concentration of 46 %.

Table – 2 Residence wise distribution

Residence	N	%
Hosteller	78	26
Day scholar	222	74

Table -2 shows that the hosteller students have the concentration skill of 26 % and 74 % of days' scholar students with regard to residence.

Table – 3 Family-type wise distribution

Family Type	N	%
Joint	234	78
Nuclear	66	22

The above table shows the concentration skills of 78% of students belonging to joint families and 22% of students belonging to nuclear families.

Concentration Skill among Higher Secondary School Students: Gender-Wise

Hypothesis No.1: There is no significant difference in the concentration skill of higher secondary school students in terms of gender.

Table – 4 The difference in the concentration skill of higher secondary school students in terms of gender

Gender	N	M	SD	't' Value	Level of significance
Male	162	60.222	19.486	1.505	Not Significant
Female	138	63.862	22.410		

It is quite evident from the above table that the obtained 't' value of 1.505 is less than the table value of 1.96 at 0.05 level of significance. This shows that there is no significant difference in the student's concentration skills in terms of their gender.

Concentration Skill among Higher Secondary School Students: Residence-Wise

Hypothesis No.2: There is no significant difference in the Concentration skill of higher secondary school students in terms of residence.

Table – 5 Difference in the concentration skill of higher secondary school students in terms of residence

Residence	N	M	SD	't' Value	Level of significance
Hosteller	78	58.000	17.334	1.920	Not Significant
Day scholar	222	63.266	21.920		

It is quite evident from the above table that the obtained 't' value of 1.920 is less than the table value of 1.96 at a 0.05 level of significance. This shows that there is no significant difference in the student's Concentration skills in terms of their residence.

Concentration Skill among Higher Secondary School Students: Locality-Wise

Hypothesis No.3: There is no significant difference in the Concentration skill of higher secondary school students in terms of locality.

Table – 6 Difference in the concentration skill of higher secondary school students in terms of locality

Locality	N	M	SD	't' Value	Level of significance
Rural	204	65.436	21.522	4.400	Significant
Urban	96	54.375	17.444		

It is quite evident from the above table that the obtained 't' value of 4.400 is greater than the table value of 1.96 at 0.05 level of significance. This shows that there is a significant difference in the student's concentration skills in terms of their Locality. Further it is noted that students who belong to rural areas possess a high level of concentration skills than students who belong to urban areas.

Concentration Skill among Higher Secondary School Students: Family Type-Wise

Hypothesis No.4: There is a significant difference in the Concentration skill of higher secondary school students in terms of family type.

Table – 7 Difference in the concentration skill of higher secondary school students in terms of family type

Family Type	N	M	SD	't' Value	Level of Significance
Joint	234	62.944	21.127	1.638	Not Significant
Nuclear	66	58.182	19.909		

It is quite evident from the above table that the obtained 't' value of 1.638 is less than the table value of a 1.96 at 0.05 level of significance. This shows that there is no significant difference in the student's Concentration skill in terms of their family type.

Major Finding of this Study

1. Male students have a skill of concentration of 54 % and female students have a skill of 46 %.
2. Hosteller students have concentration skills of 26 % and 74 % of days' scholar students with regard to residence.
3. Skill of concentration of joint family students 78%- and 22%-days scholar students with reference to residence
4. There is no significant difference in the concentration skill of higher secondary school students in terms of gender.
5. There is no significant difference in the concentration skill of higher secondary school students in terms of residence.
6. There is a significant difference in the concentration skill of higher secondary school students in terms of locality.
7. There is a significant difference in the concentration skill of higher secondary school students in terms of family type

Discussion and Interpretation

The findings of this study demonstrated that there is no substantial variation in the ability of students to concentrate based on their gender. In their ability to concentrate, both men and women have equal knowledge and expertise. As a result, there is no significant variation in the students' concentration ability based on gender. In their ability to concentrate, both boys and girls have equal knowledge and expertise. The results of the present study are in agreement with the results of XianminYang & Xiaojie Li Ting Lu (2015) but the results of the present study were contrary to the results of Huang, X.-P., Yu & C.-K., Yang, S.J.H.(2021) Eva Monsma et al. (2017) Eva Monsma, Melanie Perreault, and Robert Doan (2017) and J. Wesley Schneyer (1961).

Hence the study's main conclusion emphasizes that there is no substantial variation in the student's concentration skill between hostellers and days scholars in terms of their living. As a result, regardless of where the pupils live, their academic performance is the same in terms of attention ability. Zaher Mohammed Fadhil et al.(2021)

There is a considerable variation in the student's concentration skills in terms of locality, according to the results. As a result, rural students are expected to do better than urban students in terms of skill concentration. It demonstrates that rural pupils are constantly focused and attentive to their work. Additionally, kids in rural schools have a higher degree of concentration than students in metropolitan schools. According to this study, students who attend rural schools, read the newspaper every day and participate in sports on a regular basis have a higher degree of concentration than their peers. As a result, the counterparts should be properly motivated and assisted in honing their concentration skills. The results of the present study are in line with the findings of Huang, X.-P., Yu & C.-K., Yang, S.J.H.(2021) Eva Monsma et al. (2017) Eva Monsma, Melanie Perreault, and Robert Doan (2017) and J. Wesley Schneyer (1961)

Recommendation

In the light of the above findings of the study, the following recommendations are made.

1. Organize an organised activity/prompt peers to encourage target students to participate.
2. Students might be made aware of the need of concentration skills through an awareness programme.
3. To strengthen their concentration skills, they can participate in group activities such as project work, group debates, cultural programmes, sports, and games.

4. On the school grounds, co-curricular and extra-curricular activities should be prioritised. So that school pupils can acquire a balanced maturity of concentration talent
5. Information and communication technology (ICT) must be used in the teaching and learning process.
6. Students should be inspired and encouraged to use library resources not just to expand their knowledge, but also to gain a better understanding of different people and their sense of nationality.
7. Competitions such as debate, quizzes, and elocution should be held at the school to help students improve their concentration skills.

Conclusion

According to the findings, concentration skill is a significant component in promoting greater academic achievement. The study convincingly demonstrated the impact of students' focus skills on their academic progress. The findings of the study encourage teachers to emphasize students to learn the necessity of skill focus in order to succeed in their academic and professional lives.

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EFFICACY OF PROBLEM IDENTIFICATION AND FORMALIZATION STRATEGIES TO ENHANCE PROBLEM-SOLVING ABILITY IN DIFFERENTIAL CALCULUS AT HIGHER SECONDARY LEVEL

Ulaganathan U. K & Parimala Fathima. M

Abstract

In this article, the researcher gazes at the latent for the constructive arrangement to assist in this undertaking, and explores its possibility in two analogous yet unique school course settings. This kind of assimilation builds problem identification and formalization abilities since writing in math expects understudies to display. In Problem Identification, problem solving is a central part of mathematics. It is the sum and matter of our discipline and to minimize the discipline to a set of exercises and skills devoid of problem solving is making up mathematics as a discipline and shortchanging the students. In Formalization, 'Axiomatic formalism' refers to the formalism of Hilbert that portrays us past the formal operations of Piaget. Its chief distinction from the key mathematics of personification and imagery is that in major mathematics. Sample taken from Higher secondary students of Govt. Hr. Sec. School, Athoor, Dindigul district only. The mean score of the posttest (27.25) is greater than the Pretest (9.95) in the 'Problem identification' dimension. The mean score of the posttest (27.79) is greater than the pretest (11.12) in the 'Formalization' dimension. The calculated 't' value of Problem identification 14.35 is greater than the table value (2.41). It is concluded that there is a significant difference between pre and post test scores on problem identification Strategies among Higher Secondary School students. The calculated 't' value of formalization dimension 20.55 is greater than the table value (2.41). the value of ω^2 (0.91) points out the difference in pre and post-test achievement tests in differential calculus. It is manifest that there is a factual improvement in deepening the concepts of problem-solving ability from pre to post-test. The increase in the mean scores confirmed the effect of problem identification and formalization strategies to improve problem-solving ability in differential calculus.

Keywords: Problem Identification Strategies, Formalization Strategies, Differential Calculus Problem-Solving Ability

Introduction

In Problem Identification, problem solving is a central part of mathematics. It is the sum and matter of our discipline and to minimize the discipline to a set of exercises and skills devoid of problem solving is making up mathematics as a discipline and shortchanging the students.

In Formalization, 'Axiomatic formalism' refers to the formalism of Hilbert that portrays us past the formal operations of Piaget. Its chief distinction from the key mathematics of personification and imagery is that in main mathematics, the definitions arise from experience with objects whose properties are labeled and applied as definitions; in formal mathematics, as written in mathematical publications, formal presentations commencing with set-theoretic definitions and understanding other properties using formal proof.

Need for the Study

Problem identification is deemed as the core of arithmetic acquiring because the ability isn't just for mastering the subject, yet it pressures crafting thinking skill strategy too. Understudies can change their insight and formalization abilities to be helpful in day-by-day life since the cycles of undertaking the mathematical problem concern are like the overall problem solving ability. The gigantic majority of the understudies' influence was problem identification, the main proficiency for the understudies' mastering. In this way, the encroachment of formalization capacity in science is a momentous mission that educators are going to worry about to proceed with such fundamental expertise for their understudies.

Literature Review

Khadheerullah Khan MD (2018) found that for 8th class students the low level of content area difficulty is 68%, whereas for 9th class students it is found 69.0%. It is noticed that most of the High School students are featuring difficulties in learning mathematics particularly in content areas Geometry, Mensuration and Arithmetic. Yasoda, R (2003) pointed out that it has been found that in the IX class text book five chapters namely, 'arithmetic, linear equations, square roots of algebraic expressions and in equations, geometry and motion geometry' are the moderately hard hitting chapters for both the teachers and students. In the X class text book the chapters namely 'linear programming, progressions, geometry and trigonometry are felt relatively most resilient chapters for students and teachers. Students are looking problems related to homework in mathematics as their mathematics teachers provide more number of problems for homework and they have nobody at home to facilitate them in solving problems. A Jahitha Begum, A Sathishkumar, T Habeebur Rahman (2021) examined that Executive functioning involves a number of complex sophisticated cognitive control skills of a neuropsychological nature. Executive functioning (EFs) skills are essential for achieving success in both life and academics. A lot of research evidence is available to prove the importance of EFs and academic achievement. Raghavendran, M (2020) found that the strong correlation between the Brain- Based Teaching and Problem-Solving Ability in Mathematics. Richer the classroom environments and Teaching using Brain-Based approach, higher will be the

achievement in Mathematics. The intervention proves the effectiveness of Brain-Based Teaching on Mathematics Achievement. Jyothi v (2019) reported that Positive correlation between Problem solving ability and Achievement in Mathematics. The boost in Problem solving ability may foster the raise in Achievement in Mathematics of IX-Class students. Ganesan, A (2000) proved that there is a positive very high correlation between the post test total score and Achievement motivation of the experimental group. Thomas, Elizabeth (2014) identified that there is significant difference in the problem solving ability & problem creating ability of students in geometry, algebra and arithmetic with that of the problem solving ability & problem creating ability of secondary school students coached through activity oriented method of teaching.

Shetty, Geeta S (2008) examined that this study obtains that the mean of the experimental group Post test scores on procedural knowledge is significantly higher than the Mean of the control group Pre test scores. Nag, Madan Kumar (2014) reported that the findings show that only 23.77 percent had average performance in mathematics, only 39.48 percent had average performance whereas more than one third of students (36.75%) had poor performance in mathematics. D Packiam, M Parimala Fathima(2015) study proved that constructivist approach is an effective strategy to learn mathematics. So the teachers need to incorporate constructivist approach in their teaching. Singh, Gurjot (2019) indicated that the intervention strategies creates a significant difference on a linear combination of two dependent variables, both of the intervention strategies are helpful in improving mathematical skills and confidence in mathematics. Rachna (2017) found that the result of this study can be applied to know the effect of computer assisted learning on problem solving ability, motivation and achievement in chemistry on XI grade students and on the basis of these results several types of changes and modifications can be made in Indian Education System. Balasubramanian, R (1997) proved that achievement in Mathematics is dependent on learning through Cognitive Modeling instructional strategy and the achievement of the students through Cognitive Modeling with exposure to strategic knowledge is significantly greater than that of the students.

Statement of the Problem

The problem of the study has been entitled “Efficacy of Problem Identification and Formalization Strategies to enhance Problem-Solving Ability in differential calculus at Higher Secondary Level”.

Problem Identification

Problems in mathematics as a problem that students themselves can decipher without exercising a routine method or algorithm.

Problem Solving as a Process

Garofola and Lester (1985) have proposed that students are largely unaware of the processes engrossed in problem solving and that focusing on this issue within problem solving instruction may be vital.

1. Domain Specific Knowledge

Schoenfeld and Herrmann (1982) acquired that novices attended to surface features of problems whereas experts sorted out problems on the basis of the fundamental principles absorbed. He obtained that those students with a good knowledge base were most capable to use the heuristics in geometry instruction.

2. Algorithms

An algorithm is a system, applicable to a meticulous type of exercise, which, if pursued correctly, is guaranteed to provide you with the answer to the exercise. Algorithms are imperative in mathematics and our instruction must enlarge them but the process of carrying out an algorithm, even an intricate one, is not problem solving. The creation of an algorithm may grip developing a process for factoring quadratic equations, as well as widening a process for partitioning a line segment using only Euclidian constructions.

3. Heuristics

Heuristics are kinds of information, obtainable to students in crafting decisions during problem solving, that are assists to the generation of a solution, possible in nature rather than prescriptive, seldom providing reliable guidance, and variable in results.

4. The Importance of Looking Back

Looking back may be the most significant of problem solving. It is the set of activities that provides the key opportunity for students to ascertain from the problem. The phase was categorized by Polya (1981) with admonitions to scrutinize the solution by such activities as checking the result, checking the argument, obtaining the result differently, applying the result, or the method, for some other problem, reinterpreting the problem, interpreting the result, or stating a new problem to solve.

5. Problem Posing

Problem posing and problem formulation are logically and philosophically requesting notions to mathematics educators and teachers. Brown and Walter give suggestions for executing these ideas.

The frontal brain lobe is situated just behind one's forehead. It is the **biggest cortex lobe**. We can state that the frontal lobe is the brain's control center. It shows an important role in problem-solving, planning, inclination control, reasoning, as well as controlling emotions, and behavior.

Formalization

The enlargement of the owner from a young child to a skilled adult fabricates the three fundamental sets - before of recognition, repetition and language to produce three interconnected sequences of improvement that amalgamate together to assemble a full range of mathematical thinking (Tall, 2004, 2006).

The cerebellum is a detached region of the brain placed behind the medulla oblongata and pons. It is glued to the rest of the brain by three stalks (called *pedunculi*), and points to skeletal muscles to craft smooth, graceful motions. The cerebellum accumulates information from our ears, muscles, eyes, and joints about the body's current positioning (submitted to as proprioception).

Problem-Solving Ability

Polya (1981) termed problem solving as, "Obtaining a way out of an obscurity, a way around a hurdle, and administering an aim that was not immediately attainable." According to Kinney (1967) "Problem solving slots in understanding the problem, analysis of data, staring for an answer, setting up and solving the conditional statement and substantiating the answer". NCTM (1989) articulated that the demeanor of the understudies in gazing at science and convictions can persuade their accomplishment in math. The enlargement with taking care of the issues of the subject is essential to endorse understudies' reasoning abilities and assist them to acquire abilities in taking care of the matter in day-by-day life.

Differential Calculus

Calculus is a branch of Mathematics that pacts with limits, derivatives, functions, integrals and infinite series.

Rules of Differentiation

Type of function	Form of function	Graph	Rule	Interpretation
y = sums or differences of 2 functions	$y = f(x) + g(x)$	Nonlinear	$dy/dx = f'(x) + g'(x)$.	Take the derivative of each term separately, then combine.
y = product of two functions,	$y = [f(x) g(x)]$	Typically nonlinear	$dy/dx = f'g + g'f$.	Start by identifying f, g, f', g'

Objectives of the Study

The present study has the following objectives –

1. To identify the level of problem-solving ability in differential calculus at the higher secondary level.
2. To evolve problem identification and formalization strategies in enhancing problem-solving ability in differential calculus at the higher secondary level.
3. To implement the problem identification and formalization strategies in enhancing problem-solving ability in differential calculus at a higher secondary level.
4. To see the effectiveness of problem identification and formalization strategies in enhancing problem-solving ability in differential calculus at a higher secondary level.

Hypotheses of the Study

1. There is a significant mean difference between pre and post assessment scores on problem identification Strategies among Higher Secondary School students.
2. There is a significant mean difference between pre and post-assessment scores on Formalization Strategies among Higher Secondary School students.
3. There is a significant influence of pre and post assessment scores on the achievement test of problem solving ability in differential calculus.

Research Tool

The following tools will be developed and characterized by the investigator.

- Problem Identification scale
- Formalization scale
- Achievement Test

Problem Identification Scale

A test with 26 items has been subjected to an expert's opinion. After the expert validity, 7 items are removed. The investigator has amended and modified the items of the Problem Identification Scale according to the received feedback from experts. After the first draft of a test has been created and directed to the final draft by using the item analysis method with a group of students' scores. The item difficulty index and item discrimination values of the high and low groups are measured. Items are arranged by difficulty level in the final draft and also necessary instructions are included. Further 9 items are reduced after validity and reliability. Finally, 10 items were standardized by the investigator.

Formalization Scale

A test with 23 items has been subjected to an expert's opinion. After the expert validity, 8 items were removed. The investigator has amended and modified the items of the Formalization Scale according to the received feedback from experts. After the first draft of a test has been created and directed to the final draft by using the item analysis method with a group of students' scores. The item difficulty index and item discrimination values of the high and low groups are measured. Items are arranged by difficulty level in the final draft and also necessary instructions are included. Further 5 items are reduced after validity and reliability. Finally, 10 items were standardized by the investigator.

Achievement Test

After the sessions, students are asked to attend an achievement test in differential calculus.

Research Design

The experimental method is followed by the investigator in this research. A single-group design will be taken up.

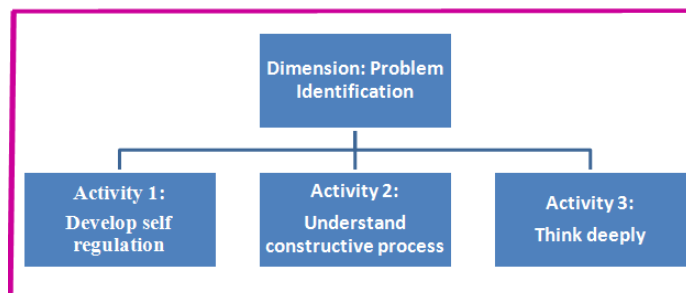
Participants

A Simple random sampling technique has pertained in this research. The investigator selected the sample from the Govt. Higher Secondary School, Athoor, Dindigul district for performing experimentation of the study. All 30 higher secondary students are taken as the sample which is pondered an experimental group for the study. Among them, 17 boys and 13 girls are included in this study.

Scoring Method

The investigator has allotted the scoring procedure for the extended tool with four points rating scale in this study. The highest score for each statement is four and the lowest score is zero.

Activities to identify the problems



Activity 1: Self - Regulatory Activities

The investigator implored the students to roll out problems on the board, then he called the participants one by one and inquires them, how they sum up two or more differentiable functions. If the participants produce diverse solutions, then the investigator raises what makes them come across the solution. The investigator talks about things like

- ❖ Do you identify the limits in differentiation?
- ❖ How to derivate a function in calculus?
- ❖ He poses another person about his/ her ideas. After this session participants, achieve clarity on the power of self-regulation in problem identification.

Activity 2: Understanding Constructive Process

The investigator has imparted the function of the derivative process to the participants. The investigator talks about the sum of two or more differentiable functions. He questions the students to acquire the subtraction of two or more differentiable functions. Through this session, it is wrapped up that participants discern the ways to subtract two or more derivative functions. Students will gain greatly to join known elements.

Activity 3: Think Deeply

The investigator establishes the students to ascertain techniques of two or more products in differentiable functions. The investigator has given the worksheets to the participants and requested them to write their responses in the worksheet. Their responses in the worksheet are examined and conferred by the investigator in the classroom for enhanced understanding of problem-solving ability.

Table – 1 Scores of Problem identification and Formalization Strategies

Dimension	No. of Statements	Max Score	Max Marks
Problem identification	10	4	40
Formalization	10	4	40
Total	20	4	80

Table – 2 Mean and Standard Deviation of Problem identification

Problem identification	Mean	SD
Pre-test	9.95	2.91
Post-test	27.25	5.43

From the above table, it is viewed that the mean scores of the ‘Problem identification’ dimension in the post-test (27.25) are greater than those the Pre-test (9.95). It is presumed that the level of the ‘Problem identification’ dimension is gradually increased after the

implementation of cognitive alignment strategies among higher secondary level school students.

Table – 3 Mean and Standard Deviation of Formalization

Formalization	Mean	SD
Pre-test	11.12	4.90
Post-test	27.79	6.03

From the above table, it is monitored that the mean scores of the ‘Formalization’ dimension in the post-test (27.79) are greater than those in the Pre-test (11.12). It is decided that the level of calculus about ‘Formalization dimension is gradually amplified due to the mathematics class of Cognitive alignment strategies. The increase in the mean scores exhibits the effect of Cognitive alignment strategies to boost problem-solving ability in differential calculus in ‘Formalization dimension.

Hypotheses Testing

Hypothesis: 1 There is a significant difference between pre and post-test scores on problem identification strategies among Higher Secondary School students.

Table – 4 Difference between pre and post-test scores on Problem Identification Strategies among Higher Secondary School students

Problem identification	Mean	SD	t- value	Level of significance
Pre test	9.95	2.91	14.35	Significant
Post test	27.25	5.43		

The above table displays that the calculated ‘t’ value of 14.35 is greater than the table value (2.41). It is concluded that there is a significant difference between pre and post-test scores on problem identification Strategies among higher secondary school students.

Hypothesis: 2 There is a significant difference between pre and post-test scores on Formalization Strategies among Higher Secondary School students.

Table – 5 Difference between pre and post-test scores on formalization strategies among higher secondary school students

Formalization	Mean	SD	t- value	Level of significance
Pre-test	11.12	4.90	20.55	Significant
Post-test	27.79	6.03		

The above table shows that the mean scores of the posttest (27.79) are greater than the pretest (11.12). The calculated 't' value of 20.55 is greater than the table value (2.41). It is wrapped up that there is a significant difference between pre and post-test scores on formalization Strategies among Higher Secondary School students.

Hypothesis: 3 There is a significant influence of pre and post-assessment scores on the achievement test of problem-solving ability in differential calculus.

Table – 6 'ω² values between pre and post test scores on Achievement test in differential calculus

Achievement test	't'	ω ²
Pre test	22.92	0.91
Post-test		

From the ω² values it is found that the value of ω² (0.91) points out the difference in the pre and post-test of achievement tests in differential calculus. It is manifest that there is a factual improvement in deepening the concepts of problem-solving ability from pre to post-test.

Results and Findings

The mean score of the post-test (27.25) is greater than the Pre-test (9.95) in the 'Problem identification' dimension. The mean score of the post-test (27.79) is greater than the Pre-test (11.12) in the 'Formalization' dimension. The calculated 't' value of Problem identification 14.35 is greater than the table value (2.41). It is concluded that there is a significant difference between pre and post-test scores on problem identification Strategies among Higher Secondary School students.

The calculated 't' value of formalization dimension 20.55 is greater than the table value (2.41). the value of ω² (0.91) points out the difference in pre and post-test achievement tests in differential calculus. It is manifest that there is a factual improvement in deepening the concepts of problem-solving ability from pre to post-test. The increase in the mean scores confirmed the effect of problem identification and formalization strategies to improve problem-solving ability in differential calculus.

Conclusion

Research confirmed that integrating problem identification and formalization Strategies in improving Problem-Solving Ability in Differential calculus at Higher Secondary Level. The mathematics classroom can considerably increase students'

mathematics cognition, and the present study purposely noted that the writing process helped to build up students' problem-solving skills. Students are looking for problems related to homework in mathematics as their mathematics teachers provide more problems for homework and they have nobody at home to facilitate them in solving problems.

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A STUDY OF ATTITUDE TOWARDS CORPORAL PUNISHMENT AMONG THE HIGH SCHOOL STUDENTS

Allimuthu. N

Abstract

The study was intended to find out the Attitude towards Corporal Punishment among the high school students in Pudukkottai districts, Tamilnadu. Random sampling techniques were used to select a sample of 258 high school students. The Mean, Standard Deviation, 't' test and F test statistical techniques have been used in the present study for the analysis of collected data. The result showed that, there is no significant difference in Attitude towards Corporal Punishment among high school students with reference to their Gender, Locality of the student and locality of the school. But there is no significant difference in Attitude towards Corporal Punishment among high school students with reference to their Gender, the Locality of the student and the locality of the school.

Keywords: Attitude Towards, Corporal Punishment, High School Students

Introduction

Reward and punishment are the two sides of the coin of Motivation of students to achieve a higher level of concentration in the classroom. In the Gurukula form of education punishment occupied a more prominent place than reward. The ancient Gurus were very strict. They made the students obey immediately without any consideration or sympathy towards the feelings of the students. The parents of the past also approved these actions of the Gurus, since they opined that the Gurus punished the students only for their betterment. So it was easy to maintain discipline, impose blind obedience in the process of teaching learning. But the students were under the constant fear of the Gurus. The punishments given to the students were very severe and sometimes beyond imagination. The students were beaten, canded sometimes were made to hang from the branch of a tree under which a bush of thorns of fire was kept.

When time changed, there was a lot of change in the norms governing the concept of education. Psychologists opined that punishment will create a negative impact in the minds of the learners and will pollute the atmosphere of the curriculum. They viewed punishment as a critical cultural and educational issue facing the present day schools. But the Pedagogical world opined that physical punishment is imposed only to put down the problem of violence among the students. It is necessary to bring an amicable change in the behavior of the Students but at a juncture, the Government stepped into the freedom of

Teachers and prohibited any or all forms of physical punishment of the students for any reason.

On the other hand, Reward has to be given a significant role in motivating students to achieve a better goal. It may be accepted in the case of a few students in a class. Different types of students are there in a classroom students obey the Teachers if they are given an oral warning. Some of them obey when the Teacher shows his face. Some may become submissive, if teachers use the rod but there may be a small number of students who will not obey any of these aspects. In this case, severe physical punishments are imposed. But the Government does not allow any form of physical violence on the students by the Teachers in the classrooms.

In India, Divya Disha, one of UNICEF's NGO partners, has organized child rights clubs in schools in Hyderabad, the most recent achievement being the development and signing the Child Rights Charter by 12 schools. This Charter outlines the roles and responsibilities and obligations of schools, teachers, parents and students. Corporal punishment is implicit within the charter and recent information from the NGO has indicated that the clubs will soon take up this issue.

India's National Policy on Education (1986) proposed abolition of corporal punishment in schools but no legislation has been passed banning it. In 1999, the Delhi High Court admitted a petition by the Parents Forum for Meaningful Education (PFME) challenging the practice of corporal punishment in schools. This followed statements by the Delhi Government in favour of retaining provisions in the Delhi Education Act that provide for certain forms of punishment to students over 14 years of age.¹² In December 2000, in response to public interest litigation, the Delhi High Court struck down provisions of corporal punishment in the Delhi School Education Act (1973) as being inhumane and detrimental to the dignity of children. An interesting feature of this case was the state government's contention that corporal punishment in moderation is meant to inculcate discipline in the child in his or her own interest. This judgement has paved the way for a public debate on this issue.

Maldives' law on the Protection of the Rights of the Child (1991) recognises the rights of children and their freedom and dignity and aims to create conditions in which they can develop their full potential and look forward to a full and satisfying adult life. It prohibits the beating of children and the use by parents of severe punishment that may harm the child mentally or physically. The law also states that punishment in schools must not affect the child physically or psychologically. With this background, the state party report to the CRC Committee in 1997 stated that corporal punishment is prohibited in schools.

The Nepal “Children's Act” (1992) prohibits cruel treatment of children, but it allows parents, family members and teachers to beat a child lightly if it is for the purpose of correcting a behaviour. The Law of Land (*Muluki Ain*) states that guardians and teachers shall not be held responsible if they grievously hurt a child in the course of education or defence; if the beating results in death they shall be punished with a small fine.

Significance of the Study

In the present educational scenario, the application of Corporal Punishment learning in real classrooms depends very much on the skills that the Teacher possesses. Both pre-service and in-service programmers devote much of their time for providing skills training to teachers in addition, the teachers also acquire skills through other informal and non-formal modes. As there is no single agency or single well-conceived curriculum for skills training no single agency or single well-conceived curriculum for Skills training to teachers, or a definite set of skills are competencies that the teachers are expected to possess, there is a felt need to prepare a comprehensive set of skills to be processed by the teachers and to find out of the teacher possess the identified set of skills.

The teacher must possess or acquire the skills of Teaching the students without using the rod in the classroom. The teacher in the present situation under the norms and rule laid by the Department of Education and the Government must try to disprove the maximum “Spare the rod and spoil child”. This is the felt need of Present day teachers. The teachers must take decisions about the ways of acquiring the skills motivate and promote learning among the students without Corporal Punishments. Teachers have to strengthen this type of skills of face to students of this generation in which most of them are the sensitive to punishment in public or in class rooms. Hence the present study has been undertaken to improve the skills of the teacher not taking up Corporal Punishments.

Objectives of the Study

1. To find out the high school students’ attitude towards corporal punishment.
2. To find out attitude towards corporal punishment among the high school students based on their Gender, Locality of the Students and Locality of the School.

Hypotheses of the Study

1. High school students have a high attitude towards corporal punishment.
2. There is no significant difference between the attitude towards corporal punishment among high school students based on their Gender, the locality of the students and the locality of the School.

Method Adopted

Survey method is selected for the present study.

Population of the Study

The population for the investigation was the high school students of Pudukkottai.

Sample of the Study

The investigator and associates observed the high school students in Pudukkottai. A total of 258 cases formed the sample through the random sampling method and the strata were considered according to the population variables.

Tools Used in this Study

In the present study, the investigation selected a questionnaire as the most important tool for collecting data because it is used increasingly to enquire into the current conditions, opinions and an attitude of a group. A questionnaire is a tool used to collect data from the selected sample.

Scoring and Consolidation of Data

Scoring of the response sheets was done as per the joining scheme. The score obtained in all questionnaires along with the personal data is consolidated and tabulated on a consolidation sheet for the purpose of analysis. Each subject was given a specific number of the data concerned with the High School Students were entered in the specific line, following a specific order. Strongly Agree 4 marks, Agree 3 Marks, Disagree 2 Marks, Strongly Disagree 1 Mark.

Validity of the Tool

The validity of the tool depends upon the fidelity with which it measures what if purpose to measure. This can be done through a representative collection of items and sensible method of test construction. The selection of proper sample governs the validity and the dependability of the results obtained. The Content Validity to select the tool Construction. The sample for the final study is drawn from 6 High School Schools in Pudukkottai District with total 258 High School Students. Stratified random sample procedure.

Reliability of the Tool

Reliability is the consistency with which a tool measures what-if measures. In the present study, the typical test-retest method was employed to evaluate the stability of the

measurement. The tools were administered to a group of 258 High School Students in the Pudukkottai District and scores were computed.

Statistical Techniques Used

The Mean, Standard Deviation, t-test and F-test statistical techniques have been used in the present study for the analysis of collected data.

Hypotheses Testing

1. High school Students have a high attitude toward Corporal Punishment.

Table-1 Mean Scores of attitude towards corporal punishment among the High School Students

Score	Number	Mean	S.D
Valid	258	130.85	13.50

The population of the above table shows that the mean score of the high school students is found to be 130.85 which is higher than 50% and hence it is concluded that the attitude towards corporal punishment is high level among high school students.

2. There is no significant difference between the attitude towards Corporal Punishment on the basis of Gender, the Locality of the Students and the Locality of the school.

Table-2 Significant difference in Attitude towards corporal punishment based on Gender, Locality of the Student and Locality of the school

Variables	Categories	N	Mean	SD	't' Value	Level of Significance
Gender	Male	110	130.69	14.05	1.65	NS
	Female	148	131.03	13.13		
Locality of the student	Rural	136	131.82	14.01	1.64	NS
	Urban	122	129.78	12.88		
Locality of the school	Rural	92	128.35	11.54	1.65	NS
	Urban	166	132.24	14.32		

Since the calculated value of 't' is less than the table value (1.96) at 5% level of significance, there is no significant difference in Attitude towards corporal punishment among high school students with reference to their Gender, Locality of the student, Locality of the school. Hence the null hypothesis 2 is accepted.

Findings of the Study

There is no significant difference between the attitude towards Corporal Punishment among the basis of Gender, the Locality of the Students and the Locality of the school.

Educational Implication

Education plays a dominant role in all walks of human life. The overarching education goal for UNICEF is to help children to learn and succeed. The education department must be well equipped with the necessary personnel who can study the reasons for child behaviour and teacher reactions. The State Government today imposed a ban on Corporal Punishment of school Students. Corporal Punishment closes the window into the world of education. Instead of imposing Corporal Punishment to the secondary level student, the teacher can play a vital role to modify the behaviour of the students. The “State Human Rights Commission (SHRC) Stated that “It is not enough that teachers excel in teaching alone, they must also know how to handle students”. The development of this capability is an essential part of the Teacher who has to expertise in handling students without Corporal Punishment. He must acquire a thorough knowledge of handling the class, attracting the students and enchanting them to listen to him without Punishments or even harsh words. Thus the investigator took this problem is develop in an attitude of awareness, of the skills of teaching a group of differently skilled students in an effective way.

Conclusion

After analyzing all the facts, it has to be noted that corporal punishment is not at all applicable in today’s modern world of reform, it tends to bring negativity and make the child resort to violence, the child could possibly use corporal punishment in the future date because of his/her past experience. There are many other ways to bring up a child which would produce positive results making a child understand and value human life and dignity making him/ her a better individual and human. Corporal punishment though may sound like a better alternative and the last resort to inflict punishment but it is highly advisable not to use it either at home or school, there are instances to show that it has a far reaching bad effects upon the students because there have been many deaths in the past due to the use of corporal punishment. So, the government should take a strong stand to prevent its use and it should also be wiped off completely from schools.

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ACADEMIC STRESS AMONG THE HIGH SCHOOL STUDENTS DURING THE PANDEMIC

Sathishkumar. G & Sengamalam @ Vaanathi. R

Abstract

This study looks at the academic stress among high school students during the pandemic with respect to their background variables – Gender, Residential Background, Medium of Study and Types of School. The sample of the study consisted of 310 high school students studying in IX and X studying in the Theni district. A scale on the ‘Academic Stress Scale’ was constructed and validated by the investigator with four dimensions – Physiological Stress, Emotional Stress, Democratic Stress and Evaluation/Assessment Stress. This study revealed that there is a significant difference in their level of academic stress among the select sample of this study and it has given the significant difference in their academic stress with respect to their backgrounds variable in accordance with dimensions noted in this study under the academic stress.

Keywords: Academic Stress, Physiological Stress, Democratic Stress, Emotional Stress and Evaluation Stress, High School Students

Introduction

Stress is an emotional feeling or simply physical tension which makes the person feel frustrated, angered, nervous and emotionally agitated. Stress is the body-reaction to the demand required or challenge faced. Even though, this stress creating the negative impact, it is also considered as the positive one which helps one avoid danger or meet a deadline. In the same way, academic stress is defined as bodily response to academic-related demand-cum-expectations that outdo adaptive capabilities of students. As per the statistics published by National Crime Records Bureau, there is one student every hour commits suicide (Saha, 2017). The bureau registered that 1.8% student who committed suicide due to failing in examinations and 80% rise in suicide rates during a one-year time frame. Lancer report (2012) quoted that the 15-29 age group bracket in India has the highest rate of suicide in the world and in India has highest suicide rate. It is predicted that 10-30% of students experience some degree of academic stress during their academic study. It is known that academic stress has been identified as the primary cause of these alarming figures. In particular, in the pandemic period, students in different level have affected in many aspects. Around the world, this has led to the closure of schools in over all 150 countries affecting the education of nearly 1billion children (Sahu, 2020). Due to the closure of schools and all educational institutions, parents were responsible primarily for teaching to their children even though they were facing may problems like unemployment, reduction of salary,

sudden financial crises, need of electronic gadgets for their children' teaching with data packages, etc. In addition to parent stress, the children also suffered a lot academically.

COVID-19 pandemic made the researchers to do their study in the context of learning difficulties with respect to the pandemic situation particularly and the following are the few of the outcomes, results and suggestions. There is a significant difference in the COVID-19 crisis knowledge and adaptations of the pandemic situation of the higher education students of India with respect to sex, course of studying, discipline within its higher education institutions (*Reddy P. Janardhana Kumar, 2020*). The symptoms of stress experienced were in the form of irregular sleep, blood pressure, stomach acid, irregular eating patterns, feeling depression. The students who received Islamic counseling experienced lower levels of stress than before. (*Abdurrahman et al., 2021*). The HEI support and faculty support significantly affect university students' academic and social concerns. Furthermore, resource availability was found to affect the academic concerns of students but not their social concerns (*Azzah et al., 2021*). Adolescents with high levels of depression and anxiety were found to use more avoidant and negative coping strategies (*FulyaTürk, 2021*). It is suggested that the importance of teacher competence and perceived efficacy in managing student behaviour and engaging them in learning to help them adapt to the stressors of a pandemic (*Herman et al., 2021*). There should be actions within the university training programme in effective stress management strategies (*Ocana-Moral et al., 2021*). Effective stress coping strategies are used more frequently than negative ones. They revealed that although there are some positive sides to the process, the students described some difficulties with social interaction, access and use of technology, motivation, and physical health (*Faith Kaya et al., 2022*) Resilience has a protective influence on COVID-19 fear and is pivotal to cope with COVID-19 stress (*Ryan Michael, F et al., 2022*). Learning to be effective time and stress managers will be important for professional longevity as other stressful events are likely (*Stephanie M Singe & Thomas G. Bowman, 2022*). Hence, the investigator has taken this area for his study and it is essential to conduct in present situation.

Significance of the Study

It is well known that a lot of stress is self-induced. In academic career, task to be completed, destiny to be reached, output to be arrived, expectations to be fulfilled, achievement to be attained are the different perspectives to cause or to have stress among the students of all level. It is well known fact that too much of doing or expecting anything without considering the capacity of the person and practicability of the context, it will affect the normal output with a negatively deviated result. The education gaps due to the COVID-19 Pandemic, the students are activated by their teachers remotely through different media and platforms. Even though, students were enjoyed the new strategies of teaching-learning

at first, they were affected a lot of different aspects and it still continues. Hence, this study is significant to do study the academic stress especially during the pandemic among the high school students with respect to their background variables since much of the researchers have focused other level students in this area of study before to a greater extent.

Objectives of the Study

- To find the level of academic stress among high school students during the pandemic
- To find the significant difference in academic stress among high school students during the pandemic with respect to select variables, viz.,
 - Gender
 - Residential Background
 - Medium of Study and
 - Types of School

Hypotheses of the Study

- There is no significant difference in the level of academic stress among high school students during the pandemic
- There is no significant difference in the academic stress of Male and Female high school students of select sample during the pandemic
- There is no significant difference in the academic stress of high school students residing in Rural and Urban Residential Background during the pandemic
- There is no significant difference in the academic stress of high school students studying in Tamil and English Medium of the study during the pandemic
- There is no significant difference in the academic stress of high school students studying in Private and Government School during the pandemic

Method of the Study

The investigator applied normative survey method for this study.

Sample of the Study

The investigator has taken 310 high school students studying in private and government schools in IX-Standard and X Standard in the district of Theni for this study using stratified random sampling technique.

Tool of the Study

The investigator of this study constructed a tool as Academic Stress Scale consisting four dimensions – Physiological, Emotional, Democratic and Examination/Assessment Factor. It consists of 25 final items after the standardization with reliability 0.782. The score of each item is given as 5, 4, 3, 2, and 1 with the responses ‘Always’, ‘Often’, ‘Sometimes’, ‘Rarely’ and ‘Never’. Hence, the maximum score of this rating scale is 125 and minimum score is 25.

Statistical Techniques Used

The investigator used the following statistical techniques for this investigation:

- Percentage Analysis
- Descriptive Analysis&
- Differential Analysis

Analysis and Interpretation

Table – 1 Distribution of the Sample

Variable	Sub-variables	No. of High School Students	Percentage
Gender	Male	168	54.19
	Female	142	45.81
Residential Background	Rural	213	68.71
	Urban	97	31.29
Medium of Study	Tamil	216	69.68
	English	94	30.32
Types of School	Government	232	74.84
	Private	78	25.16

It is found that 54.19 % of the select sample are Male and 45.81% of them are Female; 69% of the sample (68.71%) are from Rural Residential background and 31% (31.29%) of them from Urban residential background; nearly 70% (69.68%) of them are studying in Tamil medium and 30% (30.32%) of them are studying English medium and; 75% (74.84%) of the select sample are studying in Government schools and 25% (25.16%) of them are studying in Private schools.

Table -2 Level of Academic Stress among High School Students during the Pandemic

Dependent Variable	Dimensions	Level of Academic Stress					
		Low		Average		High	
		N	%	N	%	N	%
Academic Stress	Physiological Stress	56	18.07	191	61.61	63	20.32
	Emotional Stress	50	16.12	188	60.65	72	23.23
	Democratic Stress	64	20.65	168	54.19	78	25.16
	Evaluation/ Assessment Stress	62	20.00	196	63.23	52	16.77

It is found that less than 20% (18.07%) of the select sample have low level physiological stress, more than 60% (60.65%) of them have average level and 20% (20.32%) of them have high level physiological stress among them. It is discovered that 23.23% of select sample have high level emotional stress and 60.65% are in average level emotional stress and only 16.12% of them are low level emotional stress. In the case of democratic stress, 20.65% of them are in low level stress, 54.19 are in average level stress and 25.16% of them are in high level democratic stress. Considering the evaluation/assessment stress, only 16.77% of high school students are in high level stress, more than 60% (60.23%) of them are in average level stress in this dimension and 20% of them are in low level stress.

Table – 3 Significant Difference in the Academic Stress of High School Students with respect to Gender

Dependent Variable	Dimensions	Independent Variable	N	Mean	S.D.	df	Calculated t-value	Remarks
Academic Stress	Physiological Stress	Male	168	82.21	09.21	308	1.625	NS**
		Female	142	81.78	10.12			
	Emotional Stress	Male	168	84.32	12.04		2.651	S*
		Female	142	78.36	11.78			
	Democratic Stress	Male	168	80.96	12.56		1.265	NS*
		Female	142	81.04	12.42			
Evaluation/ Assessment Stress	Male	168	79.54	11.45	3.022	S*		
	Female	142	82.09	10.45				

It is found that there is no significant difference between the male and female high school students in their academic stress with respect to the physiological and democratic

dimensions for this select sample of the study. It is also found that there is a significant difference in academic stress between male and female students with respect to emotional and evaluation/assessment dimensions of academic stress of this study.

Table – 4 Significant Difference in the Academic Stress of High School Students with respect to Residential Background

Dependent Variable	Dimensions	Independent Variable	N	Mean	S.D.	df	Calculated t-value	Remarks
Academic Stress	Physiological Stress	Rural	213	83.11	11.21	308	3.425	S*
		Urban	97	80.34	11.32			
	Emotional Stress	Rural	213	83.12	10.84		4.025	S*
		Urban	97	80.06	12.31			
	Democratic Stress	Rural	213	84.12	12.46		2.998	S*
		Urban	97	78.54	11.40			
	Evaluation/ Assessment Stress	Rural	213	82.54	12.11		1.625	NS*
		Urban	97	82.16	11.25			

It is found that there is a significant difference in the academic stress between rural and urban residing background students in the physiological, emotional and democratic dimension of academic stress of this study. It is found that there is no significant difference in the academic stress dimension of evaluation/assessment between the students of rural and urban residing background of this study.

Table – 5 Significant difference in the academic stress of high school students with respect to Medium of Study

Dependent Variable	Dimensions	Independent Variable	N	Mean	S.D.	df	Calculated t-value	Remarks
Academic Stress	Physiological Stress	Tamil	216	82.19	11.21	308	2.847	S*
		English	94	84.34	11.32			
	Emotional Stress	Tamil	216	80.16	10.84		1.866	NS**
		English	94	80.24	12.31			
	Democratic Stress	Tamil	216	82.40	12.46		3.578	S*
		English	94	79.21	11.40			
	Evaluation/ Assessment Stress	Tamil	216	80.10	12.11		4.035	S*
		English	94	83.19	11.25			

It is found that there is a significant difference in academic stress between Tamil and English medium studying students of high school level with respect to academic stress dimensions namely, physiological, democratic and evaluation/assessment stress whereas

there is no significant difference between the Tamil and English medium studying high school students with respect to democratic dimension of academic stress of this study.

Table – 6 Significant difference in the Academic Stress of High School Students with respect to Types of School

Dependent Variable	Dimensions	Independent Variable	N	Mean	S.D.	df	Calculated t-value	Remarks
Academic Stress	Physiological Stress	Government	232	80.11	10.20	30 8	1.409	NS*
		Private	78	80.89	12.11			
	Emotional Stress	Government	232	81.15	11.32		4.068	S*
		Private	78	83.89	10.79			
	Democratic Stress	Government	232	84.15	11.16		1.785	NS*
		Private	78	83.97	12.22			
	Evaluation/ Assessment Stress	Government	232	82.87	11.32		1.908	NS*
		Private	78	82.60	10.88			

It is found that there is no significant difference in the academic stress between the government and private school studying high school student of this study with respect to academic stress dimensions – physiological, democratic and evaluation/assessment stress. In contrary, there is a significant difference in the emotional dimension of academic stress between government and private studying students of select sample of this study.

Findings of the Study

This study is focusing on studying the academic stress among the high school student during the pandemic. From the analysis, it is found that more than 50% of them are in average level stress in all the four noted dimensions of academic stress of this study. More than 15% of them are in low level and equally high-level stress academically by considering the dimensions of this study with the select sample. There is significantly more academic stress among the male students in their emotional dimension than the female and in contrary female students are having more stress in evaluation/assessment dimension than the male students. There is more physiological, emotional and democratic stress among the students residing in rural residential background than urban residential background. The students from Tamil medium are having more democratic stress than English medium students, but the students from English medium are having more physiological stress and evaluation/assessment stress than Tamil Medium Students. There is more emotional stress among the students of private schools than the government school students and the remaining dimensions of academic stress noted in this study is found equal among them during the pandemic situation which is taken for this investigation.

Conclusion

Pandemic situation is not only new for students and is new to entire population of the globe. It is important to consider the academic stress among the high school level students since, high school students are in transitional period from high level to higher secondary level. This study made an attempt to study the academic stress among the high school level students with respect to their background variable considering the four dimensions of academic stress. It is important to have better strategies and approaches among the teachers to handle those students who were passed the greater experiences during the pandemic. Even through, they are all somewhat exposed with techno-based teaching; they also possess the significant level of academic stress. Hence, it should be considered in present teaching situation and it should be identified and minimized to a greater degree so as to get back them in a conducive learning environment.

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