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Prof. Jose P. Mattam
Managing Editor & Publisher,
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LITERACY SKILLS DEVELOPMENT AND PIDGIN ENGLISH AMONG PRIMARY SIX PUPILS IN CALABAR SOUTH LOCAL GOVERNMENT AREA OF CROSS RIVER STATE, NIGERIA

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Abstract

The use of Pidgin English is prevalent in the neighborhood of Calabar south local government of Cross River State. This has made it difficult for pupils to coordinate between what they learn in the classroom and what is obtainable around their immediate environment. This study therefore investigated the relationship between Pidgin English and literacy skills development among primary six pupils in Calabar South Local Government Area of Cross River State, Nigeria. In order to achieve the objectives of this study, three hypotheses were formulated to guide the study. Population of the study consisted of all the primary six pupils in Calabar South Local Government Area. The design adopted for this study is the Ex-post Facto research design because the variables are manipulated. The simple random sampling technique was adopted for the study. The instrument used for data collection was the Literacy Skills Development and Pidgin English Questionnaire (LSDPEQ). The instrument was validated and administered to a sample of 200 pupils. Data obtained was analyzed using Pearson Product Moment Correlation Coefficient at 0.05 level of significant. At the end, it was discovered that there is a relationship between Pidgin English and literacy skills development as it concerns writing, speaking and reading skills. It was recommended that enough time should be allocated to the teaching of English in schools as to improve the literacy skills of pupils.

Keywords: *Pidgin English, Literacy Skills, Primary Six Pupils, English Language, Nigeria.*

Introduction

The use of Pidgin English is prevalent in the neighborhood in Calabar south local government area. Both pupils, parents and others, speak pidgin most or throughout the day. When children go to school, the

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teachers try their best to ensure that all pupils speak Standard English Language which is the official language in Nigeria. But when the pupils are at home, the mode of communication is Pidgin English. This may act as a barrier to effective literacy skills development at this level. Literacy skills of reading, speaking and writing are well developed at the primary school level. When there is conflict in the language used in the school and the one at home, there arises a problem of effective literacy skills development. Teachers at all times try as much as possible to teach literacy skills to pupils and help them develop appropriate literacy skills. But most often, pupils do not make headway. This may be due to the differences in the language used both in the school and at home.

The primary level of education as concisely stated in section 3, paragraph 15 of the National Policy on Education is very important based on the fact that primary level of education is the key to the success or failure of the entire education system. Also, one of the objectives of primary education is the inculcation of permanent literacy and numeracy and the ability to communicate effectively (FRN, 2014). If the English Language studied at this level is made interesting and understandable, the increasingly sophisticated ideas in literacy skills at this level can maintain pupil's engagement and enthusiasm. But if their learning becomes a process of simple "parroting "and memorizing, they soon begin to lose interest. Instruction at this level need to be active and intellectually stimulating and must help pupils make sense of studying English Language (Paramjit, 2013).

English language is a global language of technology, Science, aviation and Computer, education and a world language of importance. Therefore, efficient spoken written or reading knowledge of English Language is of basic importance to the study of every other subject. English language commands respect and prestige in the society (Danladi, 2013). In spite of the importance of correct use of English language, it is found in particular that, pupils perform woefully in its usage both in examinations and daily life interactions. A number of factors contribute to the situation. One of which is the constant use of Pidgin English in living environment including the primary level of Education. It becomes challenging as the role of teachers in teaching English language in the primary school is threatened. In order to speak Standard English, the Pupils especially, those in primary school need to be encouraged by the English language teachers to speak it all the time and anywhere they find themselves.

Statement of the Problem

Literacy skills development at the primary school level is a key to successful academic work at other levels of education. It is at the primary school level that pupils develop appropriate literacy skills. But for the past decade, there has been a downward trend in the area of literacy skills developed in the primary school especially in Calabar south. Teachers have been trying to ensure pupils acquire these skills, but have not seen improvement in these areas. Efforts have been put by government in the supply of English text and other learning materials but to no avail. Could this be linked to the prevalent use of Pidgin English in the neighborhood where these pupils reside? It is based on this premise that this study seek to find out if there is any relationship

between literacy skills development and the use of Pidgin English among primary six pupils in Calabar South Local Government area of Cross River State, Nigeria.

Literature Review

Pidgin English also known as Broken English is traceable to the Portuguese coming to Nigeria as traders and missionaries. Pidgin English as a hybrid language contains elements of both immediate African language speaking environment and English. It is not what a learner learns by himself because it is developmental (Onjenwu & Okpe, 2015). The missionaries from Portugal used Pidgin English as a means of communication with the natives of the coastal lands. Today, Pidgin English is used to facilitate communication link among individuals. It serves as a language of the literate and the illiterate in the Nigerian society.

Pidgin English is defined as simplified form of speech formed out of one or more exiting languages and used by people who have no other language in common.   It is a new language which develops in situations where speakers of different languages need to communicate but don't share a common language. Onjenwu and Okpe (2015) added that, the rate at which Pidgin English is used in Nigeria is considerably alarming amidst Nigerian language policy which insisted the use of Standard English language in formal or official communication The use of Pidgin English is prevalent in the neighborhoods of Calabar South Local Government Area of Cross River State. This has made it difficult for pupils to coordinate between what they learn in the classroom and what

is obtainable around their immediate environment (Danladi, 2013).

The frequent use of Pidgin English is capable of slowing down the pace of efficient use of Standard English and literacy skills development. The background of our upbringing matters a lot, when people are use to pidgin for instance, there is no way they can have a good command of Standard English anywhere they find themselves. Pupils who are trained up with Standard English would enhance their literacy skills or educational standard because English is a means through which every other subject is taught (Cohen, 2016). Literacy skills are defined as the ability to read, speak and write. In the modern world, literacy skills mean knowledge and competence in a specific area. The concept of literacy has evolved in meaning. The modern term meaning has been expanded to include the ability to use language, numbers, images, computers, and other basic means to understand, communicate, gain useful knowledge, solve mathematical problems, use the dominant symbol systems of a culture, access knowledge through technology and ability to assess complex contexts (Mark, 2012).

The key to literacy is reading development, a progression of skills which begins with the ability to understand spoken words and decode written words, and which culminates in the deep understanding of text. Reading skill development involves a range of complex language underpinnings including awareness of speech sounds, spelling patterns, word meaning, grammar and patterns of word formation, all of which provide a necessary platform for reading fluency and comprehension. Burns and

Joyce (2017) are of the opinion that, once these skills are acquired, a reader can attain full language literacy, which includes the ability to apply to printed material critical analysis, inference and synthesis; to write with accuracy and coherence; and to use information and insights from text as the basis for informed decisions and creative thought.

Writing skill is a method of representing language in visual or tactile form which use sets of symbols to represent the sounds of speech and may also have symbols for such things as punctuation and numerals (Danladi, 2013). It is a form of communication that allows pupils to put their feelings and ideas on paper, to organize their knowledge and beliefs into convincing arguments, and to convey meaning through well-constructed text. In its most advanced form, written expression can be as vivid as a work of art. As children learn the steps of writing, and as they build new skills upon old, writing evolves from the first simple sentences to elaborate stories and essays. Spelling, vocabulary, grammar, and organization come together and grow together to help the pupils demonstrate more advanced writing skills each year. This union of skills, however, is a very complex process, and there are few for whom these skills evolve easily. According of Mark (2012), when mastery of these skills becomes an overwhelming obstacle for children, they are often diagnosed with a learning disability in written expression. Sometimes this is due to a lack of skills in a certain area, which can be due to the way the brain translates language. Often, but not always, a child with a disability in written expression will have similar difficulties with reading and/or oral language.

Kingsley (2017) conducted a study on the influence of Pidgin English on pupils' academic achievement in writing skills in Rivers State. Two hypotheses were formulated and tested at 0.05 alpha levels. The design adopted for the study was the ex-post facto. The sample of 300 pupils was randomly selected and instrument used for this study was an adapted 15 items questionnaire. The result revealed that there is a significant influence of the use of Pidgin English on pupils' academic achievement in writing skills. According to Bassey (2016), learning to write is a linear process, and tackling new skill depends upon mastering the skills that came before it. Early struggles with basic skills become magnified and more problematic as academic tasks become more challenging. However, there are several things that teachers can do to support the learning of the writing skills that will help pupils believe that they too can be writing experts.

Speaking is an interactive process of constructing meaning that involves producing and receiving and processing information (Brown, 2014; Burns & Joyce, 2017). Its form and meaning are dependent on the context in which it occurs, including the participants themselves, their collective experiences, the physical environment, and the purposes for speaking. It is often spontaneous, open-ended, and evolving. However, speech is not always unpredictable. Speaking requires that learners not only know how to produce specific points of language such as grammar, pronunciation, or vocabulary, but also that, they understand when, why, and in what ways to produce language. Speech has its own skills, structures, and conventions different from written language (Carter &

McCarthy, 2015; Cohen, 2016). A good speaker synthesizes this array of skills and knowledge to succeed in a given speech act.

Reading skill refers to the ability to understand written text. This skill is best developed at an early age of schooling. When pupils comprehend or understand written text, and combine their understanding with prior knowledge, they are able to perform the following three reading-comprehension skills.

1. Identify simple facts presented in written text (literal comprehension)

2. Make judgments about the written text's content (evaluative comprehension)

3. Connect the text to other written passages and situations (inferential comprehension)

The development of these reading skills is vital to children's development, and a sheer volume of studies have demonstrated a link between competency in reading and overall attainment in school (Burns & Joyce, 2017). Reading is the complex cognitive process of decoding symbols to derive meaning. It is a form of language processing. Success in this process is measured as reading comprehension. Reading is a means for language acquisition, communication, and sharing information and ideas. The symbols are typically visual (written or printed) but may be tactile (Braille). Like all languages, it is a complex interaction between text and reader, shaped by prior knowledge, experiences, attitude, and the language community which is culturally and socially situated (Doyne, 2011).

Ghani, Ataman and Egele (2012) examine the factors responsible for students' preference for pidgin English with a view to come up with the strategies to minimize if not eradicate the factors in order to pave way for a better mastery of Standard English in reading. The study used the survey design. Data obtained were analyzed. The findings revealed that, majority of pupils come from backgrounds where Pidgin English dominates. A further finding was the inadequacy of the time allocated to the teaching of Standard English in schools.

Purpose of the study

The purpose of the study is to find out the relationship between Literacy skills development and Pidgin English among primary school pupils in Calabar South Local Government of Cross River State. Specifically, the study examined how;

1. Writing skill relate to Pidgin English

2. Speaking skill relate to Pidgin English.

3. Reading skill relate to Pidgin English

Research questions

The following questions were formulated to guide the study:

1. How does writing skill relate to Pidgin English?

2. How does speaking skill relate to Pidgin English?

3. What is the relationship between reading skill and Pidgin English?

Hypotheses

The following null hypotheses were formulated for the study.

1. Pupils' writing skill does not significantly relate to the use of Pidgin English

2. Pupils' speaking skill does not significantly relate to the use of Pidgin English

3. There is no significant relationship between pupils' reading skill and the use of Pidgin English

Methodology

The research designed adopted is the Ex-post facto research design. The study area was Calabar South Local Government Area of Cross River State. The population of the study consisted of all the primary six pupils in Calabar South Local Government Area of Cross River State. One thousand, two hundred and seventy nine (1279) including male and female pupils make up the population of the study. Simple random technique was adopted in selecting pupils for the study. Out of a total of 8 public primary schools, 200 pupils were randomly selected for the study. The instrument used for data collection was the Literacy Skills Development and Pidgin English Questionnaire (LSDPEQ). The instrument was validated and administered to a sample of 200 pupils. Data obtained was analyzed using Pearson Product Moment Correlation Coefficient at 0.05 level of significant.

Results

The statistics package for Social Sciences (SPSS) computer programme was used to analyze the data collected. The data for the hypotheses were analyzed using Pearson Product Moment Correlation Coefficient for the three hypotheses. The hypotheses were tested at .05 level of significance.

Hypothesis One:

Pupils writing skills does not significantly relate to frequent use of Pidgin English

The independent variable in this hypothesis is writing skill, while the dependent variable is pupils' frequent use of Pidgin English. Pearson Product Moment Correlation Coefficient was used to test this hypothesis. The result of the analysis is presented in Table 1

Table 1
Pearson Product Moment Correlation Coefficient of relationship of Pupils' writing skill and frequent use of Pidgin English (N=200)

Variables	$\overline{X}$	SD	r-value
Writing skill	12.92	5.81	
			0.671*
Use of pidgin English	9.32	4.10	

* Significant at .05, critical r = 0.139, df=198

The result of the analysis in Table 1 revealed that, the calculated r-value of (0.671) is higher than the critical r-value of 0.139 at .05 levels of significance with 198 degrees of freedom. With this result, the null hypothesis was rejected while alternative hypothesis was retained. This result implies that, Pupils' writing skill significantly relate to frequent use of Pidgin English.

Hypothesis two:

Pupils' speaking skill does not significantly relate to frequent use of Pidgin English

The independent variable in this hypothesis is speaking skills, while the

dependent variable is pupils' frequent use of Pidgin English. Pearson Product Moment Correlation Coefficient was used to test this hypothesis. The result of the analysis is presented in Table 2

Table 2
Pearson Product Moment Correlation Coefficient of relationship of Pupils' speaking skill and frequent use of Pidgin English (N=200)

Variables	$\overline{X}$	SD	r-value
Speaking skill	11.11	5.23	
			0.509*
Use of pidgin English	9.32	4.10	

* Significant at .05, critical r = 0.139, df=198

The result of the analysis in Table 2 revealed that, the calculated r-value of (0.509) is higher than the critical r-value of 0.139 at .05 levels of significance with 198 degrees of freedom. With this result, the null hypothesis was rejected while alternative hypothesis was retained. This result implies that, Pupils' speaking skill significantly relate to frequent use of Pidgin English.

Hypothesis Three

The hypothesis stated that, there is no significant relationship between reading skill and the use of Pidgin English

The independent variable in this hypothesis is reading skill, while the dependent variable is the use of Pidgin English. Pearson Product Moment Correlation Coefficient was used to test this hypothesis. The result of the analysis is presented in Table 3

Table 3
Pearson Product Moment Correlation Coefficient of relationship of Pupils' reading skill and frequent use of Pidgin English (N=200)

Variables	$\overline{X}$	SD	r-value
Speaking skill	10.99	4.98	
			0.692*
Use of pidgin English	9.32	4.10	

* Significant at .05, critical r = 0.139, df=198

The result of the analysis in Table 3 revealed that, the calculated r-value of (0.692) is higher than the critical r-value of 0.139 at .05 levels of significance with 198 degrees of freedom. With this result, the null hypothesis was rejected while alternative hypothesis was retained. This result implies that, Pupils' reading skill significantly relate to frequent use of Pidgin English.

Discussion of Findings

The study found that Pupils literacy skills in terms of writing, speaking and reading skills significantly relate to frequent use of Pidgin English.

The result of hypothesis one revealed that Pupils' writing skill significantly relate to frequent use of Pidgin English. This implied that frequent use of Pidgin English has effect on pupils' writing skills. This finding agreed with Cohen (2016) who ascertains that, Pupils who are trained up with Standard English would enhance their literacy skills or educational standard because English is a means through which every other subject is taught. The finding also lends credence to Mark (2012) who found that, when mastery of literacy becomes an overwhelming obstacle for

children, they are often diagnosed with a learning disability in written expression. Sometimes this is due to a lack of skills in a certain area, which can be due to the way the brain translates language. The finding further supported Onjenwu and Okpe (2015) who discovered from a study that the use of pidgin English significantly influence academic performance in writing skill.

The result of hypothesis two showed that, Pupils speaking skills significantly relate to frequent use of Pidgin English. The implication is that frequent use of Pidgin English hinders pupils' speaking skill. This finding is in consonance with the finding of Doyne (2011) who found that the use of Pidgin English significantly influence academic performance in speaking skill. Meaning that Pidgin English hinder pupils' performance in spoken English.   The finding again is supportive of Carter and McCarthy, (2015) who maintained that, a good speaker synthesizes this array of skills and knowledge to succeed in a given speech act. The finding also aligned with the postulation of Etim, (2016) who stated that use of Pidgin English in studying significantly influence pupils academic performance in speaking skill.

The result of hypothesis three showed that, Pupils' reading skill significantly relate to frequent use of Pidgin English. This means that frequent use of Pidgin English has a negative impact on pupils' reading skill. This finding is in consonance with the finding of Ghani, Ataman and Egele (2012) who found a significant relationship between Pidgin English and reading skills. According to Doyne (2011), reading is a means for language acquisition, communication, and sharing information and ideas. Like all languages, it is a complex interaction between text and reader, shaped by prior knowledge, experiences, attitude, and the language of the immediate community which is culturally and socially situated and this can be influence by Pidgin English.

Recommendations

1. Government, Curriculum planners and school authorities should look into ways of increasing the time allocated for English language teaching in schools to enable better mastery of literacy skills since outside school, Pupils have minimal places and people with whom to speak Standard English. Writing skill development should be encouraged.

2. Teachers of English language should be constantly retrained to keep abreast with best practices in the teaching of literacy skills like speaking so that the time available for teaching of Standard English would be put to more judicious use. Pupils should be encouraged to form debate clubs.

3. Teachers of English language should join hands with their school authorities to initiate the means for the restoration of Standard English by forming reading clubs. This will help to enhance pupils' reading skills.

Conclusion

Base on the results of the study, it was concluded that Pupils literacy skills in term of writing, speaking and reading skills significantly relate to frequent use of Pidgin English. This implies that frequent use of Pidgin English affect pupils writing, speaking and reading skills. Literacy skills development is a key to the academic performance of pupils in other subjects.

There is need for proper development of these skills at the primary level of education, so that other areas of academic pursuits may be enhanced.

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PROFESSIONAL SOCIAL STUDIES TEACHERS' VARIABLES AND CLASSROOM MANAGEMENT IN UPPER BASIC EDUCATION LEVEL IN CALABAR EDUCATION ZONE, CROSS RIVER STATE – NIGERIA

Odey, Edward Ogar* & Esther Edward Odey**

Abstract

This research examined Professional Social Studies Teachers' Variables and Classroom Management in Upper Basic Education Level in Calabar Education Zone, Cross River State – Nigeria. Six hypotheses were formulated to give this study a direction. Related literatures were reviewed based on the variables of the study. Ex-post facto research design was adopted for this study. A well-structured questionnaire titled "Professional Social Studies Teachers Variables and Classroom Management Questionnaire (PSTVCMQ)" was employed as instrument for data collection. The instrument was designed by the researcher with the help of some experts in measurement and evaluation which gave the face and content validity of the instrument. Since the population of 126 was manageable, the purposive sampling method was used as all the 126 were used for the study. The hypotheses formulated were tested using Chi square and simple linear regression. Results of the analysis revealed that there exist a significant relationship between professional development, teacher pedagogic content knowledge and Social Studies teachers' classroom management. Based on the findings of this study, it was recommended inter alia that there should be frequent re-training opportunities for Social Studies teachers' and teachers should adopt a mix of several leadership styles in the classroom so as to create an inclusive classroom learning environment for effective learning.

***Keywords**: Professional, Social Studies teachers, Professional development, pedagogic practices, classroom management, etc*

Introduction

There is no gainsaying the fact that managing classroom is surfacing as one of the main tough challenges for a teacher today. Odey and Odey (2021a) opined that it is posing a challenge needing the severe

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concern of the learners and the scientists. Inadequate administration results to severe situations of disorderliness causing injury to the suitable climate for studying. Classroom administration is really observed by majority of learners such as (Hoy, 2000; Marzano, 2003; Schmidt, 2007) as the number one concern in schools. Outcome of studies located classroom control as the main vital challenge that tutors witness (Jackson, 2005). Therefore, these scientists ranked classroom administration as the second massive challenge facing schools. Various tutors failed of skill in the utilization of proper classroom administration plans. Scientists (Hoy, 2000; Marzano, 2003; Schmidt, 2007) discovered that the area administrative challenges can have a suitable effect on the adequacy of learning and standard of studying. Via tutors are offered with inputs on the proper fit controlling plans, they are not offered with any particular process to fit particular challenges in the class administration. The tutor thus, needs to arrange in comprehensive, developing plans of administration to form a creative studying environment (Chamundeswari, 2013).

Odey and Odey (2021b) postulated that proper classroom administration is termed as an environmental stating and suitable to appropriate learning, great conduct and constructive bury individual connections. Homeroom the executives has been featured widely as any move a learner makes to develop an area that bolsters and aids every scholastic and social desire educating (Evertson and Weinstein, 2006). The instructor requirements to energize this educating by using recent procedures and new systems. Conte (1994) opined that an audit of fifty years of instructive

looks into has demonstrated that a powerful study hall the executives by the instructor expands understudy inclusion in educating, lessens problematic conduct and uses the instructional time to the furthest reaches.

Social Studies education remains the most veritable and effective instrument of change, values transmission and national development. Edinyang (2015) opined that Social Studies education and social change are inexorably interwoven and therefore create changes not only on the recipient but also changes in the society as observed in the hitherto unskilled labour force of the society. In precise terms therefore, Social Studies education is aimed at self-realization and actualization, equipping in the learner sound knowledge that can be useful to his immediate family and the society at large. Fan (2012) posited that Social Studies education enables the learner to explain to the world, it encourages student to expose their thoughts to various areas in which individual reside and also enlightening students with various native distinct of the world's population. This basic sense of citizenship is nursed and nurtured in the upper basic education level of the Universal Basic Education as students' study branches of government and how citizens interact in the society.

Despite the importance of Social Studies education as outlined above, Rafae (2014) opined that individual studying achievement in Social Studies is declining. This prevailing situation undermines and erodes the importance of Social Studies learning with regards to the sustenance of the nation's unity and progress – the very reason for which Social Studies was started into the country school curriculum as section

of the equipment for reaching national growth and unity (Federal Republic of Nigeria, FRN, 2014). Year after year in the study area, students' achievement records continue to change. While the achievement scores of some students improve, others keep declining. It is not also strange to find that a student who responded very well to questions during lessons fails to correctly respond to the same item when the word "test" or "examination" is attached.

The question that begs for solution therefore is, what is the cause of inadequate learning processes of individual in Social Studies? Is it entirely the teacher's fault or that the students are low achievers because they have low intelligent quotient (IQ)? Is it in teacher's leadership styles in the management of their classroom? Is it in teacher's professional variables such as educational qualification and professional development? do tutors move to elevate in their adequacy as they have information in the studying job? This research will therefore seek to find out the association that exist between Professional Social Studies teachers' factors and classroom management in upper basic learning level in Calabar learning region, Cross river State – Nigeria which of course determine the scholastic achievement of students in Social Studies.

Theoretical framework

In relation to this research, the Social Sensitivity Theory of Social Studies by Ken Mezieobi (2013) was considered.

The Social Sensitivity Theory of Social Studies was propounded by Ken Mezieobi 2013.The professional pre-occupation of Social Studies is man in his environments comprising social, cultural, political,

economic, psychological, physical, science and technological environments. This theory sues for sensitizing to or in fact socializing man, in his environments in order to make man understand them, understanding the problems and challenges therein, seek for ways and means of containing the knotty problems by reasoned solution to make for man's social adjustment, making him fit appropriately into his environments and ginger his societal development via participant activism that is socio-competent tailored. In this way, man will really understand his environments, himself in them and in fact his place in his environments.

The relevance of this model to this research is that the model state a process to teacher's administration in which teaching adequacy is assessed by the teachers' personal characteristics with more emphasis on teaching experience and aspects of the situation; that is, the leadership styles that he exhibits in instructional delivery.

Statement of the problem

Managing classroom is appearing as one of the main challenges for a teacher today. It is creating a challenge needing the severe concern of the learners and the studying analysts. Insufficient administration prompts genuine states of indiscipline making harm the helpful atmosphere for learning. Despite the fact that educators are given contributions on the best fit study hall overseeing procedures, they are not given a particular strategy to suit explicit issues in homeroom the board.

It has been seen by the scientist that study hall is one of the dismissed regions in our auxiliary schools, notwithstanding the way that the achievement or disappointment

of any educating and studying method relies upon the manner in which homeroom are overseen. Inability to viably deal with the classroom can have a general negative impact on the whole school, particularly regarding sound scholastic execution of the school. At the point when this occurs another bad outcome follow, for example, the exhaustion of the understudy populace of the school since parent/gatekeepers need to outline their young and kids in schools that are working great scholastically. The issue of declining scholarly accomplishment of understudies in Social Studies in Nigeria by and large and in Cross River State auxiliary schools specifically has created a lot of contention among instruction partners. The scholarly presentation of understudies nowadays has given numerous individuals genuine concern. The greater part of our auxiliary school graduates can't safeguard their endorsements.

Instructors have been recognized to have significant effect on understudies' scholastic fulfillment as educators assume a noticeable job in instructive achievement. The Social Studies educator is eventually answerable for deciphering instructive standards and arrangements vigorously dependent on expressed practices and furthermore connects with the understudies in a proper class to affect information as contained in the educational program to accomplish the expressed destinations. No big surprise a powerful teacher has been reasoned as one who produces wanted outcomes throughout playing out some appointed obligations as an educator. Insufficient homeroom the executives may impact the scholastic execution of understudies adversely. It is in this way significant that heads pattern how to progressively handle with their homerooms for an additional noteworthy

productivity. Along these lines, it is against this foundation, that this examination will discover instructors' administration style, proficient qualities and Social Studies study hall the board in upper fundamental training level in Calabar training zone, Cross River State – Nigeria.

Purpose of the study

The main purpose of this research is to determine professional Social Studies teachers' Variables and classroom management in upper basic education level in Calabar education zone, Cross River State – Nigeria. Specifically, the research sought to find out:

1. the relationship between Social Studies teachers' professional development and classroom management and

2. the relationship between Social Studies teachers' pedagogic practices and classroom management.

Research questions

The following research questions were posed to direct the research:

1. to what level does Social Studies teachers' professional development associate to Social Studies classroom management?

2. to what state does Social Studies teachers' pedagogic practices relate to classroom management?

Statement of hypotheses

The following hypotheses were stated to guide the research:

1. there is no significant relationship among Social Studies teachers' professional growth and classroom administration

2. Social Studies teachers' pedagogic practices does not significantly relate to classroom management

Literature Review

Teachers' professional development and Social Studies classroom management.

Professional development is defined as "the process of improving staff skills and capabilities expected to deliver exceptional instructive outcomes for understudies" (Hassel, 2009). Guskey (2000) states, "One consistent finding in the exploration writing is that striking upgrades in training never happen without proficient improvement" Professional advancement is vital to fulfilling the present instructive needs. Excellent expert advancement systems are basic to schools. The times of instructor workers advancement sessions comprising of "sit-and-get" presentations and master conveyed mindfulness battles are a distant memory. The instructive framework is advancing toward progressively successful and all the more captivating proficient advancement models. Guskey (2000) states that great PD is an important factor for affecting education and learning. Truth be told, inquire about has indicated that proceeded, serious investment in top notch PD can influence educator perspectives, practices, and study (Garet, Porter, and Yoon, 2001; Garet, Desimone, Yoon, & Birman, 2000).

Therefore, McMeeking, Orsi and Cobb (2012) in their study to find out the impact of a 15- to 24-month in-service professional development process on state responsibility (science test scores for center school understudies utilized a semi exploratory structure. Center level science instructors from 7 school areas and 64 center schools

chipped in for a PD succession of substance situated summer subjects and teaching method arranged organized follow-up encounters during the consequent scholastic year. Understudy impacts of the PD processes were estimated utilizing Colorado's state science assessment outcome for 2 associates of understudies: 1 that got arithmetic guidance from member educators in the period before the PD and other accomplice that got science guidance in the period accompanying the PD. The chances of an understudy accomplishing a capable or propelled grade on the state assessment were then analyzed among associates. Results indicated that understudies' chances of accomplishing a score of capable or better expanded with better homeroom the executive's educator because of support in the PD program.

Garet, Wayne, Stancavage, Taylor, Walters, Song, and Doolittle (2010) in a report from their examination on the outcomes from the first year of the Middle School Mathematics expert growth effect research, which is supported by the IES. The PD concentrated on elevating instructor content information on objective number points and affecting guiding process, which, it was hypothesized, would prompt expanded understudy accomplishment. Members went to a 3-day summer meeting and resulting 1-day follow-up periods concentrated on normal information on arithmetic and particular information on science for educating. Normal information on science is worried about information on subjects in balanced numbers, for example, computational aptitudes, reasonable comprehension, and critical thinking (content information).

Also, Essien, Akpa and Obot (2016) completed an examination to analyzed

the impact of in-administration preparing, course and workshop participation by Social Studies instructors on understudy's scholastic implementation in the state. To accomplish the reason for this assessment, one speculation was detailed to coordinate the investigation. Ex-post facto investigate configuration was embraced for the examination. An example of 500 Social Studies instructors and understudies were chosen for the investigation. The equipment for information assortment were a lot of poll to quantify Social Studies instructor's in-administration preparing, course and workshop preparing and SOSPT to gauge understudy's scholarly exhibition. The dependability gauge of the instruments was built up via the split-half unwavering quality strategy and it partner Spearman Brown prediction recipe. Pearson item minute relationship investigation was embraced to assess the speculation at .05 degree. The consequence of the examination opened that there present a good and little connection among the recurrence of instructors' participation at in-administration preparing, classes and meeting and understudies' scholarly exhibition in Social Studies. It was prescribed that administration should create it obligatory for all instructors in both essential and post essential to experience proficient preparing. As it is the situation with different callings like law and medication within others.

Teacher's pedagogical practices and classroom management

It is a truism that pedagogical content knowledge is a blending of knowledge about both of content specific and allied teaching strategies for a regularly taught topic in class room circumstance, which likewise a missing worldview in the examination of educator instruction. Content information on an educator has positive impact on academic substance information, which encourages them to perform successfully in the classroom (Ozden, 2008).

Maasum, Maarof, Yamat and Zakari (2012) completed an examination on the instructors' educational aptitudes and substance knowledge which includes topic content, academic methodology, homeroom the board, utilization of assets, evaluation, readiness of showing materials, overseeing understudies, educators' compensatory correspondence procedures, utilization of first language and educators' points of view of showing content subjects in English. The examination utilized a blended technique plan which included the utilization of various instruments; review poll, meet and the advancement of a competency test. A stratified irregular testing of instructors was utilized dependent on three regions: north, focal and south of the country. For the northern region, information were gathered from individuals in the province of Kedah and Kelantan, focal region from Perak and Pahang and southern region from Johor and Melaka. A sum of 600 study polls were circulated and 495 surveys were restored (an arrival pace of 82.5%). The reactions offered by the individuals were gathered and later examined utilizing SPSS.

Information was examined utilizing frequencies and rates. The Cronbach's alpha dependability list of the poll is 0.80. The individuals for the examination are 495 optional tutors from the north, focal and south regions of the country. As far as sex, 78% are ladies whereas 22% are men instructors. These instructors speak to the three principles color in the country, that is Malay (half), Indian and Chinese. Greater

part of these educators has around multi year showing involvement with an auxiliary school. As far as topic aptitude, 58% are Mathematics educator whereas 42% are Science instructors. 43% of these educators are instructing science or arithmetic as their first choice as they main in that course on their tertiary level training Results from the examination shows a vital association among educators academic practicesand research hall the executives.

Guha and Patra (2017) study was directed to think about the academic substance information (PCK) and adequacy and Classroom the board of topography educatorscomparabletoshowingexperience, and instructive capability in West Bangal India. Expressive overview strategy was embraced right now. An independent device was utilized to gauge educational substance information on topography instructor and an institutionalized device was adjusted to quantify viability of geology educators. The investigation found that, there was no huge contrast in PCK in regard of instructors' experience variety. Thus, there was likewise no critical contrast in instructor adequacy in regard of educators' capability variety. PCK and instructor viability were not contrasted essentially in regard of educators' understanding and capability variety.

Materials and Methods

The area of the research is Calabar Education region of the state. It consists of 7 LGAs, specifically; Akamkpa, Akpabuyo, Bakassi, Biase, Calabar Municipality, Calabar South and Odukpani. Research design accepted for this research is the Ex-post facto research design. This design was adopted because the "independent variables have already occurred and the researcher" attempts to study the causes in retrospect for their possible effects on the differences in the dependent variables. The researcher therefore had no linear regulation of the autonomous variables as a result of their display had previously happened and as such were not manipulated. The population of the research consist of Social Studies educators and individual's upper basic schools in Calabar Education Zone. Data obtained from the Cross river State Secondary School Management Board (Planning, Research and Statistics Unit) on the 17th, April 2019 as shown in Table 1, placed the total number of Social Studies teachers in the area to the tune of one hundred and twenty-six (126) and six thousand four hundred and seventy-six students (6476). The sampling process accepted for this research was the purposive sampling. This study made use of a researcher-made instrument called Professional Social Studies Teachers Variable and Classroom Management Questionnaire (PSTVCMQ).

Results

Hypothesis 1

There is no significant relationship between Social Studies teachers' professional development and classroom management. The independent variable of this study was categorical, taking into consideration the responses of teachers who indicated that they received professional development in terms of workshops, seminars, and workshops. In the case, the once continuous dependent variable (classroom management) was converted to a categorical variable using the responses of the participants. Thus, we now have a dependent variable as effective and ineffective classroom management. The Crosstab was created using a 2x2 contingency table. Pearson Chi-Square

test of autonomous was used to examine the relation among the independent and dependent variables. The results from the analysis of data are presented in Table 1.

The outcome as displayed in Table 1 indicates that, out of the 126 individuals, 64 indicated that they received professional development opportunities through either one or all of seminars, conferences, and workshops; while 62 respondents indicated that they did not receive any form of professional development. Out of the 64

who received professional development, 44 were effective and 20 were ineffective in terms of classroom administration. Out of the 62 that did not receive any form of professional development, only 15 were effective while 47 were ineffective in terms of classroom management. Generally, Social Studies teachers who were effective in terms of classroom management were 59, while those who were ineffective were 67 irrespective of whether they attended or did not attend any professional development programme.

Table 1
Pearson Chi-Square results on a 2x2 contingency table showing the relationship between Social Studies teachers' professional development and classroom management.

Variables		Effective	Classroom management		
			Ineffective		Total
Professional development	Yes	Observed Count	44	20	64
		Expected Count	30.0	34.0	64.0
	No	Observed Count	15	47	62
		Expected Count	29.0	33.0	62.0
		Observed Count	59	67	126
	Total	Expected Count	59.0	67.0	126.0

X^2 Calc = 25.109; df = 1; p-value = .000

The outcome in Table 1 revealed a Chi-square value of 25.109 with a p-value of .000. This p-value was observed to be less than the .05 level. With this outcome, the null hypothesis was unaccepted whereas the alternate hypothesis is upheld. The implication of this outcome is that there is a significant relationship (X^2 =25.109, p<.05) between Social Studies teachers' professional development and classroom administration.

Hypothesis 2

Social Studies teachers' pedagogic practices does not significantly relate

to classroom management. Continuous data were for both the independent and dependent variables of this hypothesis. Both variables were measured at the interval level. Simple linear regression was placed in assessing the null hypothesis at the .05 level of significance. The outcome of the assessment of data is displayed in Table 2.

The result contained in Table 2 displayed that there is a weak positive association among Social Studies teachers' pedagogic practices and classroom management (R = .466). The adjusted R^2 value of .210 indicates that Social Studies teachers' pedagogic practices could be held

accountable for 21.0% of the total variance in their classroom management, with the remaining 79.0% explained by other extraneous variables. A close observation at the method section of the regression analysis disclosed that the p-value of .000 is less than the .05 level.

Based on these outcomes, the null hypothesis was unaccepted while the alternative hypothesis which states that; Social Studies teachers' pedagogic practices significantly relates to classroom management is retained. Therefore, the adjusted R^2 value of .210 earlier obtained was not due to chance. Also, the beta value of .466 in Table 2 is an indicator that a unit improvement/decline in the pedagogic practices of Social Studies teachers will lead to a 0.466 improvement/decline in the standard deviation of their classroom management, other things being equal.

Table 2
Simple linear regression results of the relationship between Social Studies teachers' pedagogic practices and classroom management

R	.466				
R Square	.217				
Adjusted R Square	.210				
Std. Error	6.113				
Model	SS	Df	MS	F	Sig.
Regression	1281.929	1	1281.929	34.306	.000
Residual	4633.571	124	37.368		
Total	5915.500	125			
β = .466	t= 5.857				

Discussion of findings

Teachers' professional development and classroom management.

This study also discovered that there is a significant association among Social Studies teachers' professional development and classroom administration in Calabar Education Zone. It was also displayed that a higher number of Social Studies educators did not receive any training through professional development programmes. Social Studies teachers who received professional development were better in terms of classroom management than those without professional development. This finding is unsurprising because it is in the place of teachers' professional development that their obsolete classroom management approaches get renewed and new ones acquired. Such trainings either through seminars, workshops, or conference, helps the teachers in attendance to adopt new teaching methods and skills that will not enable them to compete favourably with those of the rest world, they will also be able to adjust to the dynamics in the field of education.

This finding supports the finding of Oluwole et al (2017) which revealed also that educator's attendance to meeting and presentations has a significant influence on teachers' classroom administration and

individual's academic activity in secondary schools in the state. It was authorized that the authority should desire to offer proper money for sponsorship educators on presentations and meetings so as to facilitate individual proper students' learning achievement.

This observing is also stable with the findings of McMeeking et al (2012) which showed also that the odds of students attaining a grade of proficiency or even proper, rise with better classroom management of teachers due to participation in the professional development programmes (PD). The study of Essien et al (2016) also discovered that teachers in-service training has a significant relationship with their classroom management directly or indirectly.

Teachers' pedagogic practices and classroom management

This study disclosed also that Social Studies teachers' pedagogic practices significantly relates positively to their classroom management. It was also shown that Social Studies teachers' pedagogic practices accounted for 21.0% of the total variance in their classroom management such that a unit improvement/decline in the pedagogic practices of Social Studies teachers will lead to a 0.466 improvement/ decline in their classroom management, other things being equal. The position of this finding is unsurprising especially considering the fact that the teachers' pedagogic practices is the base from where a teacher chooses what classroom management technique to adopt at what point in time. Such knowledge is what makes a professional teacher different from non-professional teachers as well as other ordinary individuals. During training and

teachers' development programmes, such knowledge may be acquired. The finding of this study suggests that the higher the pedagogic practices of Social Studies teachers, the better will they be able to manage their classroom and vice versa.

This observing is in state with the observing of Maasum et al (2012) which disclosed that there is a significant relationship between teachers' pedagogic practices and classroom management. The finding also supports the findings of Kiasi (2018) which discovered from an experiment that the teachers' pedagogic practices influenced their classroom management techniques. In another study, Patra and Guha (2017) showed that there is a significant difference in teacher effectiveness in respect of teachers' variation. Pedagogic practices did not differ significantly in respect of teachers' qualification and experience variation but in terms of classroom management.

Recommendations

Based on the conclusion of this research, the following recommendations were formed:

1. The authority should enable that only professionally trained teachers are allowed to teach Social Studies in secondary schools. There should be frequent re-training opportunities for Social Studies teachers based on the societal dynamics for a sustained teaching workforce.

2. Only teachers who are Social Studies experts should be assigned to teach the subject for improved classroom administration, and consequently, students' academic activity in the subject.

3. There should be a regular promotion, consistent payment of teachers' salaries and other incentives to deserving teachers for improved work performance and commitment. Long-serving teachers, as well as teachers with outstanding performance, should also be rewarded through praises of the mouth and gifts for their unique contribution.

4. The secondary principals should also ensure that there is regular supervision of Social Studies teachers' instructional delivery, notes of lessons, and other records in their position. Nonchalant teachers with persistent negative attitudes to work should be summarily disciplined using approaches ranging from a verbal warning, written queries, deprivations of benefits, suspension, to dismissal.

Conclusion

Based on the observations of this research it was finalized generally that teachers' leadership style and professional variables are determining factors of Social Studies teachers' class control competence. In specific terms, the classroom administration level of Social Studies educators in Calabar Education region is significantly low. Social Studies educators with higher level of educating information are better managers of their classrooms than those with smaller phase of teaching experience. Social Studies teachers with lower academic qualifications are better in terms of classroom management than their counterparts with higher academic qualification with the reason being that some Social Studies teachers with low academic qualification may have more experience than newer teachers with higher academic

qualifications. Teachers' professional development, as well as their pedagogic content knowledge, relates significantly to classroom management.

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THE PINNACLES OF EXCELLENCE: SIGNIFICANCE OF SELF-REGULATION IN THE BETTERMENT OF THINKING SKILLS

Dr. Bindu David*

Abstract

This study involves the Self-Regulation and Thinking Skills of Higher Secondary School students. Self-regulation appears to be the stable element attempting to guide behaviour along a specific path to a directed aim or goal. Self-Regulation is desirable because of its effects on educational and behavioural outcomes. Self-regulatory learning consists of the generation and self-monitoring of thoughts, feelings, and behaviours in order to reach a goal. The population of the present study consists of all the students of Standard Twelve, studying in Government and Aided Higher Secondary schools were located in Rural and Urban areas of Kottayam District. As the population was substantial for the present study, the investigator selected the sample consisting of 400 students of Standard Twelve of Kottayam District using Stratified Random Sampling giving due representation to Gender, Locale and Type of management. There exists a significant positive relationship between Self-Regulation and Thinking-Skills among the students of Standard Twelve.

***Keywords:** Education, Self-Regulation, Thinking Skills, etc*

Introduction

Education is an essential human virtue. It fashions and models him for society. Human life can only be glorified through education, and with its help, man, primarily an animal being, can be transformed into a human being. Ideally, education is the principal tool of human growth, essential for transforming the unlettered child into a mature and responsible adult. It can play a vital role in improving the quality of one's life and the socio-economic condition of the nation. The task of education is to lead people out of the darkness into light. Education is a pillar of a developed and powerful country, besides the most essential element for the growth and prosperity of a nation. Education instils the child a sense of maturity and responsibility by bringing in him the desired change according to his needs and demands of an ever-changing society, of which he is an integral part.

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Education aims at the harmonic development of an individual, i.e., body, mind, and spirit. Education is an inherent right and basic need of man. Education is a process leading to the enlightenment of humanity, and it is the most formidable tool for survival. That means intellectual growth alone is not the criterion for education, but also emotional maturity and ethical awareness. The purpose of education is not merely to contribute to the continuity of culture but also to change peacefully and rationally the material foundations of civilization.

According to John Dewey (1885), "Education is the development of all those capacities in the individual which will enable him to control his environment and fulfill his possibilities." Education is the process in which the knowledge, character, and behaviour of the young are shaped and moulded. The concept of education is like a diamond which appears to be a different angle. The remark made by the Kothari Commission (1964-1966), 'The destiny of India is being shaped in her classrooms,' throws light on the importance of education in modern India. Self-Regulation refers to the self-directive process through which learners transform their mental abilities into task-related skills (Zimmerman, 2001). This is the method or procedure that learners use to manage and organize their thought and convert them into skills used for learning. Self-regulation is the process of continuously monitoring progress toward a goal, checking outcomes, and redirecting unsuccessful efforts (Berk, 2003). In order for students to be self-regulated they need to be aware of their own thought process and be motivated to actively participate in their own learning process (Zimmerman, 2001). Self regulation is desirable because of the effects that it has educational and behavioural outcomes.

Ellen Galinsky (2010), author of the book Mind in the Making, found Self-Regulation essential for success in school, work, and life. The critical window for Self-Regulation takes place from birth to age five when children develop the foundational skills for Self Regulation. During this time, adults are helping children to build the necessary skills that are critical to regulate thinking and behaviour. In his online journal article, Blair (2009) points out, "Emotions may influence the development of the cognitive functions that contribute to successful self-regulation and thereby to school readiness". Many of the behaviours and attributes associated with successful school adjustment are related to self-regulation skills.

The purpose of general education is to employ sound thinking habits in the daily walk of life. Thinking is always recognized as one of the critical aspects in education from ancient times. Thinking may be defined as a pattern of behaviour in which we make use of an internal representation of things and events for the solution of some specific purposeful problem. Thinking is the action of using our minds to produce thought. Thinking has to be developed in the children in order to prepare them for future life. The power of thinking is essential for the welfare and meaningful existence of the individual as well as the society.

Thinking is the manipulation of mental representation of information. The representation may be a word, a visual image, a sound, or data in any other modality. During thinking this representation of information is transformed into a new and different form for the purpose of answering a question, solving problem, or aiding in reaching a goal.

Need for the study of Self Regulation among Higher Secondary School Students

Education is the right and primary necessity of a citizen. Education is a process by which the knowledge, character, and behaviour of the young are shaped and moulded. Studies showed that self-regulation is an essential attribute of understanding and presiding behaviour. Self-regulation is considered as the primary variable in the development of an individual's personality. It is also considered as an important component of emotional health. The Self-regulatory process is linked with the academic content, and students learn how to apply these processes in the learning context. It is worthwhile to teach students to set goals, organize their schedules, rehearse information to be remembered, and the like, but such instruction may not transfer beyond the context in which it is provided. Self-regulation has become an integral part of human learning. Self-regulated learning occurs when students activate and sustain cognitions and behaviours systematically oriented toward attaining of learning goals.

Self-regulated learners can attempt to monitor and control the environment. Of course, they will not have as much control over the general classroom context or academic tasks as they do over their own cognition, motivation, and behaviour, but there are some aspects of the context that can be controlled. For example, good self-regulated learners will try to control distractions by asking others to be quiet or by moving to another location. Good self-regulators also try to understand the task demands and the classroom norms and then adjust their learning to fit these demands. In other words, they are sensitive to the contextual demands and constraints operating in the classroom and attempt to cope with them adaptively.

"Self-regulated learning emphasizes autonomy and control by the individual who monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise, and self-improvement" (Paris and Paris, 2001). In particular, Self-regulated learners are cognizant of their academic strengths and weaknesses, and they have a repertoire of strategies they appropriately apply to tackle the day-to-day challenges of academic tasks. These learners hold incremental beliefs about intelligence (as opposed to an entity or fixed views of intelligence) and attribute their successes or failure to factors within their control.

Finally, student who are self regulated learners believe that opportunities to taken on challenging tasks, practice their learning, develop a deep understanding of subject matter, and exert effort will give rise to academic success. Self regulated learners are successful because they control their learning environment. They direct and regulate their own action toward their learning goals.

Need for the study of Thinking Skills among Higher Secondary school students

Like reading and writing, thinking is an enabling discipline, and it deserves separate instruction. The main goal of education and the core objective of the teaching-learning process is to develop the learner as a thinking person. Education has to provide dynamic thinkers to our community. The power of thinking is an essential tool for the welfare and meaningful existence of the individual as well as the society. The

thinking skills can be used to develop habits of thoughtful inquiry. Fostering thinking skills has always been the prime objective of formal education, a basic aim of teaching and learning in all disciplines. Every educational system in the world will claim that it already fosters thinking skills.

The term thinking embodies a wide range of cerebral activities. It involves problem-solving, decision making, logical reasoning, critical thinking, reflective thinking, inferential thinking, and creative thinking. It refers to a range of skills such as choice-making, deliberate planning, flexibility, looking into alternatives, solving problems systematically, taking the initiative, reducing impulsivity, persistence, considering others' points of view, supporting conclusions with evidence, risk-taking, meta-cognitions, empathy and so on. These skills are necessary to make the best use of existing knowledge and to gain further knowledge, and facilitate learning.

The lack of emphasis on thinking in a system is associated with the work and attention that are involved where thinking is stressed, and the teacher must necessarily supplement the existing texts with exercises that call for thinking. If the children are allowed to think and are encouraged to think, perhaps they will think something they should not. If the textbook materials are made from objectives that go against thinking and the book do not lay stress on understanding with the present day method of teaching. It will result in a lack of confidence, nervousness, and confusion, which hinders mental abilities such as the power of thinking and concentration.

In the twenty first century we want citizens who can think and make verbal decisions which will be useful for a good democratic society. We want our children to think, reflect upon what they are thinking, think independently, to develop intellectual courage, good faith and apply the knowledge precisely. Without thinking people would be more easily exploited not only politically but also economically.

Objective of the study

To study the relationship between self Regulation and thinking skills among the students of Standard Twelve of Kottayam District.

Methodology

Descriptive Survey Method is used for this study.

Tools used in the study

The tools of research are the instrument that is used for the collection of data. The selection of suitable instruments is crucial in the research study. The use of a particular tool depends upon the type of the problems and research tool is appropriate in a given situation to the accomplishment of a particular problem (Best,1995). The tool is very important in a research study. Data collection is an inevitable process of a descriptive survey. The investigator selected the following tools for the purpose of measuring the variables of the study.

1. A self constructed tool titled as 'Self Regulation Inventory.'
2. A self constructed tool titled as' Test on Thinking Skills.'

Population of the study

By population, we mean the aggregate or totality of objects or individuals regarding which inferences are to be made in a simple study. The Population is any

group of individuals that have one or more characteristics in common that is of interest to the investigator. The population of the present study consists of all the students of Standard Twelve studying in Government and Aided Higher Secondary Schools were located in Rural and Urban areas of Kottayam District. Since it was not possible to conduct the study on the entire population, the investigator decided to conduct a survey on a small sample of students who are the representatives of the population.

Sampling Procedure

Sampling is the process of selecting a sample from the population. A sample is a small portion of a population selected for observation and analysis. In order to select the sample, the investigator followed the Stratified Random Sampling procedure. In Stratified Random sampling, the entire population is divided into a number of homogenous groups or types or classes called strata. A sample is drawn from each stratum. These samples are then combined to form a single sample of the universe. The investigator collected the details of all the Higher Secondary Schools of Kottayam District. From the entire students of these schools, Four hundred male and female students were selected as a sample of the study.

Sample of the study

A sample is a small portion of the population that is selected for observation and analysis. By observing the characteristics of the sample, one can make certain inferences about the characteristics of the population from which it was drawn. As the population was vast for the present study, the investigator selected the sample consisting of 400 Commerce students of Standard Twelve of Kottayam District by using Stratified Random Sampling giving due representation to Gender, Locale, and Type of management. The investigator considered the following factors while selecting the samples.

Correlation between Self Regulation and Thinking Skills among the students of Standard Twelve

The investigator sets the fifth objective as "To study the relationship between Self Regulation and Thinking Skills among the Commerce students of Standard Twelve." For the analysis of the objective, the investigator had formulated the following null hypothesis.

Ho: There exists no significant relationship between Self Regulation and Thinking Skills among the Commerce students of Standard Twelve. The data relating to this objective was analyzed using Karl Pearson's Product Movement correlation 'r'. The 'r' value was set as .098 at .05 level of significance for degrees of freedom 398.The Product Moment Correlation 'r' value between the scores on Self Regulation and Thinking Skills among the Commerce students of Standard Twelve is presented in the Table.

Table

Relationship between Self Regulation and Thinking Skills among the Commerce Students of Standard Twelve

Variables	Number	Degrees of Freedom	Calculated 'r' value	Remarks
Self Regulation				
	400	398	.63	Significant at .05 level
Thinking Skills				

From the table 5.15, the investigator interpret that the obtained 'r' value is .63 and it shows a positive correlation between Self-Regulation and Thinking-Skills among the Commerce students of Standard Twelve. The calculated 'r' value .63 is greater than the table 'r' value .098 at level of significance with degrees of freedom 398. In the view of the result, the null hypothesis

Ho: There exists no significant relationship between Self-Regulation and Thinking-Skills among the Commerce students of Standard Twelve are not accepted and research hypothesis is accepted.

Thus the investigator concludes that there is a significant positive correlation between Self-Regulation and Thinking-Skills among the Commerce students of Standard Twelve.

Major Findings of the Study

- There exists a significant positive relationship between Self-Regulation and Thinking Skills among the Commerce students of Standard Twelve.

Suggestions for improvement of Educational Practices

The present study attempt to find out the relationship between Self-Regulation and Thinking Skills among the Higher Secondary students. On the basis of the findings of the present study, the investigator derived certain suggestions for improving educational practices which are presented below.

- The curriculum must include content and activities that help to develop Self- Regulation. School must provide guidance to students to promote Self-Regulation.

- Teachers and parents should be aware of student's Self-Regulation and adopt methods to improve it. Curriculum may be changed by providing ample opportunities for group works. Importance should be given to co-curricular activities. Incentive marks may be considered for the active participation of students.

- Children should also be given an opportunity to realize that they too have their own independent existence, which can build Self-Regulation among them.

- Teachers should give emphasis to activity oriented techniques to develop the Self-Regulation of the students. They should also provide various activities which stimulate and increase the student's psychological development.

- The teachers need a thorough knowledge about the theory and practice of Thinking-Skills and they should provide opportunities for boosting the Thinking Skills of students in the classroom.

- Thinking-Skills should be given proper importance in the curriculum. Curriculum must include content and activities that help to improve Thinking-Skills of students. Commerce club should be started in a school and programs should be organized for the promotion of Thinking-Skills.

- While presenting the topic, the teacher should give more emphasis to develop Thinking-Skills among the students. For that teacher should adopt methods such as brain storming, buzz-session, problem solving and analytical method.

- Provide appropriate learning experiences through the application of constructivism which is helpful for developing Thinking-Skills among the students.

- Teachers should be given proper orientation about teaching Thinking Skills. The existing teachers and teacher trainees must have orientation and training on the development of instructional materials to teach Thinking Skills at different levels.

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ATTITUDE TOWARDS INCLUSIVE EDUCATION BY PEERS OF DIFFERENTLY ABLED CHILDREN BASED ON GENDER AND LOCALE

Dr. Suresh Kumar K*

Abstract

Education is very important in everyone's life. For all-round development education is very necessary. Inclusion in education is an approach to educating students with special educational needs. Inclusive education means that all students attend and are welcomed by their neighbourhood schools in age – appropriate, regular classes and are supported to learn, contribute and participate in all aspects of the life of the school. The aim of this study was to find out the gender and locale differences in attitude of peers towards inclusive education and differently abled children. Participants were selected by Stratified random sampling. To collect the data for the present study tools were prepared and distributed among the secondary school students and informative data is collected and recorded. The results showed that the female peer students and rural Peers have more positive attitude towards inclusive education and differently abled children.

Key words: *Attitude, Inclusive Education, Differently abled children, Peers, etc*

Introduction

The Education for All (EFA) movement is a global commitment to provide quality education for all children, youth and adults. At the world education Forum (Dakar, 2000), 164 governmentspledged to achieve EFA and identified six goals to be met by 2015. Governments, development agencies, civil society, and the private sector are working together to reach the EFA goals. And the goals are- expand early childhood care and education, provide free and compulsory primary education for all, promote learning and life skills for young people and adults, increase adult literacy by 50%, achieve gender parity by 2005 and gender equality by 2015 and improve the quality of education.

Inclusive education means that all students attend and are welcomed by the neighbourhood schools in age-appropriate, regular classes and are supported to learn, contribute and participate in all aspects of the life of the schools, classrooms, programs

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and activities so that all students learn and participate together. Inclusive education is about ensuring access to quality education for all students by effectively meeting their diverse needs in a way that is responsive, accepting, respectful and supportive.

Peers are the backbone in an Inclusive classroom setting. Peers are the backbone of an Inclusive Education setting. Peers support Differently abled Children to a great extent. The students face many difficulties in the classroom, but majority of the problems are tackled by them with the help of Peers.

Literature review

Kaur (2018) studied perspective of teachers towards inclusive education in relation to organizational climate professional commitment and curricular adaptation in government schools of Chandigard UT. From the total 115 government schools of Chandigarh 25 were selected randomly by the researcher and a total of 300 teachers were selected from these schools. The results showed that teacher's perspective towards Inclusive Education was positively and significantly correlated with organizational climate, professional commitment and curricular adaptation. The independent variables of the study i.e.Organizational climate, Professional commitment and curricular adaptation were also found to be interdependent. The inter correlation between them showed that friendly climate of the organization leads to high commitment and helps in better adaptation for children with special needs.

Kumar (2018) conducted a study entitled 'Mainstreaming the differently abled children through inclusive education'. The study investigate the perception of resource teachers, secondary school teachers, peers of differently abled children and parents of differently abled children on Inclusive education. The study also investigate the difficulties faced by differently abled children in their classroom. The major findings of the study are- the differently abled children face many difficulties in their class rooms. Insufficient adapted facilities in the class room, lack of training for the teachers, problems of curriculum transaction etc. affected adversely to the differently abled children. The study also find out that there exist different levels of perception on inclusive education among resource teachers, secondary school teachers, peers of differently abled children and parents of differently abled children.

Need and Significance of the Study

Prior to the state policy on education, a large number of people with disabilities were 'put away' in segregated institutions on the grounds that it was for their own good and to stop them from being a burden on others. People with disabilities have been effectively marginalized and systematically excluded from the 'mainstream' of social life; and this aspect of disabling society needs to be explored in the context of unequal power and social resources[Digumarthi: 2005]. As the Indian government is committed to the welfare of the marginalized constitutionally, the policy has a fair chance to implement successfully. But in practice, there is a big gap between policy and implementation.

Disability is a persistent problem which requires the attention and direction of the policymakers. As per the world disability

report 2011, about 15% population in the world has a disability and among them, 2% - 4% is suffering from severe disabilities. In India the disabled population is 2.1% and the male-female ratio is 58:42. The Census shows that in Kerala there are about 4.8% disabled persons. The large section of this particular section is in some cases more than the population of some countries of the world. Disability is a multi-dimensional and complex construct and there is no single universally accepted, unproblematic definition of disability.

Objective of the Study

To study the significant difference in the attitude of Peers of Differently abled children towards Inclusive Education based on

- Gender
- Locale

Hypothesis of the Study

There exists significant difference in the mean score of the attitude of peers of Differently abled children towards inclusive education based on

- Gender
- Locale

Methodology

To collect the data for the present study tool was prepared and distributed among the secondary school students and informative data is collected and recorded. The objective of the study was to find out whether there exists a significant difference in the mean scores of the attitude of peers towards Inclusive Education and Differently abled children among the subsample based on Gender and locale.

Sample selected for the study

The sample was selected from secondary schools of Palakkad district. The sample for the study primarily comprised of 600 peers of differently abled students. To collect the data for the present study tools were prepared and distributed among the secondary school students and informative data is collected and recorded.

Tool used for the Study

Attitude scale was used to check the attitude of peers of differently abled students at secondary level towards inclusive education.

Results & Discussion

The objective was to compare the mean score of the attitude of peers towards Inclusive Education and Differently abled Children based on gender and locale. The data were analyzed with the help of independent sample t-test. The mean and standard deviation of the scores of attitude obtained for the test of significance of difference between scores are given in Table 1&2

Table 1
The difference in the mean scores of Attitude of Peers towards Inclusive Education and Differently abled Children with respect to Gender(Male/Female).

Sample	N	Mean	SD	't' value
Female	271	109.17	11.21	3.296
Male	329	105.93	12.60	
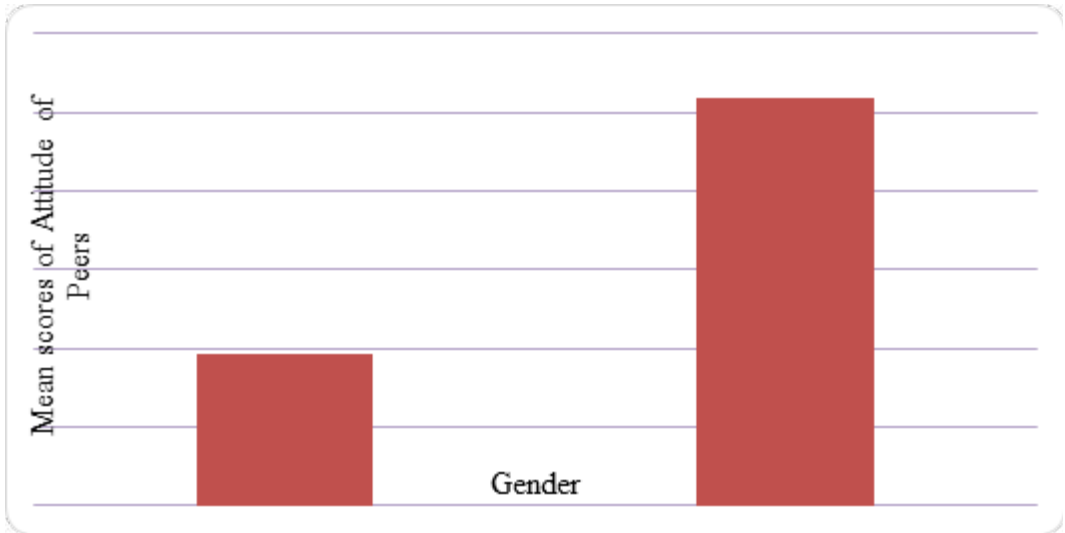
Figure 1
Bar Diagram showing the significant Difference in the Attitude of Peers between the Sub Samples Based on Gender.

From table 1 it can be seen that the t value is 3.296, which is significant at 0.01 level. It reflects that the mean scores of attitude of male and female peers of differently abled students differ significantly. Further the mean score of attitude of female peers towards inclusive education and differently abled children is 109.17 which is higher than that of male peers 105.93.

It can, therefore, be said that the female peers have higher attitude towards inclusive education and differently abled children than the male peers in their classes.

Table 2
The difference in the mean scores of Attitude of Peers towards Inclusive Education and Differently abled Children with respect to Locale (Rural/Urban).

Sample	N	Mean	SD	't' value
Rural	391	109.88	11.05	7.170
Urban	209	102.74	12.60	

From table 2 it can be seen that the t value is 7.170, which is significant at 0.01 level. It reflects that the mean scores of Attitude of rural and urban Peers of differently abled students differ significantly. Further the mean score of Attitude of rural Peers towards Inclusive Education and Differently abled Children is 109.88 which is higher than that of urban Peers 102.60.

It can therefore be said that rural Peers have higher Attitude towards Inclusive Education and Differently abled Children than urban Peers.

Tenability of the Hypotheses

When considered Gender, The mean score on the Attitude of male Peers is 105.93 and that of female Peer is 109.17. The obtained t value was 3.296, which is significant at 0.01 level. The female peers have higher attitude compared to the male peers towards Inclusive Education and Differently abled Children. Hence, it can evidently state that the hypothesis based on gender is accepted.

When considered Locale, the mean score on the attitude of urban peers is 102.74 and that of rural peers is 109.88. The obtained t value was 7.17, which is significant at 0.01 level. The rural peers have higher attitude compared to the urban peers, towards Inclusive Education and Differently abled Children. Hence, it can evidently state that the hypothesis based on locale is accepted.

Conclusion

The study focused on the gender and locale difference in the attitude of peers of differently abled children towards inclusive education at secondary level. From the findings it was clear that the mean scores of attitude of male and female peers of differently abled students differ significantly. The mean scores of attitude of rural and urban Peers of differently abled students differ significantly. In short, there exists significant difference in the attitude of peer students of differently abled children towards Inclusive Education based on gender and Locale. The female peer students and rural peers have more positive attitude towards inclusive education and differently abled children. However, the positive attitude of Peers towards Inclusive Education helps the Differently abled Children to lessen their difficulties in their classroom.

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EFFECTIVENESS OF ORGANISATIONAL ELEMENTAL MODEL ON SOCIAL COMMITMENT AMONG SECONDARY SCHOOL STUDENTS

Joseph K. V.* & Dr. C. C. Kurian**

Introduction

The roots of education are bitter but the fruit is sweet (Aristotle). Education is a transforming journey of an individual. It is a journey that accompanies success, failures, achievements, struggle and efforts. The purpose of education is to develop in each individual with the knowledge, interests, ideals, habits and the powers whereby he will find his place and use that place to shape both himself and society towards nobler ends (report of the commission on the reorganization of secondary schools, USA). Education is the practice of receiving knowledge from the already existing facts. But the aim of research is to go beyond the existing knowledge and tries to find out the facts or truths from the available situations and give new realms to existing knowledge. Research in the field of education is a combination of both experience and reasoning. It also helps to adopt new learning strategies for imparting knowledge and differentiate it from the existing learning process.

Education is the process of gaining information about the surrounding world while knowledge is something very different. Information cannot be converted into knowledge without education. According to Frobel, education is enfoldment of what is already enfolded in the germ. It is the process through which the child makes internal external. According to John Dewey education is the development of all those capacities in the individual which will enable him to control his environment and fulfil his possibilities. Education includes all the influences which act upon an individual during his passage from birth to death. It touches all the aspects of one's personality, his body, mind and spirit. Every society has specialized individuals that require extended education to fulfil certain main positions. The importance of education in society is indispensable and cohering, which is why society and knowledge cannot be ever separated into two distinct entitie. Educational researchers generally agree that research should be rigorous and systematic. Research may involve a variety of methods

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and various aspects of education including students learning, teaching methods, and teacher training and classroom dynamics. An educational research change with the gradual development occurs with respect to knowledge and technology. It is important because educators can use research findings to improve their teaching and learning process.

Vision of NPE 2020

This National Education Policy on Education (2020) envisions an education system rooted in Indian ethos that contributes directly to transforming India, that is Bharat, sustainably into an equitable and vibrant knowledge society, by providing high-quality education to all, and thereby making India a global knowledge superpower. The Policy envisages that the curriculum and pedagogy of our institutions must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with one's country, and a conscious awareness of one's roles and responsibilities in a changing world. The vision of the Policy is to instil among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen. It means that the new National Policy of Education (2020) also gives much focus on the enhancement of various values among the students through the implementation of proper strategies and models of teaching. In this background, it is desirable to introduce innovative methods and strategies in the teaching of all subjects

in schools enabling the attainment of goals mentioned in NPE (2020).

Need and Significance of the Study

Learning is a process by which an individual acquire various habits, knowledge, attitude, skills and experience that are necessary to meet the demand of life. But we want our pupils to develop into responsible citizen of the world by supporting others. They should learn to recognize their own strengths and see the world through the eyes of others, while belonging to the school community. In a school system the affective socialization of younger member would ensure that society has sufficient supplies of competent "amateur" police implementers and active citizens. We are in danger if we produce a whole generation of children with civic and philanthropic retardation. In most educational setting, teacher centred learning approach is still widely preferred and used. The teacher centred approach in learning uses lecture based instruction, which is economical and viable for teaching a large number of students at a time. This will make a bad individual attention and it leads to several commitment issues. This behaviour could have a negative impact on the students' performance or overall effectiveness in learning. At school, a student who fears commitment might decide not to invest the time or effort needed to reach long term academic or career goals. Research shows those who display avoidant behaviour may tend to be more independent less accommodating and less forgiving. In such an environment, the students are passive where there rely on learning by listening, memorizing, rote learning and on the repetition of the thought knowledge. The major shortcoming in passive learning

is that students only have a low level of application of knowledge, which means they have merely achieved low level of thinking skills. To attain higher order and conceptual levels of thinking the students should be active knowledge seekers and responsible ones in their own learning.

The main aim of Indian education is to contribute to the formation of character and values among the grown-ups to become salt and light in the world. The classroom experiences are only a just one component for creating a value based educational life, as we know experience is the best teacher. Value and character can be inculcated also through various extracurricular activities. Education is not only for building the heads, instead it should be changing their hearts. The value based socially oriented education is needed for developing moral qualities such as humility, truthfulness, honesty, courtesy, tolerance and sacrifice; among the youth. It will help in developing positive social attitudes in new-generation, which prompt them to raise their voice against social evils. The OE model helps for the all-round development of the learner. The optimal development of the moral, spiritual and aesthetic aspects of personality, refinement in the form of social commitment life etc. are expected to be attained through this model.

Research Questions

Research is normally considered as a method of acquiring knowledge from the existing facts. It needs a deliberate attempt from the part of the investigator to complete the work in time. If someone is going on with a problem it always raise some questions in the mind of the researcher related to his studies. These questions always help the investigator to go on with the studies in a fruitful way. The process of researcher becomes often being with an attempt to arrive at a clear statement, of the research questions. The research questions related to the present study are:

1. Is it possible to implement OE Model in the existing classroom setting?
2. Is it possible to teach Mathematics using OE Model?
3. Whether OE Model is effective in enhancing Social Commitment of Secondary School Students?
4. Whether there is any significant difference in the effectiveness of OE Model on enhancing Social Commitment students with respect to gender?

Statement of the Problem

The present study has been under taken with the objective of determining the effectiveness of OE Model on the Social Commitment among Secondary School students. Hence the study has been entitled as: **Effectiveness of Organisational Elemental Model on Social Commitment among Secondary School Students.**

Operational Definition of Key Terms

Accurate and precise operational definition of the key terms of the study helps the readers to understand the nature and scope of the targeted study. The operational definition of the terms included in the title is as follows:

♦ **Effectiveness**

According to Cambridge English dictionary effectiveness means the ability to be successful and produce the intended results.

In the present study the investigator means effectiveness to describe the

consequences of OE Model on Social Commitment in terms of the scores obtained for Social Commitment scale.

♦ **OE Model**

OE is an Acronym where:

O – Organizational and

E – Elemental

According to Wikipedia instructional Models are the guide lines or set of strategies on which the approaches to teaching by instructors are based.

In the present study OE model is considered as a powerful tool for learner centred education.

♦ **Social Commitment**

According to Sheldon Berman "Social Commitment is a personal investment in the well-being of others. It takes intention, attention and time for helping others".

By Social Commitment the investigator highlights the fact that it as an inner feeling that helps one to understand one's own responsibilities in helping others. In the present study, the scores obtained by the students on the Social Commitment Scale, which was constructed by the researcher were considered as a measure of social commitment.

Objectives of the Study

♦ To find out the effectiveness of OE Model in enhancing Social Commitment among Secondary School Students.

♦ To find out the effectiveness of OE Model in enhancing Social Commitment among boys of Secondary Schools.

♦ To find out the effectiveness of OE Model in enhancing Social Commitment among girls of Secondary Schools.

♦ To find out whether there is any significant difference between the post test scores of boys and girls of Experimental group on Social Commitment.

♦ To find out whether there is any significant difference between the post test scores of boys and girls of Control group on Social Commitment.

Hypotheses of the Study

♦ The mean of gain scores of Experimental group is significantly higher than that of Control group.

♦ The mean of gain scores of boys of Experimental group is significantly higher than that of Control group.

♦ The mean of gain scores of girls of Experimental group is significantly higher than that of Control group.

♦ There is a significant difference between boys and girls of Experimental group on the means of scores of post-test.

♦ There is a significant difference between boys and girls of Control group on the means of scores of post-test.

Method adopted for the Study

The credibility of the research depends very much upon the credibility of the method used. The selection of a method and specific design within the method appropriate in investigating a research problem will depend upon the kind of data to be collected. The present study is aimed to find the Effectiveness of OE Model on Social Commitment of Secondary School

Students. For this study, the investigator selected quasi experimental method since it was not possible to conduct pure experimentation in educational setting.

Quasi experimental method

In quasi experimental method, random assignment of members to the experimental and control groups was not made, but random selection of experimental and control groups from among the groups available was made. For conducting this study the investigator selected the pre-test - post-test on-equivalent group design.

The Pre-test Post-test Non-equivalent group design

In pre-test post-test Non Equivalent group design two groups as they exist were selected and one group was taken as the Experimental group and other group was taken as the control group by tossing a coin. Pre-test were administrated to both groups. Treatment with OE model was given to the Experimental group. Control group was taught through the prevailing method. After the treatments post-test were conducted. The difference between the pre-test and post-test measures were calculated separately for two groups. The significance of difference between these means of the two groups was computed. If difference is significant it means that the special treatment is effective.

Variables

Variables are measured characteristics that varies. It may change from group to group, person to person, or even with one person over time. Variables are the condition or characteristics that the researcher manipulates, controls or observes. In order to meet the objectives of the study the investigator selected two variables namely independent variable and dependent variable. For the present study the investigator selected OE Model as independent variable and Social Commitment as the dependent variable.

Population

A population is a group of items which possess certain common features of interest to the investigator. A population refers to any collection of specified group of human beings or non-human entities such as objects, educational institutions, time units, geographical areas etc.

The population taken for the present study was all the Secondary School Students of Kottayam district following the state syllabus during the academic Year 2020-2021.

Sample

A sample is a smaller, manageable version of larger group. It is a subset containing the characteristics of a larger population. An adequate representative sample is essential to make the study scientifically effective and reliable and also minimize the sampling errors. Selected or chosen part from the population used to determine the features of the entire population is known as sample.

In the present study the investigator selected 60 Ninth standard Students of Alphonsa High School Vakakkad, Kottayam district following the state syllabus during the academic year 2020 - 2021 as sample. 30 students from Ninth Standard were taken as the Experimental group and 30 students from the Ninth standard were taken as Control group.

Tools Used for the Study

- Lesson transcripts based on OE Model for teaching in the Experimental group. (Facilitative tool)
- Lesson transcripts based on the prevailing method for teaching in the Control group.
- Scale for measuring Social Commitment. (Evaluative tool)

Statistical Techniques Used

Statistical techniques are powerful tools to analyse and interpret the collected data. In order to achieve the objectives of the study the pre-test scores and post-test scores of Ninth Standard Students in Control and Experimental groups were subjected to following statistical analysis.

- **Descriptive Statistics**

Descriptive statistical measures were used to describe the characteristics of the sample. The descriptive statistics used in the present study were mean, median, mode and standard deviation.

- **Inferential Statistics**

Parametric tests are the most powerful tests for testing the significance or trust worthiness of the computed sample. Inferential statistics used in the present study were t test and ANCOVA.

Analysis

Analysis and Interpretation of Data Related to Objective One

First objective of the study was to find out the effectiveness OE Model on Social Commitment among Secondary School students.

In order to study the effectiveness of the approach, using the scores obtained at the pre-test and posttest scores of the Experimental group, the gain scores of each student was calculated. Then the mean and standard deviation of the gain scores of the Experimental group was found out.

In a similar way, the mean and standard deviation of the gain scores of the Control group was also found out. The statistics calculated are given in Table 1

Table 1
Number (N), Mean (M), and Standard Deviation (SD) of Gain Scores of Experimental Group and Control Group.

Group	N	M	SD
Experimental Group	30	8.13	1.36
Control Group	30	4.9	1.61

The table shows that the mean of gain scores of Experimental Group is 8.13 and that of the Control Group is 4.9. The corresponding values of standard deviation are 1.36 and 1.61 respectively. It means that the mean of gain scores obtained for Experimental group is higher than that of Control group.

For further analysis the investigator formulated a research hypothesis as,

: The mean of gain scores of Experimental group is significantly higher than that of Control group. To test this hypothesis the investigator framed a null Hypothesis as:

: The mean of gain scores of Experimental group is not significantly higher than that of Control group.

The investigator verified the null hypothesis inferentially by employing the t test. One tailed test was employed to test the null hypothesis with the level of significance set at 0.01 levels with value of 2.65

Table 2
Number (N), Mean (M), Standard Deviation (SD), and t value of gain of scores of Experimental group and Control group.

Group	N	M	SD	't' Value	Result
Experimental Group	30	8.13	1.36	8.39	Significant
Control Group	30	4.9	1.61		at level 0.01

From table 2 it is clear that the means of gain scores of experimental group is 8.13 and that of control group is 4.9. The calculated t value 8.39 is greater than the theoretical t value (2.65) at 0.01 level of significance. Hence the null hypothesis rejected and the research hypothesis that the mean of gain scores of Experimental group is significantly higher than that of Control group was accepted.

Conclusion

In order to verify, whether the difference in the means of gain scores of Experimental group and Control group was significant or not the researcher tested the null hypothesis by employing t-test. One tailed t-test was used to test the level of significance set at 0.01 levels and found a significant difference in the gain scores of

Experimental group and Control group. So it is concluded that OE model is effective for enhancing Social Commitment among Secondary School Students.

Analysis and Interpretation of Date Related to Objective 2

Second objective of the study was to find out the effectiveness of OE model in enhancing Social Commitment among boys of Secondary Schools. In order to study the effectiveness of the approach, using the scores obtained at the pre-test and post test scores of boys of the Experimental group, the gain scores of each student was calculated. Then the mean and standard deviation of the gain scores of boys of the Experimental group was found out. In a similar way, the mean and standard deviation of the gain scores of boys of Control group was also found out.

Table 3
Number (N), Mean (M), Standard Deviation (SD), and t value of gain of scores of boys of Experimental group and Control group.

Group	N	M	SD	't' Value	Result
Experimental Group	15	8.26	1.39	6.89	Significant
Control Group	15	4.8	1.32		at level 0.01

From table 3 it is observed that the obtained t value was higher than the theoretical value 2.75 set at 0.01 levels. Hence the null hypothesis rejected and the research hypothesis that the mean of gain scores of boys of Experimental group is

significantly higher than that of Control group was accepted.

Conclusion

In order to test whether the difference in the means of gain scores of boys of

Experimental group was significant or not the researcher analysed the null hypothesis by employing t test. One tailed t test was used to test the level of significance set at 0.01 levels and found a significant difference in the gain scores of boys of Experimental group and Control group. So the investigator concluded that OE model was highly effective in enhancing Social Commitment among boys of Secondary Schools.

Table 4

Number (N), Mean (M), Standard Deviation (SD), and t value of gain of Scores of girls of Experimental group and Control group.

Group	N	M	SD	't' Value	Result
Experimental Group	15	8	1.36	4.93	Significant
Control Group	15	5.06	1.86		at level 0.01

From table 4 it is observed that the obtained t value was higher than the theoretical value 2.75 set at 0.01 levels. Hence the null hypothesis rejected and the research hypothesis that the mean of gain scores of girls of Experimental group is significantly higher than that of Control group was accepted.

Conclusion

In order to verify the difference in the means of gain scores of Experimental group the researcher tested the null hypothesis by employing t test. One tailed t test was used to test the level of significance set at 0.01 levels and found a significant difference in the gain scores of girls of Experimental

Analysis and Interpretation of Date Related to Objective 3

Third objective of the study was to find out the effectiveness of OE Model in enhancing Social Commitment among girls of Secondary Schools. In order to study the effectiveness of the approach, using the scores obtained at the pre-test and post-test of girls of Experimental group, the gain scores of each student was calculated.

Then the mean and standard deviation of the gain scores of girls of Experimental group was found out. In the similar way, the mean and standard deviation of the scores of Control group was also found out.

group and Control group. Thus the investigator concluded that OE model was highly effective in enhancing Social Commitment among girls of Secondary Schools.

Analysis and Interpretation of Data Related to Objective 4

Fourth objective of the study was to find out whether there is any significant difference between the Post-test scores of boys and girls of Experimental group. In order to study the effectiveness of the approach on gender of students, the mean and standard deviation of the post test scores of boys and girls of Experimental group was found out.

Table 5
Number (N), Mean (M), Standard Deviation (SD), and 't' value of mean scores of Boys and Girls of Experimental group.

Sub Groups	N	M	SD	't' Value	Result
Boys	15	17.93	2.86	0.497	
Girls	15	18.33	2.91		

From table 5 it is observed that the obtained t value was lower than the theoretical value set at 0.01 level. Hence the null hypothesis that 'There is no significant difference between boys and girls of Experimental group on the means of scores of post-test' was accepted.

Conclusion

The analysis of objective four showed that there is no significant difference between boys and girls of Experimental group on the means of scores of post-test. Hence the investigator concluded that the OE Model has no special effects on gender.

Analysis and Interpretation of Data Related to Objective 5

The fifth objective of the study was to find out whether there is any significant difference between boys and girls of Control group on the means of scores of post-test.

In order to study the significance of difference in the means of Post-test scores of boys and girls of the Control group. The mean and standard deviation of the post test scores of boys and girls of control group was found out.

Table 6
Number (N), Mean (M), Standard Deviation (SD), and 't' value of mean scores of Boys and of Control group.

Control Group	N	M	SD	't' Value	Result
Boys	15	14.46	3.24	0.247	Not Significant
Girls	15	14.73	2.71		at level 0.01

From table 6 it is observed that the obtained 't' value was lower than the theoretical value set at 0.01 level. Hence the null hypothesis that 'There is no significant difference between boys and girls of Control group on the means of scores of post-test was accepted.

Conclusion

The analysis of data related to objective five showed that there is no significant difference between boys and girls of Control group on the means of scores of post-test.

Major findings of the study

♦ OE Model is effective in enhancing Social Commitment among Secondary School Students.

♦ OE Model is effective in enhancing Social Commitment among boys of Secondary Schools.

♦ OE Model is effective in enhancing Social Commitment among girls of Secondary Schools.

♦ There is no significant difference between boys and girls of Experimental

group on the means of scores of post-test.

♦ There is no significant difference between boys and girls of Control group on the means of scores of post-test.

Educational Implications of the Study

The present study was to investigate the effectiveness of OE Model on Social Commitment among Secondary School Students. The major findings of the study and the conclusions drawn from the findings helped the investigator to frame some measures to improve the Social Commitment of Students.

♦ Findings of the study indicate that OE Model is more effective than the existing methods of teaching in enhancing Social Commitment. So this Model can be implemented in Schools.

♦ This strategy is very helpful in developing co-operation among Students.

♦ This strategy promotes interest in Students.

♦ To develop positive interdependence and individual accountability of students this Model can be utilized.

♦ This model helps the students to express their ideas freely in class rooms.

♦ This model gives every student equal opportunities to present their ideas in the classroom.

♦ This model indirectly motivates the students to study hard to excel not only in their studies but also in their lives.

♦ This model helps to increase the ability to work with others within a group.

♦ Students should also be inculcated with attitudes and values that are appropriate to their life as a student. This strategy can inculcate values such as love, cleanliness and co-operation.

♦ Result indicated that students have developed a positive attitude towards social commitment.

♦ The method promotes the use of critical thinking skills and peer coaching.

♦ This method enhances the ability of secondary school students in addressing social issues.

Conclusion

The purpose of education is self-realization of every individual. This self-realization is aspired and achieved by children in their academic life by developing competencies in their particular field of study. To enhance the learning experience of every student, the educator has to cater to many different learning styles and capacities.

The present study examined the Effectiveness of an instructional material based on OE Model on Social Commitment among Secondary School Students. It is concluded that instructional material based on OE model is more interesting and effective as compared to the prevailing method. The investigator hopes that on the light of the results of the study the teachers will make use of this model in teaching and learning.

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NATURE DEFICIT DISORDER: TEACHERS' ROLE IN PROVIDING VITAMIN N

Aneeta George*

Abstract

Nature-deficit disorder is the idea that human beings, especially children, are spending less time outdoors than they have in the past, and the belief that this change results in a wide range of physical mental and behavioural problems. Teachers have a crucial role in reconnecting children with the nature. This association with nature is viewed as providing Vitamin N that is Vitamin Nature. The nature connectedness can be induced in children by enhancing their Pro-Environmental Behaviour. This paper discusses the concept Nature Deficit Disorder, the causes, and its impacts on children and role of teachers in dealing with the issue by enhancing Pro-Environmental Behaviour.

Keywords: *Teachers, Nature Deficit Disorder, Vitamin N, Nature Connectedness, Pro-Environmental Behaviour, etc*

Introduction

Technology developed at a breakneck speed, resulted in high standard of living. This increased life expenditure. To meet the diverse needs of life both parents have to go for work. Thus in this busy and competitive world there's so much pressure on parents to ensure that their children are doing all the things. Parents don't get enough time to spend with their children.

Children are now a day restricted to indoors. The explosion in the use of digital technology has accelerated children's exposure to prolonged screen time. Covid-19 added oil to the fire. All the communications, education, work, meetings, entertainments, social interactions etc. leaped from offline to online.

Here children lost personal connection with nature. This gap leads to many physical, mental and behavioural problems in most of the people especially in children. This dissociation of children and nature is termed as Nature Deficit Disorder (NDD).

Need and Significance

In the early days Children had the freedom to play, explore and interact with

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the natural world with little or no restriction or supervision (White, 2004). They grew up with intimate contact with nature.

Children today are spending less time than ever outdoors, contributing to a culture of environmental apathy and separation from the natural world (Silverman et.al.,2017). Children now spend more time indoors than they did in the past when they played outside. Thus, children's chance for direct and unplanned interaction with nature is a disappearing childhood memory. A researcher even went so far as to call this abrupt change in children's life and the loss of their right to unrestricted outside play a "childhood of imprisonment". Regular uncontrolled outdoor play in the natural environment is no longer associated with childhood (Wilson, 2000). This is what Pyle (1993) refers to as the "extinction of experience," which promotes indifference to environmental issues (White, 2004).

Children who interact with nature grow happier, healthier, and more intelligent. We require more nature as our lives get increasingly high-tech. Children have a natural need to interact with the outdoors. When they turn away from nature, they truly suffer. The word "solastalgia" was created by Australian academic Glenn Albrecht, the head of the Institute of Sustainability and Technology Policy at Murdoch University. He created the phrase solastalgia by fusing the Latin word solacium (comfort as in solace) with the Greek root algia (pain), which he defines as the agony felt when one realises that the place one lives and loves is under immediate attack (Louv, 2011).

Again our senses come alive in nature. More time spent outside fosters our innate inventiveness. For instance, University of Michigan studies found that memory

function and attention spans increased by 20% after just an hour of being in nature. Employees are more productive and use sick leave less frequently in workplaces that are created with nature in mind.

Nature has the ability to heal. Researchers from Pennsylvania discovered that patients with views of trees had shorter hospital stays, required fewer painkillers, and left less unpleasant notes in the nurses' notes than those with views of masonry. (Ulrich, 1984).

Depression can be lessened and psychological health can be enhanced by nature. Nature creates ties among people. When people and animals interact, levels of neurochemicals and hormones linked to social bonding rise. According to University of Rochester researchers, being among nature encourages individuals to respect their communities, form deep bonds with one another, and give more of their money away. Families and friends are united by nature. There are more and more new ways to strengthen that connection, such family nature groups where many families participate in activities like hiking and gardening.

To treat youngsters with Nature Deficit Disorder (NDD), they have access to that potent medication which can be called Vitamin N. N denotes Nature. In other words NDD can be treated by reconnecting children with the nature or through giving them enough exposure to nature and nature friendly behaviours also called Pro-Environmental Behaviours. Children spend most of their active time in schools. So the true pain behind the effective introduction of natural connection is taken by teachers. Children who are taught by teachers who are in tune with

their environment will also experience this. Children are greatly influenced by and motivated by their teachers. Every action they take to reacquaint the children with nature will be taken into consideration.

Objectives

1. To understand the concept Nature Deficit Disorder.
2. To understand the causes of Nature Deficit Disorder.
3. To recognise the impact of Nature Deficit Disorder on children.
4. To highlight the role of teacher to deal with Nature Deficit Disorder.

Methodology

The descriptive analysis is used for the study. The descriptive analysis of the concept Nature Deficit Disorder, its impact on children, the causes of Nature Deficit Disorder and the role of teacher to deal with Nature Deficit Disorder is explained below.

Nature Deficit Disorder

The term Nature-Deficit Disorder (NDD) was introduced by Richard Louv in 2005 in his work 'Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder'. Nature-deficit disorder is the idea that human beings, especially children, are spending less time outdoors than they have in the past, and the belief that this change results in a wide range of behavioural problems (Wikipedia, 2022).

Vitamin N (N for Nature) is a unique, thorough, and helpful reference for the entire family and the larger community. Vitamin N is another contribution of Richard Louv to denote the connection with the nature. It includes advice for parents wanting to share nature with their children

as well as for individuals looking for nature-smart schools, medical experts, and even jobs. It serves as a dose of unadulterated inspiration, reminding us that, no matter our age, taking a walk in the woods or gazing up at the sky is both thrilling and necessary.

Causes of Nature Deficit Disorder

Louv explains, "The disorder can be detected in individuals, families, and communities. Nature deficit can even change human behaviour in cities, which could ultimately affect their design, since long-standing studies show a relationship between the absence, or inaccessibility, of parks and open space with high crime rates, depression, and other urban maladies" (Louv, 2005,p.34). Some of the causes for NDD are,

- In older times, children spend most of their time in outdoor activities. But nowadays, only a small number of parents allow their children to play outdoors.
- Parents keep their children indoors to safeguard them from any sort of danger, injury, or mishap. Overprotection of parents is the leading cause of nature deficit disorders among children.
- A culture of fear includes Media-amplified fear of strangers, Real dangers in some neighbourhoods, including traffic and toxins.
- Urbanization without nature which means the absence of nature in the city, poor design of cities, neighbourhoods, homes, schools, workplaces etc.
- Urbanization has led to a loss of natural surroundings in child's neighbourhoods. It has led to restrictions on staying in the apartment only and less connectivity with nature.

- Environmentalists have added further restrictions by putting boards of - look, do not touch, and no walking zone for protecting the natural environment.

- Technology now dominates almost every aspect of our lives. In the name of enrichment and education preparedness, children's lives are over-programmed and immersed in the virtual world. As we spend more of our lives looking at screens instead of streams, our senses narrow; the more time we spend in the virtual world, the less alive we feel – and the less energy we have for going outside.

- Cultural devaluing of nature by which society no longer sees time spent in the natural world and independent, imaginary play as "enrichment."

- The post-apocalyptic view of the future in which Nature is seen as the problem, not the solution.

Impact of Nature Deficit Disorder on Children

Richard Louv in his book, Last Child in the Woods: Saving Our Children from Nature-deficit Disorder explicitly states that NDD is not to be mistaken for an existing medical diagnosis; rather, it identifies and explains the side effects of human alienation from nature (Dwyre, 2015).

Richard Louv in his book writes, "I am not suggesting that this term represents an existing medical diagnosis…Nature-deficit disorder describes the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses" (Louv, 2005, p.34).

Some of the specific psychological and physical symptoms of NDD include diminished use of sense, physical and mental illnesses, attention difficulties, obesity, vision problem (myopia), vitamin D deficiencies, and other health-related issues. In recent times, children have spent less time outdoors, which has impacted their overall health and well-being. Research also suggests that the nature-deficit weakens ecological literacy and stewardship of the natural world. These problems are linked more broadly to what health care experts call the 'epidemic of inactivity,' and to a devaluing of independent play (Williams, 2019).

Many studies say children's performance increases when they are in green spaces (connected with nature). It has been shown that children instil positive feelings, build confidence and focus, stay calm, and are less stressed when they remain connected with nature (Jain, 2022).

Teacher: A Doctor in treating Nature Deficit Disorder

Children spend most of their active time in schools than at home. When a child enters school, the impact of the teacher becomes much stronger on the development of social skills and intellectual abilities. At this stage, children spend more time in school and it's the teacher, who is closer to the children. As a result, a teacher can influence his or her students to learn good behaviours, live a healthy lifestyle, or keep themselves neat and clean. As children follow their teachers blindly, it becomes the duty of the teacher to showcase good behaviour in front of them.

There are so many ways in which teachers can make children connected

with nature. Teacher can enhance Pro-Environmental Behaviour in children, from recycling to planting gardens to powering your school with solar panels to getting a green seal, the ideas are endless. Plus teaching students about green practices now creates a lifelong interest in saving the planet.

Some other ideas are,

- Introduce green habits
- Get indoor plants for classroom
- Plan vegetable garden in school
- Skits and plays for promoting environmental awareness
- Conduct awareness rallies
- Nature clubs
- Encourage classes in outdoors
- Field trips
- Encourage pro-environmental behaviour
- Give plant seedlings and monitor its growth
- Clay modelling

Conclusion

Nature Deficit Disorder is not a medical condition. It shows the disconnection or gap between children and nature due to less exposure to outdoors. This terms is extremely important and inducing a sense of alarm. Nature has so many powers and the children who interact with nature grow happier, healthier, and more intelligent. But when children remain in indoors especially in front of screens they face many physical, emotional and behavioural problems. This issue should be addressed to make them active and smart again. Due to the busy life

of parents, teachers are the most appropriate person to deal with Nature Deficit Disorder in children. Teachers who are connected with nature can address the issue by enhancing Pro-Environmental Behaviour in children. Let our child be free to be a child. According to John Cleal, we must teach our children to smell the earth, to taste the rain, to touch the wind, to see things grow, to hear the sun rise and night fall – to care (Peak District Kid, 2022).

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DIGITAL REVOLUTION OF e-RUPI-RELEVANCE, POSSIBILITIES AND LIMITATIONS

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Abstract

India is moving through a digital transformation. The Digital change affects us beyond our imaginations. The Digital currency is one among them. The historical development of the introduction of digital currency in India is supposed to a great revolution in the field of transactions and bank dealings. Since e-RUPI is a transaction mainly between the RBI and the customer through a bank, the relevance of the bank can also be reduced later. Through the digital currency, misuses can be overcome. In the future, we will; be moving through a cashless and contactless society. India in general and all areas in particular, needs to be advanced so as to stand as one among the top level countries in the world.

Key Words:- *e-RUPI, e-Rupi Vouchers, Digital India, NCP, CDBC –R, CDBC – W, Digital Currency, Digital Transactions, cashless payment, contactless payment etc.*

Introduction

India takes a historic digital leap with the Introduction of e-RUPI. December first marked the beginning of this new era. The long awaited dream of e-RUPI has been fulfilled. e-RUPI is a cashless and contactless instrument for digital payment that will play a significant role in making irect Benefit Transfer (DBT) more effective. The e-RUPI is a pre-paid voucher which would be sued in similar denominations like paper currency and coins enabling the users to be able to transact with a digital wallet distributed through participating banks and government organizations to Closed User Group (*CUG*) including customers and retailers. This will provide a new dimension to digital governance and this initiative is based on digital transactions merged with technology for connecting people's lives in India. The digital payment solution has been developed with the support of the Department of Financial Services (DFS) and National Health Authority (NHA) and is powered by National Payment Corporation of India (NPCI). Applauding the move of the government in the initiative of e-RUPI, Jyoti Prakash Gadia, Managing Director at Resurgent India said, "The launch indicates the consistent efforts on the part of RBI to bring out an efficient, user-friendly

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mechanism of digital currency far ahead of other central banks across the world".

The Initial First and Second Phases

Reserve Bank of India, the Central bank has identified four banks for the first phase of the introduction of e-RUPI such as State Bank of India, ICICI Bank, Yes Bank and IDFC First Bank, in four cities, Mumbai, New Delhi, Bengaluru and Bhubaneswar. This programme has been started with Rs 1.71 crore of digital currency, but depending on the user demand and bank's liquidity requirements, the token indent and issuances to bank will keep evolving dynamically and the Central Bank will be creating more digital rupee on demand coming from banks for the next few days. It is believed that all merchants including the street fruit vendors, popular merchants such as food delivery apps etc will also accept digital rupee in the coming days and the target of the RBI is to involve 50,000 merchants and customers in the next few days. If the expected result is achieved, four more banks - Bank of Baroda, Union Bank of India, HDFC Bank and Kotak Mahindra Bank - will join with and it shall be subsequently extended to Ahmedabad, Gangtok, Guwahati, Hyderabad, Indore, Kochi, Lucknow, Patna, and Shimla. The next four banks will join with the previous banks within the next two or three weeks. We are happy that Kochi also in included in the second phase of this great innovative measure.

Historical Development of Cashless E-Payments

The honorable Prime Minister of India Mr. Narendra Modi has launched digital initiatives from time to time. Over the last few years, a kind of digital revolution has happened in India. The declaration of "Digital India" marked a drastic change in India. Digital India was launched by the Prime Minister of India Narendra Modi on 1 July 2015, with an objective of connecting rural areas with high-speed Internet networks and improving digital literacy. The vision of Digital India programme is inclusive growth in areas of electronic services, products, manufacturing and job opportunities. It is centered on three key areas – digital infrastructure as a utility to every citizen, governance and services on demand, and digital empowerment of citizens. It was also to ensure that the Government services are made available to citizens electronically by improved online infrastructure and by increasing Internet connectivity or making the country digitally empowered in the field of technology.

The Digital Journey of India, within six years, has had its fair success and share from multiple ultimately and unsuccessful allegations. There were also disputes about questioning the constitutionality of *Aadhaar* which is the biometric ID for each Indian Citizen. It also created an apparent data security flaw in *Aarogya Setu*, the contact tracing app intended to be the digital backbone of the government's COVID response.

The Digital reforms resulted positively in the growth of India and we the Indians realize that the further growth of our country can be made only through the digital reforms. On 28th April 2022, the Finance Minister of India, Dr. Nirmala Sitha Raman said, "India aims to Introduce Digital Currency by 2023". She also said, "Digital currency will also lead to a more efficient and cheaper currency management system. It is, therefore, proposed to introduce Digital Rupee, using block chain

and other technologies, to be issued by the Reserve Bank of India starting 2022-23". On February 1st, 2022, while presenting the Union Budget, the Union Finance Minister said that the introduction of digital currency would give a big boost to the digital economy.

The Digital reforms of India and the Government are being continued and every reform results well. The Digital currency and e-RUPI and the latest reforms and it is believed that the economic status of India will be raised to that of the other developed countries of the world.

Objective of e-Rupi Digital Payment

The e-RUPI digital payment is with a lot of advanced features. It is said that this system will transform the face of India and the financial transactions of India. There are certain objectives on the introduction of e-RUPI in India. The main objective of the e-RUPI digital payment platform is to provide a cashless and contactless payment system so that citizens can make digital payments without any kind of difficulty. With the help of this payment platform, users can make payments in a secure manner. This payment platform uses a QR code or SMS string-based e-voucher which will be delivered to the mobile of the beneficiary. e-RUPI digital payment platform ensures the timely payment of the services without the involvement of an intermediary. Users are not required to carry any cards or digital payment app or have internet banking access in order to make payments which will make the payment process simple and secure. The e-RUPI would be shared with the beneficiaries for a specific purpose or activity by organizations via SMS or QR code. This contactless e-RUPI is easy, safe and secure as it keeps the details of

the beneficiaries completely confidential. The entire transaction process through this voucher is relatively faster and at the same time reliable, as the required amount is already stored in the voucher.

Features of e-Rupi Digital Payment

On the occasion of introducing e-RUPI, out Prime Minister, Naredra Modi highlighted the main features of this system. While talking about it, he himself addressed it as e-RUPI digital platform. Let us see some the special features mentioned by the Government.

1. This platform will be cashless and contactless instrument

2. Through this system users can make digital payments through QR code or SMS string based e-voucher

3. This voucher will deliver to the mobile of the users

4. Users can redeem this voucher without any payment app, internet banking or card

5. The National Payment Corporation of India has developed e Rupi Digital Payment service on its UPI platform.

6. The collaborating partners are the Department of financial services, Ministry of health and family welfare and national health authority

7. Through this initiative the sponsor of services will be connected with the beneficiaries and service providers. This connection will be held in a digital manner without any kind of physical interface

8. Through this platform the payment to the service provider will be made after the completion of transaction

9. This payment platform is prepaid in nature

10. e-RUPI does not require any kind of service provider to make payment

11. This platform can also be used for providing services under schemes which are meant for providing drugs and nutritional support.

Unique Function and Acquisition of e-Rupi

The Digital Rupee wallet[1] will be like a physical wallet, but in digital form that will be available for download on smart phones with an Android OS… Payments to merchants can be made through a unique QR code displayed at respective merchant touch points. The currencies were digitally issued to banks and customers will be able to place the request for digital rupee through their digital wallet in their mobile app, which is provided by their banks and the requested amount is credited in their digital rupee wallet. The customers can pay the digital rupee to the individual and their merchants.

"CDBC – R" AND "CDBC – W"

The Central Bank of Digital Currency (CBDC) based on the usage and functions performed by the digital currency, it can be broadly divided in two types – **General Retail Purpose, and it is called in short CBDC-R** and **Wholesale which is called in short CBDC-W.** The Retail CBDC is potentially available for use by everyone including private sector, non-financial consumers and businesses. It will be an electronic form of cash, predominantly meant for retail-related transactions. The primary benefit of CBDC-R is believed to be safety in transactions, being the direct liability of RBI. On the other hand, the wholesale CBDC has a restricted access to selected financial and government institutions. Exactly, one month back on November 1st, the RBI launched the pilot for CBDC - wholesale, trading in the secondary market for government bonds for interbank and other wholesale transactions, whereas, the CBDC-R has been launched on December 1st and is being used for retail transactions. "The retail pilot project, locations in closed user groups, will be in the form of a digital token that represents legal tender", the RBI had said. The digital rupee is issued in the same denominations that paper currency and coins are issued. "Along

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1. A Digital Wallet (or electronic wallet) is a financial transaction application that runs on mobile devices. These are the applications designed to take advantage of the abilities of mobile devices to improve access to financial products and services. It securely stores your payment information and passwords. These applications allow you to pay when you're shopping using your device so that you don't need to carry your cards around. You enter and store your credit card, debit card, or bank account information and can then use your device to pay for purchases. Digital wallet, together with the cash payments, can be used for Gift cards, Membership cards, Loyalty cards, Coupons, Event Tickets etc. Currently, the technologies used by mobile devices and digital wallets are: 1). QR codes: Quick response codes are matrix bar codes that store information. You use your device's camera and the wallet's scanning system to initiate payment. 2). Near Field Communication (NFC): NFC is a technology that allows two smart devices to connect and transfer information using electromagnetic signals. It requires two devices to be within about an inch and a half (4 centimeters) from each other to connect. 3). Magnetic Secure Transmission (MST): The same technology used by magnetic card readers that read your card when you swipe it through a slot on a point of sale. Your phone generates this encrypted field that the point of sale can read.
Cfr:- https://www.investopedia.com/terms/d/digital-wallet.asp (15.12.2022)

with reducing operational costs associated with physical cash management, it will also enhance settlement efficiency and spur innovation in cross-border payments and offer the public the same uses as any private virtual currency without the risks associated with it," said Sandeep Ghosh, group country manager, India & South Asia, Visa.

Voucher Issuing Procedure

the e-RUPI digital payment system has been developed by the National Payment Corporation of India on its UPI[2] platform. The national payment corporation of India has boarded banks that will be the issuing authority of the voucher. The corporate or government agency is required to approach the partner bank (private and public sector lenders) along with the details of the specific person and purpose for which the payment is required to be made. The identification of beneficiaries will be done by using their mobile number voucher allocated by the bank. This platform will be our revolutionary digital initiative which will improve the standard of living and make the procedure of payment simple.

e-Rupi Digital Payment Mobile App and Its Usage

1. First of all open Google play store or Apple App Store in your mobile phone
2. Now in the search box you have to enter e-RUPI Digital payment
3. After that you have to click on search
4. A list of apps will display before you
5. You have to click on the first option
6. After that, you have to click on install
7. e-RUPI digital payment mobile app will download to your device

e-Rupi voucher, its procedure and user friendliness

1. The beneficiary has to show the e-RUPI QR code or SMS at the service provider outlet
2. The salesperson requires to scan this QR code or SMS
3. Now an OTP will receive through the beneficiary
4. The beneficiary has to share this OTP with the service provider
5. The service provider has to enter this OTP into the OTP box
6. Now service provider has to click on proceed
7. Payment will make to the service provider.

Benefits or Business Benefits of Using e-RUPI

According to data provided by the Clearing Corporation of India (CCIL), the Central Bank Digital Currency CBDC bond trades in the first week averaged at Rs 287.5 crore on a daily basis. This system has its own benefits both in business field and the Customers.

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2   Unified Payments Interface (UPI) is an instant real time real-time developed by National Payment Corporation of India (NPCI). The interface facilitates inter-bank peer-to-peer (P2P) and person-to-merchant (P2M) transactions. It is used on mobile devices to instantly transfer funds between two bank accounts. The mobile number on the device is required to be registered with the bank and is regulated by the Reserve Bank of India (RBI). (Cfr;- https://en.wikipedia.org/wiki/Unified_Payments_Interface (Accessed on 8.1.2023)

A. For Governments and Private entities

1. e-RUPI ensures that the voucher is redeemed by the person and for the purpose defined at the time of issuance.

2. e-RUPI is end to end digital solution from issuance to redemption that makes the distribution process more transparent and easy to track.

3. It will lead to cost savings as well since there is no need for physical issuance of e-RUPI.

4. Quick, safe & contactless voucher distribution.

B. For Customers

1. There is no prerequisite for a beneficiary to avail e-RUPI i.e e-RUPI does not require the customer to have a bank account etc., a major distinguishing feature as compared to other digital payment forms.

2. It ensures an easy, contactless two-step redemption process that does not require sharing of personal details either.

3. e-RUPI is operable on features phones also, and hence it can be used by the beneficiary who does not own smartphones or in places that lack an internet connection.

Limit of E-Rupi Voucher Enhanced

The Central Bank of India has raised the limit of e-RUPI Digital vouchers that are issued by the government, in order to pave the way to transfer more benefits to the public. The Reserve Bank of India is going to increase the maximum limit of e-RUPI vouchers from Rs 10000 to Rs 1 lakh. Multiple uses of single vouchers can also be done till the balance is exhausted. Earlier e-RUPI was only a one-time voucher. This voucher was launched in August last year. This voucher works on the unified payment interface platform of the national payment corporation of India. e-RUPI vouchers are largely being issued by the government for covid-19 vaccination. There are various other cases that are being actively considered by various State governments and Central governments. There are 16 banks that are issuing this voucher while 8 banks are acquirers of e-RUPI.

Conclusion

We have been expecting a digital era but the digital advancement make us wonder because it is here and now. Since we are moving through the digital era and digital transformations beyond our imagination, we have to also advance ourselves. With the introduction of the e-RUPI, though as an experimental form, signs show that the change is imminent and binding. India is a fast developing Country because of several reasons, such as, the marketing nature of India, the economic developments, the labour that India contributes for other countries. So India needs to be advanced nationally and globally.

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DICTIONARY USE OF HIGH SCHOOL STUDENTS

Arjun K Anil* & Dr. Lavina Dominic**

Abstract

The study examines the dictionary use of high school students. The study found that most students prefer bi-lingual, English -Malayalam, dictionaries. They have poor dictionary reference skills. They are poor in identifying meaning and pronunciation of words, synonyms, and antonyms. Also, it was found that most students do not use the words they come across while using a dictionary.

***Key words:** dictionary use, reference skills, English learning, etc*

Introduction

We often say education is a lifelong process starting from our birth to the grave and some philosophers say education is there even after death. Any way it is true that dictionary is one such book which helps mankind to learn about words and learn about its usage. One of the most important resources for a student to learn English is their dictionary. Even then there are a few students who cannot benefit from how to use a dictionary. This is a study concerned with getting students to use dictionary effectively and also get students understand that dictionaries are not a bunch of words with meaning but an effective book for a lifetime. A dictionary is a reference book containing the words of a language usually alphabetically arranged, with information on their forms, pronunciations, functions, meanings, etymologies, spellings and idiomatic uses. Most of this information cannot be found in other reference books. It is important to consider several advantages in the use of dictionaries. In the very early stages of learning, even an inadequate bilingual dictionary can provide an important support and be a quick reference book. In language learning/teaching process the importance of using dictionaries cannot be denied. It is obvious that the dictionary can be an extremely useful learning resource, especially as it makes the learner more independent of the teacher.

If the students learn how to use a dictionary effectively, then the dictionary

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can be a very helpful resource for their studies. Training in the proper use of a dictionary will be of help in selecting the meaning that is appropriate to a given context. The most important basic skill in using a dictionary is to find a word or expression one has in mind. Then, one has to find out the meaning of the word, however, there is a problem of choosing of appropriate meaning to the given context when several meanings are defined.

Theoretical Background of the Study

The study is based on 'Self –Directed Learning Theory.' "Self- Directed Learning has been described as a process in which individuals take the initiative, with or without the help of others, to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies and evaluate learning outcomes" (Knowles 1975). Self-directed learning depends on who is in charge, who decides what to do, what should be learned, who should be learned, what method and resource should be used, and how the source is utilised. A deep approach to studying involves transformation and is ideal for self-directed learning. This approach is about understanding ideas for yourself, applying knowledge to new situations and using novel examples to explain a concept, and learning more than is required for unit completion.

There are different approaches to learning. A surface approach involves reproduction, coping with unit requirements, learning only what is required to complete a unit in good standing, and tending to regurgitate examples and explanations used in readings. A strategic approach involves organization, achieving the highest possible grades, learning what is required to pass exams, memorizing facts, and spending time practicing from past exams. Earlier academic work may have encouraged a surface or strategic approach to studying. These approaches will not be sufficient (or even appropriate) for successful independent study. Independent study requires a deep approach to studying, in which students must understand ideas and be able to apply knowledge to new situations. Students need to generate their own connections and be their own motivators. The 'self-directed learning theory' envisages independent learning. Reference skills are vital for independent learning. The dictionary is the most commonly used book in academics. Students need to be trained in dictionary reference skills right from the early classes. This will help them to explore the wide world of knowledge.

Need and Significance of the Study

Knowing language gives rise to a key through which a learner can unlock the immense treasure of knowledge. A better knowledge of using a dictionary gives a student a greater control over his/her own learning. Dictionary helps a student to disentangle information in the word and its inner meaning. We are not born with full knowledge about all the words. Development of reference skills will achieve greater vocabulary and hold over the language. A dictionary gradually generates ideas, unfamiliar words and its origin along with the meaning of the language. If a student knows first-hand information of a word with the help of a good dictionary, there will be minimal classroom disruption. A teacher can rely on students to get the correct meaning; it will be an act of reference inside the classroom

and outside the classroom. Referring a dictionary gives the practical experience in the skill of skimming and scanning process which is essential in reading skills. This will give a student a curiosity to refer more books other than dictionary and use the skills in an effective way. Dictionaries can serve a reliable focus for communication as well as classroom interaction. Dictionaries help students to develop there in dealing the language especially the English language, use of a gives a lot of benefits like getting exposure to language, history, root of the word, aspects related to a word, speciality of word, how it must be pronounced and many more.

Most of the teachers assume that students already know how to use a dictionary effectively. Some teachers are afraid that the students will resist the English- English dictionary thus most of them prefer a bi-lingual dictionary. Convincing a student to learn how to use the English language dictionary must begin from small classrooms itself. Learning the ways to deal with the dictionary is not a part of the syllabus. The meanings of the difficult words are provided at the end of every chapter in textbook or in the glossary of the textbook.

Whole New World of Dictionaries

1) Bi-lingual Dictionary: The dictionary with two languages for example; English- Malayalam, Malayalam-English, such dictionaries can be used in multi lingual nations like India. Each state with their own language and its speakers and all states demand its own linguistic dictionaries. Thus, most common dictionaries are of bi-lingual dictionary.

2) Mono- Lingual Dictionary: It is designed for the native speakers of a particular language. Even though for a better knowledge of a language it is mandatory that a learner must have a mono-lingual dictionary with him/her, example; Oxford Student Dictionary.

3) Learner Dictionaries: These dictionaries are mainly English- English Dictionaries that have been written for language learner. They have their own style and difficulty levels. Good learner's dictionary will have features beyond the spelling, pronunciation and meaning. They include cultural connotations and whether the word is formally or dated.

4) Picture Dictionary: These dictionaries have illustrations along with the meaning of a word. Most of the students and teachers find such dictionaries very useful.

5) Multi Media Dictionary: These are the new generation dictionary available with most advanced and innovative techniques, they work with the help of computers and also available in computer CD's, example, Oxford Word Power Dictionary CD- Rom.

6) Dictionary App: These are the Multi-Media Dictionaries available in smart phones, these are available both online as well as offline. Using such dictionaries students get easy access to the word within seconds. The meanings are shown along with the pronunciation, translation, word origin as well as the usage of the particular word in a sentence. These applications became accessible for common man also because of the popularity of smart phones. There are many variations

in dictionaries which serve special purpose and usage.

Referring a dictionary is often considered a tedious task. Learning and mugging up of the meaning given in the course book will not help the student always, but if ever a student comes across a difficult word and chooses a dictionary for reference, he/she will learn more than just the meaning. If a student does not know how to refer a dictionary, it will be hindrance for new learning. Therefore, the investigators decided to find out the dictionary use among high school students.

Statement of the Problem

The problem of the study is stated as, 'A Study on the Dictionary Use of High School Students of Kottayam District.'

Objectives of the Study

1. To find out the dictionary use skills of High school students of Kottayam district
a) Skill of identifying the synonyms and antonyms
b) Skill of identifying pronunciation and spelling of words
2. To find out the use of new words come across in the dictionary among High school students of Kottayam district
3. To find out the preference for dictionaries of High school students of Kottayam district
4. To find out awareness of use of thesaurus among High school students of Kottayam district

Methodology

The study employed the descriptive Survey method.

Population

The population of the study was high school students, studying in schools following the curriculum designed by the Board of Secondary Education, Kerala State, of Kottayam district.

Sample

The sample comprised 45 students of standard nine of St. Thomas HSS, Pala.

Tool Used

The investigator used a self-designed 'Questionnaire on Dictionary Use among High School Students'.

Procedure

The questionnaire was distributed among 45 students of standard nine of St. Thomas HSS, Pala, Kottayam district. The responses were studied and analysed accordingly.

Statistical Technique used

Descriptive statistics, percentage was used to analyse the data.

Data Analysis and Interpretation

Objective 1

a) To find out the skill of identifying the synonyms and antonyms of High school students of Kottayam district

Table 1

Sl. No.	Components	Correct response	%
1	Synonyms	12/30	40
2	Antonyms	17/30	56
Total		29/60	48.3/100

The above table shows the students' skill of identifying synonyms and antonyms.

It states that only 48% of the students were able to identify the correct synonyms and antonyms from the questionnaire.

b) To find out the skill of identifying pronunciation and spelling of words of High school students of Kottayam district

Table 2

Sl. No.	Components	Correct response	%
1	Pronuncia-tion	3/30	10
2	Spelling	3/30	10
Total		6/60	10/100

The above table shows the students' skill of identifying the pronunciation and spelling of words while referring a dictionary is very poor. Only 10% of the students could identify the correct spelling and pronunciation.

Objective 2

To find out the use of new words come across in the dictionary among High school students of Kottayam district

Table 3

Sl. No.	Attitude	Frequency	%
1	Sometimes	15	50
2	Often	10	33.4
3	Never	5	16.6
4	Very often	-	-
5	Total	30	100

The above table shows that only 33% of the students use the new words they come across in the dictionaries. About 50% of the

students rarely practice the new words and 16% of the students never practice the new words that they come across.

Objective 3

To find out the preference for dictionaries of High school students of Kottayam district

Table 4

Sl. No.	Type of Dictionary	Frequency	%
1	Eng.-Mal.	27	90
2	Eng.-Eng.	2	6
3	Mal.-Eng.	1	4
4	Mal.-Mal.	-	-
5	Total	30	100

The above table shows that about 90% of the students of standard nine use English-Malayalam Dictionary for reference. The students who use only English- English dictionary comprise about 6% of the total students and interestingly 4% of the students uses Malayalam- English Dictionary for reference.

Objective 4

To find out the awareness of thesaurus among High school students of Kottayam district.

Table 5

Sl. No.	Attitude	Frequency	%
1	Yes	13	43.3
2	No	17	56.6
	Total	30	100

The above table shows that about 56% of the students are not aware about Thesaurus.

Analysis of the Data

- 90% students use bi-lingual dictionaries, English- Malayalam, for reference purposes.
- The students have poor dictionary reference skills.
- 90% students find it difficult to identify the meaning and pronunciation of words.
- 48.3% students find it difficult to identify synonyms and antonyms.
- 56.6% students are unaware of thesaurus.
- 66.6% students rarely practice the new words that they come across in the dictionaries.

Conclusion

We live in a digital world where auto-correct is both our best friend and our worst enemy. We type a word, and our device often predicts what we are trying to write before we finish our thought. Sometimes, it chooses a better word than intended or predicts a completely unrelated word that we have to correct. Writing reports and completing homework is much easier because of this modern technology. We can always count on spell check to catch our mistakes, highlight misspellings, correct grammar and develop sentence structure. The advancement of technology is helpful, but the speed with which we are getting our words on a page and having our mistakes automatically changed isn't challenging us to comprehend what we are saying, or

why it is being corrected. This is one of the biggest reasons why teaching dictionary skills and encouraging future generations to look up unfamiliar word definitions is a must.

Promoting Lifelong Learning Habits

Learning to use the dictionary promotes lifelong learning habits. It teaches students the basics for using a thesaurus, encyclopaedia, periodical, writing style guide, recipe book and more. The dictionary lists words alphabetically and groups them together using guide words. When students learn the alphabet and they are able to effectively navigate through a dictionary, they feel comfortable doing so with other educational resources, thereby becoming self-sufficient learners.

Expanding Vocabulary and Improving Education

Flipping through a paper-filled dictionary helps students acquire a broader vocabulary, learn the correct spelling of words, understand pronunciation and improve reading comprehension. The dictionary encourages them to analyse different meanings of an unknown word with example sentences and understand which one makes the most sense in their context. The same page also exposes students to many other words they may not know, improving spelling and expanding vocabulary. This experience is lost when spell check controls the learning process.

Overlooked Steps of the Learning Process

Even though the educational process continues to evolve with the advancement

of technology, it is important we do not miss steps of the learning process. Teaching students to take control of their learning and understand how to effectively use a dictionary will always be important in their educational journey. The basic skills learned from reading a book of words will continue to help guide them through higher education and their professional careers.

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LEARNING DIFFICULTIES FACED BY STUDENTS IN THE SCHOOL CLASSROOM WITH SPECIAL EMPHASIS ON ADHD

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Abstract

Learning difficulties or learning disabilities is one among the major problems we can see in the present classroom scenario. Learning disabilities can be described as those disorders that cannot be physically seen; rather it affects acquisition, organization, retention, understanding etc. They are different from global intellectual deficiency. There are different types of learning disabilities such as: dyslexia, dysgraphia, dyscalculia, dyspraxia, ADHD etc. Learning disabilities are lifelong impairments, and it involves difficulties with social interaction, perception and organizational skills. We might assume that these students are mentally retarded, but they are not.

Key Words: *Learning difficulties, Dyslexia, Dysgraphia, Dyscalculia, Dyspraxia, ADHD etc.*

Introduction

As the medical assistant Ignacia Estrada opines; "If a child can't learn the way we teach, maybe we should teach the way they learn'. Every child is unique in their own ways. We need not compare them with the societal so- called normal students. The students have their own learning styles and capacities. There are so many talented people with learning disabilities and it's just phenomenal. There are many examples before us like Albert Einstein, John Nash, Tom Cruise, George Washington etc. are to be named a few.

According to the Learning Disabilities Association of America (LDA), "learning disabilities, sometimes referred to as specific learning disabilities, is an umbrella term that covers a range of neurologically based disorders in learning and various degrees of severity of such disorders. Predecessor terms include: minimal brain damage and minimal brain dysfunction". Learning disabilities are generally described as difficulty in LSRW skills, reasoning or mathematical abilities. About five percent of the school children undergoes special education as a result of

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the learning disability. There are different factors contributing to learning disabilities. They are genetic factors, psychological factors, and environmental factors.

A child with learning disability can be identified using several techniques like observation, interview, checklist (non- testing devices), achievement test, diagnostic test, ability tests, and teacher made tests (testing devices). The major types of disabilities among students are dyslexia, dysgraphia, and dyscalculia and attention deficit hyperactivity disorder. Dyslexia is a term coined by Rudolf Berlin in the year 1887. It is derived from two German words 'dys' and 'lexis', meaning difficult and word or speech respectively. Thus, dyslexia can be defined as the difficulty in reading or simply the difficulty with the words. The children with dyslexia have problems with alphabets, difficulty in reading, acquiring vocabulary, pronunciation etc. Dysgraphia, on the other hand, refers to the problem with writing. This is of four types, namely, phonological, surface, mixed and semantic dysgraphia. Dyscalculia refers to the difficulty in calculations. It is thus a mathematical learning disorder. ADHD/ Attention Deficit Hyperactivity Disorder affect the attention span of the individual. This is characterized   by impulsivity and hyperactivity.

ADHD can be seen as a neurobiological and developmental disorder that affects our attention. In this the children exhibits one or more characteristics like impulsivity, inattention, hyperactivity etc. An average of five to 7 % of school children is affected by this problem. ADHD is more common in boys than girls.

Need and Significance of the study

Exceptional children deviate from the normal ones physically, emotionally, socially, mentally etc. This is not a disability, rather they should be considered as children with special needs. The society assumes them as mentally retarded, but they are not. Children with learning difficulty are found in almost all the classrooms and as teachers it is our duty to promote an inclusive classroom, accommodating all the differences. The disruptive behaviors are increasing day by day. This affects the conducive environment of the classroom. As teachers, we need to recognize their problems. Learning difficulties are quite common and we must thus provide an inclusive education, accommodating the differences. Students must be identified and given special care and also the problems must be rectified. There should be a positive rapport between the students and the teachers in order to identify and diagnose the problem. Learning difficulties are natural and they need not be considered as disabilities. Those students should be brought to the forefront or the mainstream rather than side lining them. So, the investigator decided to study the problems and diagnostic measures for these problems.

Statement of the Problem

The present study aims at finding out the learning difficulties faced by the students with respect to learning difficulties in general and ADHD in particular. Thus, in order to study the problem, the teacher

took this study and it is titled as "A Study on Learning Difficulties Faced by Students in the School Classroom with special emphasis on ADHD.

Objectives of the study

- To identify different learning difficulties faced by students in the school classroom.

- To understand the individual differences.

- To recognize the achievement of students.

- To understand the attention span of students.

- To suggest remedial measures for learning difficulties in general and ADHD in particular.

Methodology

Observation, informal interview, case study and achievement tests were used for the purpose of data collection to find out the learning problems of the students.

Analysis

Table 1
Mark wise analysis of students in English

Population of the study

The population of the study included 100 students of Standard IX, studying in St. Thomas HSS, Pala.

Sample

100 students of St. Thomas HSS, Pala from Kottayam district were selected as the sample for the study.

Tool Used

A questionnaire was used for the purpose. It consisted of twenty- five subject related questions (five each for five different subjects). For the purpose of case study 36 questions were used related to their difficulties and problems.

Procedure

A questionnaire was prepared and it was sanctioned by my mentor tutor Dr. Alex George. Later on, it was given to the students and the data collection took nearly 3 hours. Special time was taken for the purpose. The students were given the instruction. Strict invigilation was also made along with other two teachers. The data was collected and it was tabulated.

Subject area	Achievement percentage	Number of Students	Percentage
	80-100	44	38
English	60-80	36	31
	40-60	15	13
	Below 40	21	18

The table shows that 38 % of students have scored between 80 to 100 % in English. 31% of students scored between 60 to 80 % and 13 % have scored between 40 to 60 %. 18% of students have scored below 40 % in English.

Table 2
Mark wise analysis of students in Mathematics

Subject Area	Achievement percentage	Number of Student	Percentage
Maths	80-100	20	19
	60-80	27	25
	40-60	37	35
	Below 40	22	21

The table shows that 19 % of students have scored 80 to 100 % in math. 25% of students scored between 60 to 80 % and 35 % has scored between 40 to 60 %. 21 % of students have scored below 40 % in math.

Table 3
Mark wise analysis of students in Science

Subject Area	Achievement percentage	Number of Students	Percentage
Science	80-100	48	50
	60-80	23	24
	40-60	18	19
	Below 40	7	7

This table reveals that about 50 % of students have scored between 80 to 100 %. Nearly 24 % of students has scored between 60 to 80 %. 19 % of student falls between 40 to 60 % and 7 % have scored below 40 %.

Table 4
Mark wise analysis of students in Social Science

Subject Area	Achievement Percentage	Number of Students	Percentage
Social Science	80-100	42	39
	60-80	24	23
	40-60	21	20
	Below 40	19	18

The table shows that 39% of students have scored 80 to 100 % in Social science. 23% of students scored between 60 to 80 % and 20 % have scored between 40 to 60 %. 18 % of students have scored below 40 % in social science.

Table 5
Mark wise analysis of students in Malayalam

Subject	Achievement Percentage	Number of Students	Percentage
Malayalam	80-100	11	11
	60-80	36	34
	40-60	22	21
	Below 40	36	34

This table shows that 11% of students have scored 80 to 100 % in Malayalam. 34% of students scored between 60 to 80 % and 21 % have scored between 40 to 60 %. 34 % of students have scored below 40 % in Malayalam.

A case study was also conducted with the students and certain questions regarding the learning difficulties were given. Questionnaire was the primary tool followed by observation which was the secondary tool. Interview was also conducted with these students. The data collection took nearly three to four hours. It was observed that, more than half of the students, faced hyperactivity and attention deficit problems. Thus ADHD, was seen as the major problem.

Table 6
Difficulty in concentration

Sl. No	Response	Total Number of students	Percentage
1	I find it very difficult	47	47
2	Most of the times	31	31
3	Sometimes	20	20
4	Never	2	2

Only 2 % have good concentration, where as 47 % find it very difficult and 31 % suffers this problem most of the times. 20 % have this problem occurring sometimes.

Table 7
Duration of concentration

Sl. No	Response	Total Number of Students	Percentage
1	Less than 20 minutes	58	58
2	Up to 20 minutes	14	14
3	20-40 minutes	18	18
4	Above 40	10	10

Concentration problem (attention deficit) is a major problem of the class, of a total of 58% of students cannot concentrate for 20 minutes and only 14% can concentrate up to 20 minutes. Only 18% can completely concentrate for duration of one period (20-30 minutes). 10% can concentrate nearly, above 30 minutes. Thus, this can be seen as a problem.

Table 8
Get tired or distracted easily

Sl. no	Response	Total Number of Students	Percentage
1	Yes	68	68
2	No	10	10
3	sometimes	22	22

Most of them were getting tired or distracted easily and nearly 22% of students opted sometimes getting tired or distracted. 10 % of students could learn without any distractions.

Findings

- It was found that most of the students faced distractions while attending the class.
- The students also faced concentration problem.
- It was also found that most of the student's attention level was very less.
- ADHD was thus seen as the major problem.
- It was also found that only 11 out of hundred scored marks between 80-100 in Malayalam. Most number of students scored marks between 80- 100 for Science followed by English, Social and Maths respectively.

Implications/ Suggestions

- The teacher should build good rapport with the students so that the teacher can find their problems and suggest remedial measures.
- Inclusive education must be promoted.
- More group activities must be given.
- Counselling also serves as an effective measure.
- Teachers must provide works based on the levels of the students.

Conclusion

School is the miniature of a society. Children coming from different background exhibit different problems. Learning difficulties are quite common. A disabled child may face problems in reading, writing, calculations etc. Special care thus be given to these students. This can be done by conducting action research or having some interviews or personal talk with children etc. An inclusive classroom should thus be promoted.

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ACADEMIC STRESS OF HIGHER SECONDARY SCHOOL STUDENTS IN RELATION TO PROCRASTINATION BEHAVIOR AND TIME MANAGEMENT COMPETENCY

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Abstract

Procrastination behavior and poor time management competency can lead to academic stress among the students. Academic stress can lead to poor physical and mental health, losing self-confidence and academic failure. The study aims to study the interrelations between the variables academic stress, procrastination behavior and time management competency. The study was designed in a descriptive survey model. Student academic stress scale (Akhitar, 2011), Procrastination behavior scale (Reethumol & Rahul, 2020) and Time management competency scale (Sansanwal & Parashar, 2007) were used for data collection. The sample of the study consisted of 200 higher secondary school students of Thiruvananthapuram district following the Kerala state syllabus selected on the basis of random sampling from government, and aided schools. Mean and standard deviation were calculated. Karl Pearson's product moment correlation and Multiple Correlation were used for data analysis. The study revealed that there exists an interactive influence (combined effect) of procrastination behavior and time management competency on academic stress.

Introduction

Education is needed for every human being not only to become a scholar but also lead a better and happier way of life. The right type of education should clear out the fog that clouds man's mind; remove chaos and tensions in the world. Education is the transformation of mind from untruth to truth from inertness to actualization and from darkness to light. Education is in dispensable for the well-being and survival of mankind. It is the most powerful instrument that can be about desirable changes in the social, economic, cultural and political spheres of life of the people. Education is the process of self-realization and involves the bringing out of the children own

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intellectual and moral capacities to their highest possible potential.

Adolescence can be viewed as the most important transition stage in an individual's life. It is the growing phase which determines the major aspects of one's personality. According to WHO (World Health Organization, 2000), adolescence can be aptly defined as a period of growth in an individual's life after the individual passes from childhood to adulthood. Adolescence is a period of active growth and development in all aspects such as physical, psychological, emotional, sexual and social. The adolescents are bound to show variation during this period till the attainment of full maturity. Many adolescents present problems during this potentially disturbing period. Higher secondary school students are in their later adolescence, face so many problems because of their procrastination behavior and improper time management competency. This will lead to academic stress among them.

The use of term "Stress" in our daily conversation has increased. There is no stress-free world. There is no way to shield one's self from all stresses. Stress can be good or bad that causes one to re-adjust accordingly. It may be served as useful in life if it enhances effort, inventiveness and high standards. If it increases beyond the optimum level, it adversely affects the coping mechanisms and hampers growth. Stress may act both as a stimulus and a response. Stress involves an interaction of person with environmental demands from the person. Among the different types of stresses faced by adolescents and young adults, academic stress emerges as significant mental health problem in recent years (Rangaswamy, 1995). Information

load, high expectations, academic burden or pressure, unrealistic ambitions, limited opportunities, high competitiveness are some of the important sources of stress which creates tension, fear, and anxiety. Poor academic performance, diminished popularity, depression, attention difficulties, somatic complaints, and substance abuse are commonly observed problems among the victims of academic stress without being aware of alternative means to cope with problems (Sinha, 2000).

Academic stress arises when academic-related demands exceed the resources that are available to cherish that particular demand. It is widely acknowledged that a student's academic achievement and academic ability depend on both internal and external factors such as proper study habits, intelligence, educational aspirations of self and parents, medium of instruction and so on. If these are not conducive for learning, they may lead to academic stress.

The term procrastination means 'to put off', 'delay', 'prolong', 'defer', 'stall', or 'postpone performing a task'. Individuals who postpone their duties and responsibilities, and cannot begin a work with the aim of completing, are considered to be having procrastination. Furthermore, academic procrastination can involve putting off assignments until the last minute. This can in turn, lead to a range of adverse effects including fear, anxiety, stress, worry and low self-esteem. Academic procrastination can be understood as the voluntary delay of the completion of an academic task within the expected or desired time frame despite expecting to be worse off for the delay.

Due to the fear of failure, students reported that they are more likely to finish an assignment if the tasks reflect their

ability in a non-threatening, engaging way. Easier and less punitive assignments invited less procrastination. Typically, the timing of the assignment during the academic term did not have a significant impact on the students' likelihood to procrastinate. Ferrari and Schel (2000) found the occurrence of academic procrastination was often consistent throughout the academic term.

Time is an important factor in life. It is the most precious and scarce resource. Time and tide waits for no man. Ironically man does not have any control over to it. The idea of time management could therefore be explained within the framework of achieving a lot of success in the work place within a time frame. Time management is self-management with an explicit focus on time in deciding what to do; on how much time to allocate to activities; on how activities can be done more efficiently and on when the time is right for particular activities. Without time every existence is questionable. The increasing pace of life occasioned by such factors as growing competition in all spheres is creating increased time pressure on mankind. This is often expressed by doing thing faster, contracting time expenditure and compressing action.

Time management can be perceived as an ability of an individual to accomplish his/her task within the stipulated time frame. It is the ability to take into account every minute, eliminating unnecessary tasks. The basis for time management rests on effectiveness of time spending. Effective time management is the key to success in all human endeavors. Management includes advanced planning, organization and

implementation. Time Management help us to accomplish a specific task that has a due date with maximum efficiency.

Time management shows the capability of an individual to distinguish between worthy and unnecessary tasks; and to utilize the time accordingly. Effective time management is the investment of time in such a way that suitable results are achieved from activities within a specific time range and it emphasizes an effectiveness rather than efficiency. One's ability to choose between the important and the unimportant and be determined to follow the correctly chosen sequence, is the key determinant of effectiveness in time management. The time management can be defined as the ability to utilize the time judiciously to accomplish a particular task.

Better time management can be achieved, if goals have been set and then all future work is prioritized based on how it moves the individual towards meeting the goals. The value of time management lies in the fact that people have too many tasks they need to do but not enough time for the things that they want to do. Time management helps to identify the needs and wants in terms of their importance and matches them with time and other resources. Thus, time management brings about orderliness and enables one to be more productive and fulfilled.

Procrastination behavior and poor time management competency can lead to academic stress among the

students. Academic stress can lead to poor physical and mental health, losing self-confidence and academic failure. The present research perhaps is an initial effort to study the relationship between procrastination behavior, time management competency and academic stress among higher secondary school students.

Need and Significance of the Study

Procrastination behavior and poor time management competency can lead to academic stress among the students. Academic stress can lead to poor physical and mental health, losing self-confidence and academic failure.

There are studies conducted in the past to assess the academic procrastination behavior, time management competency and academic stress in comparison with different outcome variables. Kaushar (2013) studied about the relationship between time management and academic achievement of college students and revealed that even though the students spend more time in planning the tasks, they found it difficult to manage the time wisely. It also revealed that there is positive relationship between time management and academic performance of the students.

Yerdelen (2015) investigated a longitudinal association between students' procrastination and anxiety in relation of self-efficacy and self-regulation. Analysis through Latent Growth Curve Modeling revealed that procrastination significantly increased over the semester, while academic anxiety decreased in the

ending of semesters. In the beginning of the semester, students' procrastination and anxiety were found positively correlated; however, the procrastination and anxiety were not predicted from initial levels of these variables. Moreover, in the beginning of the semesters, high levels of anxiety and procrastination were significantly related to low levels of self-regulation and self-efficacy, whereas the rate of change in anxiety and procrastination over the semesters were not predicted by students' initial levels of self-efficacy and self-regulation.

Higher secondary school students are in adolescent period of storm and stress, marked with identity confusion. At this stage of life everybody experiences different types of stress. A student at this stage is subjected to both internal and external pressures related to career choice, identity crisis, peer pressure etc. Also procrastination behavior may be at its peak during this period. Procrastination of academic activities may lead to unwanted stress in future if the student fails to accomplish the assigned tasks. So effective time management is necessary to avoid such kind of occurrences. Even though many researchers have studied on the selected variables, there isn't sufficient number of studies which establish the relationship between the selected variables of higher Secondary School students. If such a study is conducted, it would be helpful for the teachers, educationalists, curriculum makers to plan and design the school activities in a more effective manner in such

a way that it reduces the academic stress of students. Further the teacher can plan activities to improve the time management competency of students and help to develop habits to eliminate the procrastinating behavior. It is in this context the investigator decided to study the academic stress of higher secondary school students in relation to their procrastination behavior and time management competency.

Research Questions

•   Is there any relationship between academic stress and procrastination behavior of higher secondary school students?

•   Is there any relationship between academic stress and time management competency of higher secondary school students?

•   Does the combined effect of procrastination behavior and time management competency have any interactive influence on the academic stress of higher secondary school students?

Objectives of the Study

The following objectives formulated for the present study:

1. To find out the relationship between academic stress and procrastination behavior of higher secondary school students.

2. To find out the relationship between academic stress and time management competency of higher secondary school students.

3. To find out whether there exist any interactive influence of procrastination behavior and time management competency on academic stress of higher secondary school students.

Method Adopted

The investigator adopted survey method for collecting relevant data for the present study. The sample of the study consisted of 200 higher secondary school students of Thiruvananthapuram district following the Kerala state syllabus selected on the basis of random sampling from government, and aided schools. The variables used in the present study are Academic stress, Procrastination behavior, Time management competency. Student academic stress scale (Akhitar, 2011), Procrastination behavior scale (Reethumol & Rahul, 2020) and Time management competency scale (Sansanwal & Parashar, 2007) were used for data collection. Mean and standard deviation were calculated. Karl Pearson's product moment correlation and Multiple Correlation were used for data analysis.

Analysis and Discussion of Result

Correlation analysis was conducted to find out the relationship between academic stress, procrastination behavior and time management competency of higher secondary school students.

Correlation between academic stress and procrastination behavior of higher secondary school students was calculated for the sample was calculated using product moment correlation. The results are given in Table 1.

Table 1

Coefficient of correlation between academic stress and procrastination behavior of higher secondary school students

Variables correlated	N	Value of r	Level of significance	Confidence interval
Academic stress × Procrastination behavior	220	0.564	0.01	0.518-0.609

The value of coefficient of correlation between academic stress and procrastination behavior is 0.564. The value is far higher than the value set for 0.01 significance level (0.1739). Hence the obtained correlation is significant at 0.01 level of significance. This shows that there is significant positive correlation between academic stress and procrastination behavior of higher secondary school students. This means any increase or decrease in academic stress will be followed by a corresponding increase or decrease in procrastination behavior.

Correlation between academic stress and time management competency of higher secondary school students was calculated for the sample was calculated using product moment correlation. The results are given in Table 2.

Table 2

Coefficient of correlation between academic stress and time management competency of higher secondary school students

Variables correlated	N	Value of r	Level of significance	Confidence interval
Academic stress × Time management competency	220	-0.523	0.01	-0.4740- (-5719)

The value of coefficient of correlation between academic stress and time management competency is -0.523. The value is far higher than the value set for 0.01 significance level (0.1739). This shows that there is significant negative correlation between academic stress and time management competency of higher secondary school students. This means any increase or decrease in academic stress will be followed by a corresponding decrease or increase in time management competency.

Multiple correlation analysis was done using the three variables academic stress (X), procrastination behavior (Y) and time management competency (Z). Combined effect (interactive influence) of procrastination behavior and time management competency on academic stress of higher secondary school students was found out and the details of multiple correlation between academic stress, procrastination behavior and time management competency taken in pairs and multiple correlation between academic stress and combined procrastination behavior and time management competency are given in   Table 3.

Table 3

Multiple correlation between academic stress and combined procrastination behavior and time management competency of higher secondary school students

N	Correlation coefficients			
	Between academic stress and time management competency, r_{xz}	Between procrastination behavior and time management competency, r_{yz}	Between academic stress and procrastination behavior, r_{xy}	Multiple Correlation coefficient, R_{zxy}
220	-0.523	-0.468	0.564	0.635

From Table 3 it is seen that the multiple correlation of procrastination behavior and time management competency on academic stress of higher secondary school students is 0.635 which is significant at 0.01. That implies that there exists a combined effect (interactive influence) of procrastination behavior and time management competency on academic stress. That means both the variables have an interactive influence (combined effect) on academic stress of higher secondary school students.

Discussion of Results

The present study dealt with the variables academic stress, procrastination behavior and time management competency of higher secondary school students. As per the study it was found that there exists significant relationship between academic stress and procrastination behavior of higher secondary school students and also found that there exists significant relationship between academic stress and time management competency of higher secondary school students. Findings of the present study revealed that that there exists an interactive influence (combined effect) of procrastination behavior and time management competency on academic stress.

The present study has been conducted based on the variables academic stress, procrastination behavior and time management competency of higher secondary school students. The present study is conducted based on the topic ''Academic stress of higher secondary school students in relation to procrastination behavior and time management competency''. Findings of the present study revealed that there exists an interactive influence (combined effect) of procrastination behavior and time management competency on academic stress. This study reflects the need for training in effective time management, reduction in procrastination behavior and academic stress management.

Nayak (2011) conducted a study on Impact of Procrastination and Time-Management on Academic Stress among Undergraduate Nursing Students which reveals the importance of enhancing time management competency and reducing procrastination to avoid academic stress. Similarly, in the present study, the investigator found that procrastination behavior, time management competency, and academic stress are interrelated.

As we know procrastination behavior and time management competency play an important role in the academic stress.

Procrastination behavior and poor time management competency can lead to academic stress among the students. Academic stress can lead to poor physical and mental health, losing self-confidence and academic failure. The enhancement of time management competency and reduction of procrastination behavior will help the higher secondary school students to reduce academic stress. This will help higher secondary school students for keeping better academic performance and also their carrier life in future. This also helps the students to lead a successful life. The investigator would feel gratified if the present study would lead to a better understanding of the importance of academic stress, procrastination behavior and time management competency.

Conclusion

The present study details the association of variables academic stress, procrastination behavior and time management competency which will help the teachers, administrators, research workers, curriculum developers, teacher educators and students to do better performance in the teaching-learning process. It will be worthwhile to present some implications here.

The study is expected to provide assistance to the teachers, educationalists, curriculum makers in planning and designing the school system in a more effective manner to reduce the academic stress of students. The study will fill a vacuum since no such study has been conducted in this aspect. Findings of the study would be helpful to teachers, educators, administrators, planners and parents to improve time

management competency at higher secondary school level and inculcating the habits of reducing procrastination behavior of students.

The teachers should provide different opportunities to the students to analyze a problem in their own perspectives by using different methods and reduce academic stress. Teachers are expected to include various activities that enhance their time management competency. The students should be given proper guidance and instructions to identify their strengths and weakness to lead a successful life by fostering their time management competency and reducing procrastination behavior.

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SOCIAL MEDIA COMPETENCE AMONG HIGHER SECONDARY STUDENTS OF KOTTAYAM

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Abstract

In today's society social media has become a part of our everyday lives. Social media is a juggernaut in today's world and has taken over news, entertainment, and education. Social media usage is one of the most popular online activities. Social networks, with which users can access all kinds of information, are a part of everyday life and continue to transform the way one interact with another on a global scale. The present study is an attempt to identify Social Media Competence of Higher Secondary Students of Kottayam and whether there exist any difference in it with respect to (a) Gender (b) Locale (c) Type of Management (d) Stream of Study and (e) SES. The findings of the study revealed that there is significant difference between the mean scores of Social Media Competence with respect to Gender, Locale, Type of Management and SES.

***Key term:** Social Media Competence, Digital age, Higher Secondary students, etc*

Introduction

The digital age has led to the increase of Social media usage among the people of different age groups. Social media plays an important role in every student's life. Social media is shaping and influencing how students learn and interact today. As a very cost effective communication medium its adoption and use is widespread among young people. Social media promotes self-directed learning, which prepares students to search for answers and make decisions independently. When reinforced in a classroom setting, these social media skills can be guided and refined to produce better learning outcomes and critical awareness. Social media also allows students more freedom to connect and collaborate beyond the physical classroom.

Social media shapes and presents information in a way that makes sense to and excites students more than traditional tools do, whether it's through a shared article with comment functionality, a live stream of an important event, a survey related to course materials, or a question posed to the broader community. Furthermore, sharing posts and information with other students promotes deeper engagement and better performance from all students.

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Social media competence refers to a person's ability to use social media adequately in conversations, in sending messages, coming in contact with others, and stimulating discourse and engaging in communal activities (Alber et al., 2015).

It is important to affirm that social media has encouraged and stimulated people and communities to create, interact and share content on different platforms.

According to Statista (2021) over 4.26 billion people were using social media worldwide, a number projected to increase to almost six billion in 2027.On the average, the daily usage of social media globally in 2019 and 2020 amounted to 145 minutes per day, up from 142 minutes daily in 2019. Based on Statista (2021) data, Facebook is the most used social media globally. About 2.6 billion people actively use Facebook monthly, with 3.45 billion people using at the minimum one of her major products (Facebook, WhatsApp, Instagram, or Messenger) on monthly basis. These platforms also make their services available in different languages, allowing users to link up with friends on a global scale and across spatial, political and economic borders. People aged 19 years and younger spent on average 49.12 minutes on social media apps daily (Statista, 2021).

There are both negative and positive side effects of social media. As more young people spend more time online, they are less comfortable in face-to-face interactions and more likely to be bullied or participate in inappropriate behaviours that could negatively affect future education and career opportunities. Despite the negative side effects, students can use social media to their advantage by creating professional online personas, networking with students and professionals, and seek help and advice from anywhere in the world.

As the world's digital population grows, so does the reach and usage of social media. A large part of daily internet usage involves social media, especially among the younger generation of students. The rapid integration of social media into personal, professional, and educational settings has catalyzed the need to assess social media competence. Social media research has attracted increasing interest in the scholarly communities of diverse disciplinary areas, and has seen a growing number of publications, both as a transversal topic and specifically within the educational sector (Rehm, Manca, Brandon, & Greenhow, 2019). However, the studies summarizing the social media literature in learning sectors, stress the continuing need to develop the social media skills of both students and teachers, and also to consider diversity in experience and values regarding social media (Van Den Beemt et al., 2020).

Objective of the Study

1. To compare the mean scores of Social Media Competence among Higher Secondary Students of Kerala based on Gender, Locale, Type of Management, Stream of Study and SES

Hypothesis

1. There is no significant difference in the mean scores of Social Media Competence among Higher Secondary Students of Kerala based on Gender, Locale, Type of Management, Stream of Study and SES

Methodology

Normative survey was adopted for the study. The sample consists of 931 Higher Secondary Students studying in standard XI from various schools in Kottayam district. The investigator used stratified random

sampling technique, since the population consists of a number of strata like Gender of the student (Boys/Girls), Locale of the school (Urban/Rural), Type of Management of the school (Aided/ Government/Unaided) and Stream of Study (Science/Humanities). The investigator prepared an Inventory to assess the Social Media Competence of Higher Secondary Students. Each statement consists of three options namely Always, Sometimes and Never.

Analysis and Interpretation of Data

The comparison of the mean of the scores of Social Media Competence among Higher Secondary Students of Kerala based on Gender, Locale, Type of Management, Stream of Study and SES is studied under the following heads

i. Comparison of the mean of the scores of Social Media Competence among Higher Secondary Students of Kerala based on Gender, Locale and Stream of Study using t-test

ii. Comparison of the mean of the scores of Social Media Competence among Higher Secondary Students of Kerala based on Type of Management and SES using ANOVA

Comparison of the mean of the scores of Social Media Competence among Higher Secondary Students of Kottayam based on Gender, Locale and Stream of Study

The mean scores of Social Media Competence among Higher Secondary Students of Kottayam are compared based on Gender, Locale and Stream of Study using t-test. The details are given in the table 1.

Table 1

Data and results of the test of significance of difference in mean scores of Social Media Competence among Higher Secondary Students of Kottayam based on Gender, Locale and Stream of Study

Variables		N	Mean	SD	t-value	Level of significance
Gender	Boys	490	19.83	2.67	19.59	$p<0.01$
	Girls	441	15.76	3.63		
Locale	Urban	454	18.24	3.44	2.68	$p<0.01$
	Rural	477	17.58	4.02		
Stream of Study	Science	466	17.78	3.81	0.98	$p>0.05$
	Humanities	465	18.03	3.71		

From the table 1 the calculated values of 't' for significance of difference between the mean scores of Social Media Competence with respect to Gender and Locale   are   19.59 and 2.68 respectively. The calculated t- value with respect to

Gender and Locale are significant at 0.01 level. The calculated t value with respect to Stream of study 0.98 is not significant at 0.05 level. This indicates that there exists significant difference between the mean scores of Social Media Competence with

respect to Gender and Locale. From the mean scores, it is evident that Boys have more Social Media Competence than Girls and Higher Secondary Students belonging to Urban schools have more Social Media Competence than that of Rural schools.

Comparison of the mean of the scores of Social Media Competence among Higher Secondary Students of Kottayam based on Type of Management and SES

The mean scores of Social Media Competence among Higher Secondary Students of Kottayam are compared based on Type of Management and SES using ANOVA. The details are given in the table 2.

Table 2
Summary of Analysis of Variance (ANOVA) of Social Media Competence with respect to Type of Management and SES

Variables	Source	Sum of squares	df	Mean square	F-ratio	Level of Significance
Type of Management	Between groups	89.23	2	44.61	3.16	p<0.05
	Within groups	13090.00	928	14.10		
	Total	13179.24	930			
SES	Between groups	695.80	2	347.90	25.86	p<0.01
	Within groups	12483.43	928	13.45		
	Total	13179.24	930			

F value for df (2, 928) at 0.05 level = 3 and 0.01 level = 4.63

From the table it is evident that with respect to Type of Management the calculated F-values of Social Media Competence is 3.16. The calculated value of F is significant at 0.05 level. With respect to SES the calculated F-value of Social Media Competence is 25.86. The calculated F-value is significant at 0.01 level of significance. This indicates that, there is significant difference between the mean scores of Social Media Competence with respect to Type of Management and SES. Hence for detail analysis, pair wise comparison of this was done by using Scheffe's test. The details are given in table 3 and 4 respectively.

Table 3
Pair wise comparison of Social Media Competence of Higher Secondary Students with respect to Type of Management using Scheffe's Test

Variable	Subsample	N	M	SD	(I) Type of Management	(J) Type Management	Mean Difference (I-J)	CR	Level of significance
Social Media Competence	Government	301	17.48	4.22	Government	Aided	-0.49	1.51	p>0.05
						Unaided	-0.75	2.36	p<0.05
	Aided	320	17.97	3.60	Aided	Government	0.49	1.51	p>0.05
						Unaided	-0.26	0.93	p>0.05
	Unaided	310	18.23	3.36	Unaided	Aided	0.26	0.93	p>0.05
						Government	0.75	2.36	p<0.05

From table 3 it is evident that value of critical ratio for the pair wise comparison of the Social Media Competence scores of Unaided and Government school students is 2.36. This value is significant at 0.05 level of significance. Hence it can be concluded that there exists significant difference in the mean scores of Social Media Competence of Unaided and Government school students. The value of critical ratio for the pair wise comparison of the Social Media Competence scores of Unaided and Aided school students, and Aided and Government school students is 0.93 and 1.51 respectively. These values are not significant at 0.05 level of significance. Hence it can be concluded that, there exists no significant difference in Social Media Competence scores of Unaided and Aided school students, and Aided and Government school students. From the mean values it is evident that Unaided school students have more Social Media Competence when compared to the students of Aided and Government schools.

Table 4

Pair wise comparison of Social Media Competence of Higher Secondary Students with respect to SES using Scheffe's Test

Variable	Subsample	N	M	SD	(I) SES	(J) SES	Mean Difference (I-J)	CR	Level of significance
Social Media Competence	Low SES	390	17.16	4.15	Low SES	Average SES	-0.84	3.27	p<0.01
						High SES	-2.69	7.14	p<0.01
	Average SES	416	18.01	3.36	Average SES	Low SES	0.84	3.27	p<0.01
						High SES	-1.84	4.94	p<0.01
	High SES	125	19.86	2.95	High SES	Average SES	1.84	4.94	p<0.01
						Low SES	2.69	7.14	p<0.01

From table 4 it is evident that values of critical ratio for the pair wise comparison of Social Media Competence scores of students belonging to High SES and Low SES, High SES and Average SES, and Average SES and Low SES are 7.14, 4.94 and 3.27 respectively. These values are significant at 0.01 level of significance. Hence it can be concluded that there exists significant difference in Social Media Competence scores among students belonging to High SES and Low SES, High SES and Average SES, and Average SES and Low SES. From the mean values it is evident that students belonging to High SES have more Social Media Competence when compared to that of Average SES and Low SES.

Findings and Conclusion

The findings of the study reveal that there exists significant difference between the mean scores of Social Media Competence with respect to Gender, Locale, Type of Management and SES. From the mean scores, it is evident that Boys have more Social Media Competence than Girls and Higher Secondary Students belonging to urban schools have more Social Media Competence than that of rural schools. Also unaided school students have more Social

Media Competence when compared to the students of Aided and Government schools. Students belonging to High SES have more Social Media Competence when compared to that of Average SES and Low SES.

The potential of social media in education is tremendous and social media competence is significantly related to digital citizenship. Efforts are necessary for formalizing educational programmes, developing curricula and designing pedagogy for enhancing social media competence and digital citizenship among students.

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SPIRITUAL SENSITIVITY AND PSYCHOLOGICAL WELL-BEING OF PROSPECTIVE TEACHERS

Dr Mridula K.* & Dr Sethu S Nath.**

Abstract

The study attempts to find the relationship between spiritual sensitivity and psychological well-being of prospective teachers. The gender based differences of the variables among prospective teachers are also analysed. The study was conducted among 110 prospective teachers studying for B.Ed programme. The sample was selected through simple random sampling from various teacher education institutions of Palakkad and Pathanamthitta district. Spiritual sensitivity scale adapted and validated by the investigators and Riff's scale of psychological well-being were used to collect data.The analysis and interpretation of data revealed the following findings. Prospective teachers possess average level of Spiritual Sensitivity and the mean score of spiritual sensitivity of male prospective teachers differ significantly from their female counterparts.The mean score of Psychological well-being do not differ significantly based on gender. Dimension wise analysis revealed that male and female prospective teachers significantly differ in self acceptance and positive relation with others. The study also revealed significant relationship between Spiritual Sensitivity and psychological well-being of prospective teachers.

Keywords: *Spiritual sensitivity, Psychological well-being, Prospective teachers,*

Introduction

One of the important factors that contribute to the well-being of human beings is his ability to link life with physical, social and psychological domains harmoniously. Spirituality which is often intuitive aids this and motivates to look for a goal and meaning in life. Spirituality helps the life to be positive. It is not focused on mere bodily existence of a person but on the basic components of human experience and covers his belief in spirituality and experiences. Spirituality reflects 'a broader dimension of day-to-day activity' (Coffey, 2002). A person needs to find himself or herself spiritually in order to become, as Vardy (cited in Coffey, 2002) says, fully human. In Educational Leadership, Palmer,(1999) expanded on the question of spirituality in education: "I reject the

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imposition of any form of religion in public education, including so-called "school prayer." But I advocate any way we can find to explore the spiritual dimension of teaching, learning, and living. By "spiritual" I do not mean the creedal formulations of any faith tradition, as much as I respect those traditions and as helpful as their insights can be. I mean the ancient and abiding human quest for connectedness with something larger and more trustworthy than our egos – with our own souls, with one another, with the worlds of history and nature, with the invisible winds of the spirit, with the mystery of being alive"

Spiritual sensitivity (SS) is defined as attention to the available spiritual values in a conflicting situation and awareness of one's roles and responsibilities in that situation. The three dimensions of spiritual sensitivity identified by David Hay (1998) are: awareness sensing, mystery sensing and value sensing . 'Awareness sensing' refers to an experience of a deeper level of consciousness when one choose to be aware by 'paying attention' to what is happening. This kind of awareness refers to a reflexive process of being attentive towards one's attention or 'being aware of one's awareness'. The second category of spiritual sensitivity is 'mystery sensing' which is connected to ones capacity to transcend everyday experience and to use imagination. The third category of spiritual sensitivity is 'value sensing'. This category emphasizes the importance of feelings as a measure of what one value. The forth category includes the social dimension of spiritual sensitivity identified by Bradford (1995) named as 'community sensing'. These categories coincides with Howard Gardner's notion of the spiritual intelligence as the 'achievement

of a state of being' and the 'concern with cosmic or existential issues'. Spiritual sensitivity influences ones activities. It is directly connected to the values and ethical behaviour (Chittenden, 2003).

Psychological well-being refers to inter- and intraindividual levels of positive functioning that can include one's relatedness with others and self-referent attitudes that include one's sense of mastery and personal growth. Keyes et al. (2002) have defined psychological well-being as having positive perceptions about himself or herself, having good feelings about himself or herself even aware of his/her own limitations, developing and maintaining warm and trustful social relationship, shaping the environment in a way to meet personal needs and wishes, acting or behaving autonomously without depending anyone else, attempting to find meaning in life and having purposes in life, being aware of the limits of personal potential and making effort to growth this potential and capabilities . The concept of self actualization (Maslow,1968), the view of the fully functioning person (Roger,1961), formulation of individuation (Jung,1933), and the conception of maturity (Allport,1961) addresses the concept of positive psychological functioning. Self acceptance, positive relation with others, autonomy, environmental mastery and purpose in life, are the core dimensions of psychological wellbeing (Ryff,1989). An individual's sense of self acceptance is the most important aspect of his wellbeing. Having a positive attitude towards oneself is central to mental health and maturity. Developing and sustaining positive relationship with others is also a significant component which determines person's mental wellbeing. Warm relationship with

others and the ability to love is crucial for being mentally healthy.   Sense of freedom from fears, beliefs and taboos and development of independence and regulation of self from within is a key characteristic of a fully functioning person with autonomy. A psychologically healthy person is able to choose and create situations suitable for him. He will be able to advance in the life through actively participating in worldly activities. A person with good mental health will have a purpose in life. A sense of directedness, meaningfulness and intentionality leads to attain goals in life. A psychologically balanced individual discovers his strength, continue to develop his potential to grow and expand as a person.   Personal autonomy, continuous growth and self-realization are the major concepts discussed in Life span theories and Adult development stage theories.

Need and importance of the study

Numerous research studies have shown the influence of spirituality on mental and emotional wellbeing of people. Greenfield et al. (2009) found that higher levels of spirituality were associated with higher levels of well-being (positive affect, purpose in life, positive relations with others, personal growth, self-acceptance, environmental mastery, autonomy), with some associations stronger among women than men. Robert A.E(1999) studied about spiritual intelligence and describes it as 'the adaptive use of spiritual information to facilitate everyday problem solving and goal attainment'. This explanation is relevant for any professionals in any field as the adaptative use of spiritual information acts as a motivating force for overcoming obstacles in life with emotional stability. Teachers have the responsibility to nurture

in learners' positive values. The inherent spiritual dimensions of education like being ethical and moral in daily activities in turn will result in contentment and mental peace. The teachers need to assist students to be spiritually sensitive. Before they connect with the lives of their students, teachers need to be cognizant of, and connect with, their own lives and their inner world. Prospective teachers need to enjoy psychological well being to excel in personal and professional life in future. Spiritual sensitivity need not be necessarily interpreted in religious connotation. In educational institutions it can to be imparted as hidden curriculum in their pedagogical programmes. The study attempts to find out the ability of student teachers in awareness sensing, mystery sensing, value sensing, and community sensing in their life. Moreover the study attempts to assess the psychological wellbeing of prospective teachers by studying their self acceptance, positive relation with others, autonomy, environmental mastery and purpose in life. Keeping this as focus following research questions have been framed.

RQ1. What is the level of spiritual sensitivity of prospective teachers?

RQ2. What is the level of psychological well- begin of prospective teachers?

RQ3. Whether there is any gender wise differences in the spiritual sensitivity of prospective teachers?

RQ4. Whether there is any gender wise differences in the psychological well- begin of prospective teachers?

RQ5. Is there any relationship between spiritual sensitivity and psychological wellbeing of prospective teachers?

Objectives

1. To access the level of Spiritual Sensitivity of prospective teachers
2. To assess the level of Psychological well-being of prospective teachers
3. To find out the gender wise differences in the Spiritual Sensitivity of prospective teachers
4. To find out the gender differences in the Psychological well-being of prospective teachers
5. To find out the relationship between Spiritual Sensitivity and Psychological well-being of prospective teachers

Hypotheses

1. Prospective teachers differ in their Spiritual Sensitivity
2. Prospective teachers differ in their Psychological well-being
3. There is significant difference in the Spiritual Sensitivity of prospective teachers based on gender
4. There is significant difference in the Psychological well-being of prospecting teachers based on gender

5. Their exist significant relationship between spiritual sensitivity and psychological well-being of prospective teachers

Methodology

The survey method was adopted for the study.110 prospective teachers studying for B.Ed. Programme selected through simple random sampling from various teacher education institutions of Palakkad and Pathanamthitta Districts, were considered as the sample of the study. Spiritual Sensitivity Scale adapted and validated by the investigators based on the empirical studies on spirituality by Hay(1998) and Bradford (1995) and Riff's scale of Psychological well-being was used to collect data. The tools were distributed among the samples and the data was collected. The data was analyzed using statistical techniques like, Percentage Analysis,Test of Significant difference (t- test), Pearson Product Moment Correlation.

Analysis and Interpretation of Data

Table 1
Levels of Spiritual Sensitivity of prospective teachers

Variable	Levels					
	High		Average		Low	
	N	%	N	%	N	%
Spiritual Sensitivity	26	23.64	68	61.82	16	14.54

Table 1 shows the number and percentage of prospective teachers belonging to high ,average and low levels of Spiritual sensitivity. The result shows that out of the total sample (N=110), 23.63% of the prospective teachers (N=26) have high level of Spiritual Sensitivity. 61.82% (N=68) and 14.54% (N=16) of the prospective teachers have average and low level of Spiritual Sensitivity respectively.

Table 2
Levels of Psychological well-being of prospective teachers

Variable	Levels					
	High		Average		Low	
	N	%	N	%	N	%
Psychological well-being	42	38.2	58	52.7	10	9.1

Table 2 shows the number and percentage of prospective teachers belonging to high ,average and low levels of Psychological well-being. The result shows that out of the total sample (N=110) ,38.2% of prospective teachers (N= 42) belongs to high level, 52.7% of prospective teachers (N= 58) belong to average level and 9.1% of prospective teachers (N= 10) belong to low level group of Psychological well-being.

Table 3
Differences in the total score of Spiritual Sensitivity based on gender

Classificatory variable	N	Mean	S.D	t	Level of Significance
Male	35	23.72	3.53	2.95	$P \leq 0.01$
Female	75	25.89	3.91		

Table 3 shows the differences in the Spiritual Sensitivity of male and female prospective teachers. From the table the mean values of Spiritual Sensitivity of male and female prospective teachers are 23.72 and 25.89 respectively. The t value 2.95 obtained for the test of significant difference between the mean scores is significant at .01 level. This reveals that there exist significant difference between the mean scores of Spiritual Sensitivity of male and female prospective teachers.

Table 4
Component wise differences in the Spiritual sensitivity based on gender

Dimensions of Spiritual Sensitivity	Classificatory variables				t	Level of Significance
	Male (35)		Female (75)			
	M	S.D	M	S.D		
Awareness sensing	5.62	0.39	6.78	0.40	14.5	$P \leq 0.01$
Mystery sensing	5.73	0.37	6.02	0.38	3.81	$P \leq 0.01$
Value sensing	6.18	0.30	6.93	0.36	11.53	$P \leq 0.01$
Community sensing	6.21	0.33	6.18	0.32	.462	$P \geq 0.05$

Table 4 shows the component wise differences in the Spiritual Sensitivity of male and female prospective teachers. The above table value reveals that the mean score of the dimensions of Spiritual Sensitivity such as Awareness sensing (5.62 and 6.78) ,Mystery Sensing (5.73 and 6.02) and Value sensing (6.18 and 6.93) of the male and female prospective teachers respectively differ significantly at .01 level. The mean score of the dimension Community sensing for the male and female prospective teachers are 6.21 and 6.18 respectively. The value of critical ration (t=.462) reveals that there is no significant difference between the mean values of Community sensing of male and female prospective teachers.

Table 5
Differences in Total score of Psychological well-being based on gender

Classificatory variable	N	Mean	S.D	t	Level of Significance
Male	35	163.96	11.23	1.437	P≥0.05
Female	75	160.69	10.85		

Table 5 shows that the mean value of the total score of psychological well-being of male and female prospective teachers are 163.96 and 160.69. The obtained t value 1.437 is not significant at .05 level. This indicate that there is no significant difference between the male and female prospective teachers in the total score of Psychological well-being.

Table 6
Component wise differences in the Psychological well-begin based on gender

Dimensions of Psychological Well-being	Gender				Critical Ration	Level of Significance
	Male (35)		Female (75)			
	M	S.D	M	S.D	t	
Self- Acceptance	26.98	4.78	24.37	3.273	2.92	P≤ 0.05
Positive relation with others	26.12	3.28	27.89	4.82	2.25	P≤0.05
Autonomy	27.70	3.73	26.87	4.03	1.837	P≥0.05
Environmental Mastery	27.50	4.14	27.38	4.35	.139	P≥0.05
Personal Growth	28.01	4.24	27.30	4.21	0.819	P≥0.05
Purpose of Life	27.69	3.70	26.91	4.03	1.001	P≥0.05

Table 6 shows the component wise differences in the Psychological well-being of male and female prospective teachers. The mean scores of the components of Psychological well-being such as Self-acceptance and Positive relation with others of male prospective teachers are 26.98 and 26.12 respectively and that of the female prospective teachers are 24.37 and 27.89 respectively. From the obtained values of critical ratio (t=2.92 & t=2.25) which are significant at .05 level, it is clear that there is significant differences between male and female prospective teachers in Self acceptance and Positive

relation with others . The mean scores of the components such as Autonomy, Environmental mastery,Personal growth and Purpose of life of male prospective teachers are 27.70, 27.50, 28.01and 27.69 respectively and that of the female prospective teachers are 26.87, 27.38, 27.30 and 26. 91 respectively. The obtained values of critical ratio (t= 1.837, t= .139, t= .819 and t= 1.001) which are not significant at .05 level reveals that there is no significant difference between male and female prospective teachers in Autonomy, Environmental mastery, Personal growth and Purpose of life.

Table 7

Relationship between spiritual sensitivity and Psychological well-being

Correlations		Spiritual Sensitivity	Psychological well-being
Spiritual Sensitivity	Pearson correlation	1	.48
	Sig. (1-tailed)		.001
	N	150	150
Psychological well-being	Pearson correlation	.48	1
	Sig. (1-tailed)	.001	
	N	150	150

Table 7 shows the correlation between the variables Spiritual sensitivity and Psychological well-being. The result shows that the Spiritual sensitivity is positively related to Psychological well-being of prospective teachers with regard to the coefficient of correlation 0.48 (P= .001).

Findings of the study

In the present study:

1. The level of spiritual sensitivity of prospective teachers is average.

2. The level of psychological well-being of prospective teachers is average.

3. There exist significant difference between the mean scores of Spiritual Sensitivity of male and female prospective teachers.

4. The dimension-wise analysis of the variable Spiritual sensitivity shows that male and female prospective teachers differ significantly in the mean scores of Awareness sensing, Mystery Sensing and Value sensing. There is no significant difference in the mean

value of the dimension Community sensing of male and female prospective teachers.

5. There is no significant difference between the male and female prospective teachers in the total score of Psychological well-being.

6. In the component-wise analysis of the variable Psychological well-being it was found that   there exist significant differences between male and female prospective teachers in Self-acceptance and Positive relation with others and there is no significant difference between male and female prospective teachers in Autonomy, Environmental mastery, Personal growth and Purpose of life.

7. There exist a moderate positive relationship between spiritual sensitivity and psychological well-being of prospective teachers.

Discussion

The study yielded significant results related to spiritual sensitivity and psychologicl well being of prospective teachers. Analysis of the results show that there exists significant difference in spiritual sensitivity of male and female prospective teachers and there is no significant difference between the male and female prospective teachers in their Psychological well-being.

Considering the dimension- wise differences in the Spiritual Sensitivity of male and female prospective teachers they show significant difference in Awareness sensing, Mystery Sensing and Value sensing. Female prospective teachers scored higher than their male counterparts in all the three dimensions. Whereas for community sensing there is no significant difference between them.

In the present study male and female prospective teachers differ in their psychological well-being. The findings is contrary to that of Bingol T,Y(2018) that female prospective teachers' psychological well-being levels were higher than males. Having positive attitude towards oneself is very significant in mental wellbeing and psychological functioning. Results show that there is significant difference between male and female prospective teachers with respect to their sense of self-acceptance. In this study higher mean scores are associated with male prospective teachers. Findings of the study agrees with the findings of M. Pilar Matud,et al.,(2019) that men scored higher than women in self-acceptance.

Considering the second dimension there exist significant difference between both the groups. Mean scores of female prospective teachers was higher than the male prospective teachers in this study with respect to their ability to establish warm and trusting relationship with others. Results show that female prospective teachers are having strong feeling of empathy and affection for all human beings. They are capable of having deeper friendship and greater love for others. . Findings of Ryff C.D& Keyes C.L.(1995), Ahrens C.J.C & Ryff C.D. (2006), Karasawa M, et al., (2011) also confirms that between women and men, women consistently scored higher in the component positive relations with others.

There is no significant difference between male and female prospective

teachers in self-determination and independence which are the key components of autonomy.The results show that behaviour from within drives their activities and they are no longer influenced by the fear and beliefs of the peoples around them. Good knowledge about the environment and active participation in it are signs of good mental health. There is no a significant difference between male and female prospective teachers in environmental mastery. Personal growth requires openness to experience, perseverance and the will to grow and expand as a person. Statistics shows that male and female prospective teachers are equally determined in personal growth. The findings of the study is contrary to the findings of M. Pilar Matud,et al.,2019 that women scored higher than men in autonomy, personal growth. The findings of the study can be attributed to the social set up where opportunities for education, job and independence is equal for males and females.

Results show that there exists significant relationship between spiritual sensitivity and psychological wellbeing of prospective teachers. The findings of the study confirms with that of (Jafari et al., 2010) who noted a significant relationship between spiritual well-being and mental health and with (Jesse & Reed, 2004; Park et al., 2009; Unterrainer et al., 2014) that spirituality is, a determinant of psychological well-being prior to health-related behavior.

Educational implications

- The curriculum approaches for teacher education and school education need to provide experiences to nurture spiritual sensitivity.

- Spirituality must be seen as a wider concept than religion and learning programs in educational institutions need to be embedded with the notion of spirituality.

- Contexts to feel, appreciate and enjoy the awe and wonder of nature and the universe Best (2000), develop positive relationships with others, autonomy, self-acceptance, determination and purpose for life must find place in curricular and co-curricular activities.

- Holistic approaches to nurture Howard Gardner's (1993) multiple intelligences which also include spiritual intelligence need to be designed and practiced.

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GENDER DISCRIMINATION AMONG RURAL POPULATION OF KOTTAYAM DISTRICT

Dr. T. C. Thankachan* & Dr. Beenamma Mathew**

Abstract

Discriminatory attitude towards men and women have existed for generations and affect the lives of both genders and transgender, especially in rural areas. A strong "son preference" exists in our country, and high rates of female infanticide and female feticide plague the area. Gender discrimination violates human rights and gender disparity still remains. In this context the present study aims to identify the opinion of the rural population about reasons responsible for gender discrimination and about capabilities of men and women in all fields. It is a descriptive study based on both primary and secondary data from the rural area of Kottayam District. A total number of 30 families consists of 122 rural people have been selected for the purpose of this study. The major findings of the study show that 86.6% of respondents feel gender discrimination. The one of the major field of gender discrimination arise may be public place, and another is work place. Majority of the respondent's ranks the reason for gender discrimination is alcoholism, conventional believes and drugs respectively.

Keywords: *Gender discrimination, rural population, transgender, sexism, prejudice, etc*

Introduction

Gender discrimination or sexism is prejudice or discrimination based on a person's sex or gender. Sexism can affect any gender, but is particularly documented affecting as women and girls. It has been linked to stereotypes and gender roles and may include the belief that one sex or gender is intrinsically superior to another. Extreme sexism may foster. Sexism is discrimination, prejudice, or stereotyping on the basis of gender. Sexism is most often expressed toward girls and women. It has been characterized as the "hatred of women" and "entrenched prejudice against women". Sexual discrimination is the discrimination that excludes one sex (usually women) to the benefit of the other sex.

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Gender stereotypes are widely held beliefs about the characteristics and behaviour of women and men. Gender inequality has been historic worldwide phenomena, a human invention and based on gender assumptions. It is linked to kinship rules rooted in cultures and gender norms that organizes human social life, human relations, as well as promotes subordination of women in a form of social strata. Amartya Sen highlighted the need to consider the socio-cultural influences that promote gender inequalities.

Gender discrimination is discrimination on the basis of actual or perceived gender identity. Identity is the gender related identity appearance or mannerisms or other gender related characteristics of an individual, with or without regards to individual's sex at birth. Sexism is prejudice based on biological sex. Gender discrimination specifically addresses discrimination towards identity based on orientations, including third gender, gender queer and other non – binary identified people.

Background and Context of the Study

In India, discriminatory attitude towards men and women have existed for generations and affect the lives of both genders. Although the constitution of India has granted men and women equal rights, gender disparity still remains. Gender discrimination violates human rights. These are mostly seen in family land sharing among sisters and brothers. There is specific research on gender discrimination mostly in favour of men over women. Due to a lack of objective research on gender discrimination against men, it is perceived that it is only women who are suffering. Women are perceived to be disadvantaged

at work. Indian laws on Rape, Dowry and Adultery have women's safety at heart, but these highly discriminatory practices are still taking place at an alarming rate.

In India, cultural influences favour the preference for sons for reasons related to kinship, lineage, inheritance, identity, status, and economic security. This preference cuts across class and caste lines, and it discriminates against girls. In extreme cases, the discrimination takes the form of honor killings where families kill daughters or daughter in laws who fail to conform to gender expectations about marriage and sexuality. When a woman does not conform to expected gender norms she is shamed and humiliated because it impacts both her and her family's honor, and perhaps her ability to marry.

Both women and men are important for reproduction. The cultural construct of Indian society which reinforces gender bias against men and women, with varying degrees and variable contexts against the opposite sex, has led to the continuation of India's strong preference for male children. Female infanticide and sex-selective abortion is adopted and strongly reflects the low status of Indian women. Census 2011 shows decline of girl population (as a percentage to total population) under the age of seven, with activists estimating that eight million female fetuses may have been aborted in the past decade. The 2005 census shows infant mortality figures for females and males are 61 and 56, respectively, out of 1000 live births, with females more likely to be aborted than males due to biased attitudes.

A decline in the child sex ratio (0–6 years) was observed with India's 2011 census reporting that it stands at 914

females against 1,000 males, dropping from 927 in 2001 - the lowest since India's independence. Education is not wise attained by Indian women. Although literacy rates are increasing, female literacy rate lags behind the male literacy rate. Literacy for females stands at 65.46%, compared to 82.14% for males. An underlying factor for such low literacy rates are parents' perceptions that education for girls are a waste of resources as their daughters would eventually live with their husbands' families and they will not benefit directly from the education investment.

There is wage and labour participation inequality between men and women in India. And also occupational inequalities and property rights inequalities are existed in India. In the context and background of India educational inequalities such as schooling, literacy etc, are arising, also health and survival inequalities like sex selective abortion and political inequalities are existed

Gender Discrimination- An Overview

Gender discrimination is discrimination on the basis of actual or perceived gender identity. Gender identity is "the gender-related identity, appearance, or mannerisms or other gender-related characteristics of an individual, with or without regard to the individual's designated sex at birth". Gender discrimination is theoretically different from sexism. Whereas sexism is prejudice based on biological sex, gender discrimination specifically addresses discrimination towards identity based orientations, including third gender, gender queer, and other non-binary identified people.

Gender inequality in India refers to health, education, economic and political inequalities between men and women in India. Various international gender inequality indices rank India differently on each of these factors, as well as on a composite basis, and these indices are controversial

According to a recent report by the Congressional Research Service, "although the majority of federal courts to consider the issue have concluded that discrimination on the basis of gender identity is not sex discrimination, there have been several courts that have reached the opposite conclusion". Hurst states that "courts often confuse sex, gender and sexual orientation, and confuse them in a way that results in denying the rights not only of gays and lesbians, but also of those who do not present themselves or act in a manner traditionally expected of their sex".

Gender Discrimination in India

Gender discrimination continues to be an enormous problem within Indian society. Traditional patriarchal norms have relegated women to secondary status within the household and workplace. This drastically affects women's health, financial status, education, and political involvement. Women are commonly married young, quickly become mothers, and are then burdened by stringent domestic and financial responsibilities. They are frequently malnourished since women typically are the last member of a household to eat and the last to receive medical attention. Additionally, only 54 percent of Indian women are literate as compared to 76 percent of men. Women receive little schooling, and suffer from unfair and biased inheritance and divorce laws. These laws prevent women from accumulating substantial financial assets,

making it difficult for women to establish their own security and autonomy.

In Rajasthan, all of these problems are aggravated by high levels of seasonal migration. For many men in Rajasthan, migration is required since rural parts of Rajasthan often lack a sufficient economy to provide income for a family year-round. Women are commonly left behind to care and provide for the entire household. This is increasingly difficult because it is estimated that an average woman's wage is 30 percent lower than a man's wage working in a similar position. While these mothers work, they must also tend to domestic responsibilities. This formula for supporting Rajasthani families leaves little resource for the growth and development of women's rights and education levels.

A strong "son preference" exists in the region, as it does throughout the country, and high rates of female infanticide and female feticide plague the area. In 2001, for every 1,000 males living in Rajasthan there were only 922 women (Marthur et. al., 2004). Having sons is economically advantageous to families due to cultural institutions; these institutions serve to drastically devalue the roles women play in the traditional society. Women continue to struggle to achieve equal status to men, making gender equity an issue of particular importance for Rajasthan.

Causes of Gender Discriminations in India

Though the Indian constitution provides equal rights and privileges for men and women and makes equal provision to improve the status of women in society, majority of women are still unable to enjoy the rights and opportunities guaranteed to them. Traditional value system, low level of literacy, more house hold responsibilities lack of awareness, non-availability of proper guidance, low mobility, lack of self confidence family discouragement and advanced science and technology are some of the factors responsible to create gender disparity in our society.

The most important causes of gender disparity such as poverty, illiteracy, unemployment, social customs, belief and anti-female attitude are discussed here. Today if women lags behind a little, it is not her fault but the fault of traditions which have suppressed them for centuries , owing to this, her own thoughts like also hang around only familial life and her nearest environment also does not provide favorable conditions for her devotion in the outside work. In order to change the situation along with economic growth social progress is also greatly required. Hence the need of the hour is to effectively combat gender disparity as to promote gender equality by sufficiently empowering the women.

Discrimination Against Women

While women express a strong preference for having at least one son, the evidence of discrimination against girls after they are born is mixed. A study of 1990s survey data by scholars found less evidence of systematic discrimination in feeding practices between young boys and girls, or gender based nutritional discrimination in India. In impoverished families, these scholars found that daughters face discrimination in the medical treatment of illnesses and in the administration of vaccinations against serious childhood diseases. These practices were a cause of health and survival inequality for girls. While gender discrimination is a universal

phenomenon in poor nations, a 2005 UN study found that social norms-based gender discrimination leads to gender inequality in India.

In India, dowry is the payment in cash or some kind of gifts given to bridegroom's family along with the bride. The practice is widespread across geographic region, class and religions. The dowry system in India contributes to gender inequalities by influencing the perception that girls are a burden on families. Such beliefs limit the resources invested by parents in their girls and limit her bargaining power within the family. The payment of a dowry has been prohibited under The 1961 Dowry Prohibition Act in Indian civil law and subsequently by Sections 304B and 498a of the Indian Penal Code (IPC). Several studies show that while attitudes of people are changing about dowry, the institution has changed very little, and even continues to prevail.

In India, the male-female sex ratio is skewed dramatically in favour of males, the chief reason being the high number of females who die before reaching adulthood. Tribal societies in India have a less skewed sex ratio than other caste groups. This is in spite of the fact that tribal communities have far lower income levels, lower literacy rates, and less adequate health facilities. Many experts suggest the higher number of males in India can be attributed to female infanticides and sex-selective abortions.

Men and women have equal rights within marriage under Indian law, with the exception of Muslim men who are allowed to unilaterally divorce their wife. The legal minimum age for marriage is 18 for women and 21 for men, except for those Indians whose religion is Islam for whom child marriage remains legal under India's Mohammedan personal laws. Child marriage is one of the detriments to empowerment of women.

Transgender Discrimination

Transgender discrimination is discrimination towards peoples whose gender identity differs from the social expectations of the biological sex they were born with. Forms of discrimination include but are not limited to identity documents not reflecting one's gender, sex-segregated public restrooms and other facilities, dress codes according to binary gender codes, and lack of access to and existence of appropriate health care services. In a recent adjudication, the Equal Employment Opportunity Commission (EEOC) concluded that discrimination against a transgendered individual is sex discrimination.

The National Transgender Discrimination Survey, the most extensive survey of transgender discrimination, in collaboration with the National Black Justice Coalition recently showed that Black transgender people in the United States suffer "the combination of anti-transgender bias and persistent, structural and individual racism" and that "black transgender people live in extreme poverty that is more than twice the rate for transgender people of all races (15%), four times the general Black population rate 9% and over eight times the general US population rate (4%)". In another study conducted in collaboration with the League of United Latin American Citizens, Latino/a transgender people who were non-citizens were most vulnerable to harassment, abuse and violence.

Need and Significance of the Study

Gender discrimination is the discriminatory or abusive behavior towards members of the opposite sex and also includes the unfair treatment of a person or group on the basis of prejudice. Gender discrimination violates human rights and gender disparity still remains. These are mostly seen in family land sharing among sisters and brothers. Indian laws on rape, dowry and adultery have women's safety at heart but these highly discriminatory practices are still talking place at an alarming rate.

Gender inequality in India refers to health, education, economic and political inequalities between men and women in India. Various international gender inequality indices rank India differently on each of these factors, as well as on a composite basis, and these indices are controversial. Gender inequalities and its social causes impact India's sex ratio, women's health over their lifetimes, their educational attainment, and economic conditions. Gender inequality in India is a multifaceted issue that concerns men and women alike. Some argue that some gender equality measures, place men at a disadvantage. However, when India's population is examined as a whole women are at a disadvantage in several important ways.

Police records in India show a high incidence of crimes against women. The National Crime Records Bureau reported in 1998 that by 2010 growth in the rate of crimes against women would exceed the population growth rate. Earlier many crimes against women were not reported to police due to the social stigma attached to rape and molestation. Official statistics show a dramatic increase in the number of reported crimes against women. Though the Indian constitution provides equal rights and privileges for men and women and makes equal provision to improve the status of women in society, majority of women are still unable to enjoy the rights and opportunities guaranteed to them.

Traditional value system, low level of literacy, more house hold responsibilities lack of awareness, non-availability of proper guidance, low mobility, lack of self confidence family discouragement and advanced science and technology are some of the factors responsible to create gender disparity in our society. The most important causes of gender disparity such as poverty, illiteracy, unemployment, social customs, belief and anti-female attitude are discussed here. Attaining gender justice is not an easy task in India. From time immemorial, a girl child has been considered as an unwanted entity and a burden that the parents would not mind doing away with. Discrimination against women begins even before her birth. The gruesome evils of female feticide and infanticide prove how brutal the world could be to women.

Transgender people also experience significant workplace discrimination and harassment. Unlike sex-based discrimination, refusing to hire (or firing) a worker for their gender identity or expression is not explicitly illegal in most U.S. states. Pornography contributes to sexism by objectifying women and portraying them in submissive roles. Pornography reduces women to mere tools, and is a form of sex discrimination.

Sexist jokes can be a form of sexual objectification, which reduce the butt of the joke to an object. They not only objectify

women or men, but can also condone violence or prejudice against men or women. According to a recent report by the Congressional Research Service, "although t he majority of federal courts to consider the issue have concluded that discrimination on the basis of gender identity is not sex discrimination, there have been several courts that have reached the opposite conclusion". Often confuse sex, gender and sexual orientation, and confuse them in a way that results in denying the rights not only of gays and lesbians, but also of those who do not present themselves or act in a manner traditionally expected of their sex.

Objectives of the Study

1. To identify the opinion of the rural population about reasons responsible for gender discrimination.

2. To access the satisfaction level of rural population about the reservation for women.

3. To identify the problems related with different fields of gender discrimination.

4. To identify the opinion of the rural population about capabilities of men and women in all fields.

5. To identify the opinion of the rural population about differences in meeting expenses for girls and boys.

Methodology

Study about gender discrimination is a descriptive study based on both primary data and secondary data. Secondary data were collected from various books and record of government of Kerala. The primary data required for the study were collected from selected respondents by using questionnaire method. The questionnaire consist of 4 sections like general information, personal information, questions related to gender discrimination and declaration by the head of the family. Secondary data were collected from the various books, records and website. Erumely Panchayath of Kottayam District has been selected as the sample area for the purpose of this study. A total number of 30 families consists of 120 rural people have been selected for the purpose of this study.

Analysis and Interpretation of Data

Objective 1

To identify the opinion of the family about reasons responsible for gender discrimination.

Table 1
Reasons responsible for Gender discrimination

Sl No	Reasons	No. of Respondents	%
1	Alcoholism	28	22.95
2	Drugs	24	19.67
3	Conventional believes	25	20.49
4	Illiteracy and less education	20	16.39
5	Other causes	25	20.49
Total		122	100

This table shows that number of responds out of 122 rural population belongs to 30 families. 22.95% says that the major reason gender discrimination is the trend of alcoholism, 19.67% are agreed that the reason for gender discrimination is the over usage of drugs, and 20.49% says that the reason for gender discrimination is conventional believes. 16.39 believe that the reason is illiteracy and less education and 20.49% said that other causes also is the reason for gender discrimination.

Objective 2

To identify the problems related with different fields of gender discrimination.

Table 2

Different fields of Gender discrimination

Sl No	Fields	No. of Respondents	%
1	Home	4	6.2
2	School	13	20
3	Work place	21	32.3
4	Public place	27	41.5
	Total	65	100

This table shows that number of responds out of the 30 families. 6.2% are feel gender discrimination from their home, 20% are feel discrimination from school, 32.3% are feel discrimination from work place, and 41.5% are feel discrimination from public place. The majority of the persons feel gender discrimination from public places.

Objective 3

To access the satisfaction level of family about the reservation for women.

Table 3

Opinion about Reservation for women

Sl No	Opinion	No. of Families	%
1	Good	27	90
2	Bad	0	0
3	No Opinion	3	10
	Total	30	100

From the above table shows the opinion of families in the case of reservation for women. 90% of respondents says that the reservation for women is good, 10% of respondents says that they have no opinion about reservation for women, no another can say reservation for women is bad. Therefore

the reservation for women is good and its helps to encourage women's ability.

Objective 4

To identify the opinion of the family about capabilities of men and women in all fields.

Table 4

Equality in the capacity of men and women

Sl No	Opinion	No. of Families	%
1	Yes	0	-
2	No	30	100
	Total	30	100

From the above table out of 30 families 100% are says that the capacity of women and men are different and also men and women are not equally capable to all fields.

Objective 5

To identify the opinion of the family about differences in meeting expenses for girls and boys.

Table 5

Boys or girls are more expensive

Sl No	Gender	No.of families	%
1	Boys	0	-
2	Girls	30	100
	Total	30	100

This table clearly state that the girls are most expensive than boys. Out of 30 respondents 100% are agreed to this.

Table 6

Feeling of Gender Discrimination

Sl No	Opinion	No. of families	%
1	Yes	26	86.6
2	No	4	13.4
	Total	30	100

This table reveals that out of the total 30 families 86.6% of respondents are feel gender discrimination and 13.4% are never feel any type of gender discrimination.

Table 7
Existence of Gender Inequality

Sl No	Opinion	No. of Families	%
1	Yes	30	100
2	No	0	-
	Total	30	100

From this table clearly state that gender inequality or discrimination are existing in our society. Out of 30 families 100% are agreed to this context.

Table 8
Feeling of discrimination because of reservation for women

Sl No	Opinion	No. of Families	%
1	Yes	1	3.3
2	No	29	96.7
	Total	30	100

This table revels that out of 30 families only 3.3% are feel discrimination because of reservation is granted to women, 96.7% are does not feel any type of discrimination because of the reservation for women. Out of this the majority of the respondents support the reservation for women.

Table 9
Sharing of house hold chores.

Sl No	Opinion	No. of families	%
1	Yes	30	100
2	No	0	-
Total		30	100

This table shows that out of 30 respondents 100% are says that all family members are shared the house hold chores.

Major Findings

1. 86.6% of respondents feel gender discrimination.
2. The one of the major field of gender discrimination arise may be public place, and another is work place.
3. Majority of the respondent's ranks the reason for gender discrimination is alcoholism, conventional believes and drugs respectively.
4. 100% of respondents agreed that gender inequality is existing in our society.
5. 90% of respondents support the reservation for women and say that the reservation for women is good and no another say reservation for women is bad but only 3.3% of respondents not respond whether good or bad.
6. 100% of the respondents says that men and women are not equally capable for all fields.
7. 100% of the respondents feel differences in meeting expenses for boys and girls.
8. 100% of respondents says that girls are more expensive than boys.
9. 100% of respondents are says that all family members are shared the house hold chores.

Implications of the Study

• Increase enforcement of existing laws against gender- based employment discrimination and sexual harassment.
• Reduce socialization by parents and other adults of girls and boys into traditional gender roles.
• Provide education to promote and strengthen the cultural values and giving equel opportunities to everybody.

Conclusion

The constitution of India has granted equal rights to men and women, but gender disparity still remains. Gender discrimination violates human rights. Gender inequality in India refers to health, education, economic and political inequalities between men and women in India. Various international gender inequality indices rank India differently on each of these factors, as well as on a composite basis, and these indices are controversial.

Gender inequalities, and its social causes, impact India's sex ratio, women's health over their lifetimes, their educational attainment, and economic conditions. Gender inequality in India is a multifaceted issue that concerns men and women alike. Some argue that some gender equality measures, place men at a disadvantage. However, when India's population is examined as a whole, women are at a disadvantage in several important ways.

Gender discrimination impedes growth; with lower female-to-male workers ratios significantly reducing total output in both agricultural and non-agricultural sector. It is also estimated that growth in India would increase by 1.09% if its female labor-participation rate were put on par with the US. Since its independence, India has made significant strides in addressing gender inequalities, especially in the areas of political participation, education, and legal rights. Policies and legal reforms to address gender inequalities have been pursued by the government of India. For instance, the Constitution of India contains a clause guaranteeing the right of equality and freedom from sexual discrimination.

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CONCEPTUAL ANALYSIS OF VEDIC MATHEMATICS AND 21st CENTURY DIGITAL SKILLS WITH SPECIAL REFERENCE TO PROBLEM SOLVING SKILLS

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Abstract

National Educational Policy 2020 emphasis on holistic development of learners. The goal will be create holistic and well-rounded individuals equipped with key 21st century digital skills. Vedic Mathematics is a gift for us to integrate necessary skills for leading a fruitful life in the society. It is a collection of Sutras to solve problems in a different manner. Vedic Sutras suitable to all age groups for developing aptitude, abilities, logical thinking and intelligence and also innovativeness. Problem solving skill is one of the important digital skill. Problem solving is a systematic process that involves critical reasoning and thinking to find a suitable solution to problems to achieve desired objectives. Word problem solving is one of the important components of Mathematical problem solving incorporates real-life problems and applications (Azizah, Rohani, & Mokhtar, 2010). Vedic Mathematics is an alternative technique to solve problems accurately and easily.This article tries to analyse conceptually Vedic mathematics and 21st century digital skills with special focus on problem solving skills.

Key Words: *Vedic Mathematics, 21st century digital Skills, Problem solving skill, etc*

Introduction

India passing through a series of changes both globally and digitally; all learners from cradle to career needs new skills and knowledge to succeed. If one can wish to train our children for future, opportunities to learn 21st century skills are essential. Researchers classify 21st century skills into different ways. But the most important 21st century learning skills are communication, collaboration, critical thinking and creativity. The 21st century is not in a long distance – It is closer to me. We have no minutes to waste in preparing students and our country to compete and to succeed. Thus suitable measures i.e. resources, policies, research and best practices should be taken to bring these 21st century skills to the classroom.

Vedic Mathematics is an alternate method for solving mathematical problems

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more easily and mentally. It involves 16 main sutras and many sub sutras which can be applied to solve different problems in mathematics. One can the ability to memorize the various sutras and their applications then the world of mathematics is reduced to easy task of identifying the problem, and the speedy application of the appropriate sutra. Through Vedic Mathematics Sutras we can improve the computational skills of the learner. According to Dr. Puri Vedic Mathematics not only provide a quick and accurate solution to the problem at hand, but simultaneously develops clarity of mind and intuition. In this way Vedic Mathematics satisfies the major aims of Mathematics education: to teach students techniques of solving problems and to develop clear and logical thinking.

Research Question

How does Vedic mathematics develop problem solving as a 21st century digital skill?

Objectives

- To understand problem solving as a 21st century digital skill
- To appreciate the role of Vedic Mathematics in developing problem solving skill

Conceptual Overview of Vedic Mathematics

The Sanskrit word Veda is derived from the root vid, meaning to know without limit. The word Veda covers all Veda-sakhas known to humanity. The Veda is a repository of all knowledge, fathomless, ever revealing as it is delved deeper.

Vedic mathematics is a book written by the Indian monk Bharati Krishna Tirtha, and first published in 1965. It contains a list of mathematical techniques, which the author stated were retrieved from the Vedas and supposedly contained all mathematical knowledge. The book contains metaphorical aphorisms in the form of sixteen sutras and thirteen sub-sutras, which Krishna Tirtha states alludes to significant mathematical tools. The range of their asserted applications spans from topic as diverse as statics and pneumatics to astronomy and financial domains. Tirtha stated that no part of advanced mathematics lay beyond the realms of his book and propounded that studying it for a couple of hours every day for a year equated to spending about two decades in any standardized education system to become professionally trained in the discipline of mathematics.

S.G. Dani in ' Vedic Mathematics': myth and Reality states that the book is primarily a compendium of tricks that can be adopted in elementary, middle and high school arithmetic and algebra, to gain faster results. The sutras and sub-sutras are abstract literacy expressions ("as much less", "one less than previous one" et al.) prone to creative interpretations; Krishna Tirtha exploited this to the extent of manipulating the sae shloka to generate widely different mathematical equivalencies across a multitude of contexts.

This book on Vedic mathematics seeks to present an integrated approach to learning mathematics with keenness of observation and inquisitiveness, avoiding the monotony of accepting theories and working from them mechanically. The explanations offered make the processes clear to the learners. The logical proof of the sutras is detailed in algebra, which eliminates the misconception that the sutras are jugglery.

Features of Vedic Mathematics

Coherence:

The most striking feature of the Vedic system is its coherence. Instead of a hotchpotch of unrelated techniques the whole system is beautifully interrelated and unified: the general multiplication method, for example, is easily reversed to allow one-line divisions and the simple squaring method can be reversed to give one-line square roots. And these are all easily understood. This unifying quality is very satisfying, it makes mathematics easy and enjoyable and encourages innovation.

Flexibility:

In Vedic system there are general methods that always work, for example a method of multiplication that can be applied to any numbers. But the Vedic system has many special methods, when a calculation has some special characteristic that can be used to find the answer more easily. This flexibility adds to the fun and gives pupils the freedom to choose their own approach. This in turn leads to the development of creativity and intuition.

Mental, improves memory:

The ease and simplicity of Vedic Mathematics means that calculations can be carried out mentally. There are many advantages in using a flexible, mental system. Pupils can invent their own methods, they are not limited to the one correct method. This leads to more creative, interested and intelligent pupils. It also leads to improved memory and greater mental agility.

Promotes Creativity:

All these features of Vedic Mathematics encourage students to be creative in doing their math. Being naturally creative students like to devise their own methods of solution. The Vedic system seeks to cultivate intuition, having a conscious proof or explanation of a method beforehand is not essential in the Vedic methodology.

Appeals to everyone:

The Vedic system appears to be effective over all ability ranges: the able child loves the choice and freedom to experiment and the less able may prefer to stick to the general methods but loves the simple patterns they can use.

Increases mental agility:

Because the Vedic system uses these ultra-easy methods mental calculation is preferred and leads naturally to develop mental agility. And this in turn leads to growth in other subjects.

Efficient and fast:

In the Vedic system "difficult" problems or huge sums can often be solved immediately. These striking and beautiful methods are just a part of a complete system of mathematics which is far more systematic than the modern "system".

Easy, fun:

The experience of the joy of mathematics is an immediate and natural consequence of practising Vedic Mathematics. And this is the true nature of maths-not the rigid and boring 'system' that is currently widespread.

Methods apply in algebra:

Another important feature of the Vedic system is that once an arithmetic method has been mastered the same method can be applied to algebraic cases of that type-

the beautiful coherence between arithmetic and algebra is clearly manifest in the Vedic system.

Application of Vedic Sutras:

•   Ekadhikena Purvena:

This sutra helps in finding out the square of a number ending with 5.

Example: Find the square of 45

Solution:

Step 1: The last part of the answer has to be 25

Step2: Multiply the remaining number (excluding 5) in the original number by its successor. So, in this case, we multiply 4 and 5. This gives us 20.

Step3: join the numbers obtained in step 2 and step 1, in that order. Answer is 2025

•   Ekayunena Purvena:

This sutra helps in finding the product of two numbers when one of the numbers is entirely made of 9.

Example: find the product of 52 and 99

Solution

In this example, the multiplicand and the multiplier have the same number of digits.

Step1: Find the predecessor of the number (which is not entirely made of 9). In this case we get 52-1= 51.

Step 2: Subtract the same number from the multiple of 10 which is closest to the number entirely made up of 9

100 – 52 = 48

Step 3: Join the numbers obtained in step 1 and step 2, in that order. Answer is 5148

Conceptual Overview of 21st Century Skills

This study used the framework from the Partnerships for 21st Century skills (P21) to correlate what skills are needed to thrive and succeed in the global society (Partnership-for-21st-   Century-Skills, 2013). The framework identified the core components for 21st century learning skills that are needed to be a successful member of the current global society (Partnership-for-21st-Century-Skills, 2013). The framework defines the following four themes:

•   Key Subjects – 3 Rs (Reading, Writing, Arithmetic) and 21st Century Themes

•   Learning and Innovation Skills

•   Information, Media and Technology Skills

•   Life and Career Skills

Key Subjects – 3 Rs (Reading, Writing, Arithmetic) and 21st Century Themes

The P21 defines the following subjects as essential for all students in the 21st century: English (reading or language arts), World Languages, Arts, Mathematics, Economics, Science, Geography, history, Government and Civics. In conjunction with the Key subjects, students must become versed in 21st century interdisciplinary themes within the key subjects, including Global Awareness, Financial/Economic/ Business and entrepreneurial Literacy, and civic Literacy (Partnership-for-21st – Century-Skills, 2013).

Global Awareness: 21st century students must understand and address global issues, Students must be able to work in a collaborative setting and have mutual respect for diverse cultures, religions and lifestyles. They must be sympathetic and tolerable of

other nations and cultures, including non-English languages (Partnership-for-21st – Century-Skills, 2013).

Financial, Economic, Business and entrepreneurial Literacy: 21st century students must be able to make appropriate economic choices. Students must understand the role of the economy in society. In addition, students must use entrepreneurial skills to strengthen productivity in the workplace (Partnership-for-21st –Century-Skills, 2013).

Civic Literacy: This is essential for 21st century students, who must know and understand government processes. Students must exercise the rights and obligations of citizenship on all levels. In addition, 21st century students must understand the local and global implications of decisions (Partnership-for-21st-Century-Skills, 2013).

Health Literacy: 21st century students must obtain and interpret health information and services to enhance their own health. Students must understand preventive measures to stay physically and mentally healthy. They should be able to use information to make optimal health-related decisions. In addition, they must have the skills to monitor personal and family health goals while understanding national and international health issues (Partnership-for-21st-Century-Skills, 2013).

Environmental Literacy: 21st century students must be able to demonstrate knowledge and comprehension of the environment and the conditions affecting it regarding air, climate, land, energy.etc. They must know how society impacts the environment and they must have the skills to investigate and analyze environmental issues and to propose effective solutions.

Learning and Innovation Skils

According to P21 framework, "learning and innovation skills increasingly are being recognized as those that separate students who are prepared for a more complex life and work environment in the 21st century and those are not"(Partnership-for-21st-century-Skills,2013).

Think Creatively: Students should possess a wide range of idea-creation techniques, including brainstorming and the ability to create new and innovative ideas. According to the P21 framework, students should be able to "elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts" (Partnership-for-21st-Century-Skills, 2013).

Work Creatively with Others: 21st century should be able to communicate new ideas effectively with each other. They must be open to different perspectives, to criticism and be able to incorporate feedback. Additionally, students must be able to view failure as a learning opportunity (Partnership-for-21st-Century-skills, 2013).

Implement Innovations: Students must be able to create new ideas and act on them to contribute useful input to the field in which the innovation occurs (Partnership-for-21st-century-Skills, 2013).

Communication and Collaboration: 21st century student must have the skill to communicate their ideas to all stakeholders within a given project, either at work or at school. Furthermore, they must be able to work well in a group setting.

Communicate Clearly: 21st century students must be able to articulate their thoughts and ideas using oral, written and non-verbal communication skills within

different settings. They must be able to listen effectively and use to communication for a range of purposes, such as being able to inform, instruct, motivate and persuade others. Additionally, students must be able to communicate in diverse multi-language environments (Partnership-for-21st-Century-Skills, 2013).

Collaboration with Others: Students whom are 21st century learners must be able to work effectively in diverse teams while being flexible and willing to make comprises toward accomplishing a common goal. They should be able also to share responsibility for collaborative work (Partnership-for-21st-Century-Skills, 2013).

Information, media and technology skills

The world of the 21st century is media and technology driven. According to the P21 Framework, the world is" marked by various characteristics, including: 1) access to an abundance of information, 2) rapid changes in technology tools, and 3) the ability to collaborate and make individual contributions on an unprecedented scale"(Partnership-for-21st-Century-Skills, 2013).

Information Literacy: 21st century students must be able to access information effectively from trusted sources in a timely manner, and then evaluate that information critically and completely. Students must be able to use the information accurately and creatively for the project or issue they are working on. Additionally, students must be able to understand the ethical and legal issues of the information they access (Partnership-for-21st-Century-Skills, 2013).

Media Literacy: Students of the 21st century must be able to understand the purpose of media messages and to understand how individuals interpret messages differently and be able to understand the ethical and legal issues of the media they access (Partnership-for-21st-Century-Skills, 2013).

Information, Communication and Technology (ICT) Literacy: 21st century students must be able to use technology as research, organizational and communication tools. Students must be fluent with digital technologies, such as computers, PDAs, media players, software and hardware. Additionally, students must understand the ethical and legal issues of the ICT the access (Partnership-for-21st-century-Skills, 2013).

Life and Career Skills

Flexibility and Adaptability: 21st century students must be able to set success criteria and have long-and short-term goals. Students must monitor, define and complete tasks without constant monitoring. Additionally, students must explore and explain their own capabilities to gain expertise and advance their skills toward a professional level (Partnership-for-21st-Century-Skills, 2013).

Social and Cross-cultural Skills: Students of the 21st century must be able to distinguish when it is appropriate to speak and to listen. Students must be able to conduct themselves in a respectable and professional manner, as well as respecting each other's cultures and being tolerant of each other's backgrounds. It is important that students are open-minded and receptive toward different ideas and feedback (Partnership-for-21st-Century-Skills, 2013).

Productivity and Accountability: Students of the 21st century must be able to manage their own projects by setting and meeting goals while facing difficulties and setbacks. Students must produce results. According to the P21 Framework, students must, "Demonstrate additional attributes associated with producing high quality products including the abilities to: Work positively and ethically; Manage time and projects effectively; Multi-task; Participate actively, as well as reliable and punctual; Present oneself professionally and with proper etiquette; Collaborate and cooperate effectively with teams; Respect and appreciate team diversity; Be accountable for results" (Partnership-for-21st –Century-Skills, 2013).

Leadership and Responsibility: 21st century students must be able to guide others toward an end goal and leverage the strengths of one another to accomplish this goal. Students must be able to inspire others to reach their full potential and to demonstrate integrity. Additionally, a 21st century student must act responsibly, with the interests of the entire group in mind (Partnership-for-21st-Century-Skills, 2013).1st Century Digital skills

Technical skills are similar as proposed in the notion of 21st century skills. These are the skills that students need to use software or operate a digital device.

Information digital skills: The information abundance caused by ICT requires skills for searching, evaluating and organizing information in digital environments(Catts & Lau, 2008). Information management includes the ability to (a) clearly defines information needs,(b) identify digital information needs, (c) Select digital information in an effective and efficient way (Ananiadou & Claro, 2009).

Communication digital skills: ICT has made it easier to reach a wide audience and communicate at a distance, faster and more ubiquitously. Individuals are able to

Today's knowledge society, given the emergence of online collaborative platforms, it is even more important to understand and manage the sharing of information across the organization (Balau & Utz, 2017).

Critical thinking digital skills: Critical thinking has been identified as being particularly important because in a global online environment students participate and resources are created with various intentions and competences (Starkey, 2011).Online contents must be critically assessed in this age of disinformation and fake news.

Creative digital skills: ICT can support creativity in multiple ways, including developing ideas and creating or realizing ideas (Loveless, 2007). Online content creation is the use of online spaces to create content including weblogging and photo and video sharing (brake, 2014).

Problem solving digital skills: In an information abundant society, problems can be defined differently, and multiple solutions can be found online. Students need the skills to find multiple solutions, solve unfamiliar problems, and transfer knowledge to new situations (Barak, 2018). ICT has become an important medium for accessing and connecting information and, thereby, solving problems.

Discussion and findings

The rapid changes in digital technologies also influence the education

field in recent years. Pupil requires new skills and knowledge to compete with the dynamic society. 21st century skills are more important to students now than ever before. They not only provide a framework for successful learning in the classroom, but ensure students can thrive in a world where change is constant and learning never stops. And they are also tremendously important for our nation's well-being.

Vedic Mathematics is an alternative method for solving problems easily and accurately. The computational methods of Vedic Mathematics are based on sixteen sutras that they are derived from Atharva-Veda, one of the four main branches of ancient Vedic literature. On one level, each sutra aphoristically describes the computational method to be used for various types of mathematical problems. On a deeper level, however, each sutra may be seen as refined formula for producing a high degree of coherence and order in brain functioning, facilitating the rapid and precise solution to the mathematical problem. The techniques of Vedic mathematics allow for constant expression of a student's creativity. At each stage, there are options with regard to the next step. This flexibility in the method keeps the mind lively alert and cultures the ability to spontaneously discover the path of least action on the way to the solution.

In the 21st century, the problems encountered in daily life are increasingly difficult and complicated. The demand of the problem solving skill in an occupation also increase rapidly. The modern society in this century not only requires content knowledge, but also requires skills including critical thinking, problem solving, creativity, innovation, communication and collaboration. Innovative strategies

and modern learning technologies help to integrate these skills with content knowledge as well as increase student participation in the learning environment. Vedic Mathematics is a suitable strategy for developing problem solving, creativity among students.

Conclusion

21st century skills emphasize that education should focus on both core academic subject mastery and 21st century skill development. These skills help students to be ready for future life. 21st century curriculum and instruction provides an integrative approach for achieving success for students. Trilling and Fadel (2009) emphasized future skills for the 21st century are necessary in order to prepare active citizens who are able to face the challenges of global society; able to be innovative in order to solve complex problems; and use the power of technology to change the world for the better.

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COGNITIVE ACCELERATION APPROACH FOR ENHANCING HYPOTHESISING IN SCIENCE

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Abstract

The present study aimed to investigate the effectiveness of Cognitive Acceleration Approach on the skill of formulating Hypothesis, among Secondary School Students when compared with Existing Method of instruction. The design selected for the study was experimental, pre-test post-test non-equivalent groups design. The sample for the study included 78 eighth standard school students. The Descriptive statistics mean and Standard deviation and the inferential statistics ANCOVA were used for analyzing the data. The investigator used the tools (i) Test on the skill of formulating Hypothesis, a subtest of the test battery, 'Test on Thinking Skills in Chemistry' (ii) Ravens' Standard Progressive Matrices Test of Intelligence (RPM, 1996). The study revealed that Cognitive Acceleration Approach is effective to develop the skill of formulating Hypothesis in Chemistry among Secondary School Students when compared to Existing Method of instruction.

Key words: *Cognitive Acceleration, hypothesizing, Science, etc*

Introduction

Science forms a basic part of the human experience. It is a body of knowledge, a way of investigation, a way of thinking and an attitude towards life. There are three dimensions of science that are all important. They are the content of science, processes of doing science and scientific attitudes. The science process skills form the foundation for scientific methods. Science - A Process Approach (SAPA), grouped process skills into two types-basic and integrated. The basic process skills provide a foundation for learning the integrated skills. They are observation, classification, measurement, making predictions, inferences, communication and time and space relationship. In addition, there are five integrated science process skills; interpreting data, defining operationally, controlling variables, formulating

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hypothesis and experimentation. Numerous research projects have focused on the teaching and acquisition of the process skills. The present study aimed to investigate the effectiveness of Cognitive Acceleration Approach in improving the skill of formulating Hypothesis, among Secondary School Students when compared with Existing Method of instruction.

Skill of formulating Hypothesis

A hypothesis is defined as describing possible results of a study suppositionally. Turgut, Baker, Cunningham, Piburn, & Roger Cunningham (1997) described a hypothesis as a possible explanation of events or a possible solution to a problem. Quinn and George (1975) define a hypothesis as a testable explanation of an empirical relationship among variables in a given problem situation. The skill of formulating hypothesis is defined as: the ability to form general statements on the relationship between a variable that is thought to be true, in explaining an occurrence or matter, whereby the statements' veracity can be tested. (Kementerian Pendidikan Malaysia, 2003). The mastery of hypothesis formulating skill depends on the ability to comprehend the basic skills, and also the ability to manipulate variables. Formulating hypothesis, contains two descriptors that are identifying questions or opinions that can be tested and formulating questions or predicting the result of an experiment.

Abruscato (2000:46) specified that any hypothesis to be formulated should depend on observations or arguments. For example, students may observe that a cube of sugar will melt faster in hot water than it will in cold water. On the basis of this observation, the students may formulate the hypothesis that all substances that can dissolve in water will dissolve faster in hot water than in cold water. A hypothesis may also be produced from an argument. For example, if a glass jar is put on a burning candle, the candle will be extinguished in a short time. One may formulate the argument on the basis of this observation that the candle was extinguished due to lack of oxygen. Later, the students may formulate the hypothesis that the candle covered by the glass jar will be extinguished when the oxygen the in jar is depleted.

Charles Barman (1992) prepared a developmental sequence of science process skills. The behavior attributed to the performance of each skill is categorized hierarchically with the most basic proficiency being identified first and the highest level of proficiency listed last.

The formulation of hypotheses depends directly upon questions, inferences and prediction. The process consists of devising a statement which can be tested by experimentation. When more than one hypothesis is suggested by a set of observations, each must be stated separately. A workable hypothesis is stated in such a way that, upon testing, its credibility may be established. Skill Sequence -- The student will be able to:

a. Answer questions confined to specific observations.

b. Separate broad questions into parts which, when answered, will contribute to a comprehensive explanation.

c. Ask questions to state simple hypotheses which can be tested.

d. State hypotheses in forms which suggest the variable to be manipulated.

e. Differentiate between hypotheses which must be tested qualitatively and those which can be tested quantitatively

Demkanin and Velanová (2016) highlight that a hypothesis is a causal prediction, which must be based on arguments, on previous knowledge. Formulating hypotheses means to make a sentence which includes a verifiable relationship between variables. After verification, we decide if the hypothesis is accepted or not. If we accepted the hypothesis, the predicted relationship between variables is correct. We gained new knowledge. Negative results are as important as positive because they help us cross from ignorance to understanding, but we must continue with researching. Continuing research is based on circumscribed ignorance. If we find that variables are not dependent, our cognition has progressed (Kerlinger, 1972).

Need and Significance of the Study

The science process skills are a set of specific skills that assist students in learning science, getting them to be more actively involved, and consciously expand their capabilities. They are important in enhancing students' cognitive development and also to facilitate their active participation during the teaching and learning process. If students are not exposed to process skills in a systematic, logical and chronological manner, they run the risk of learning the skill through simple rote-learning and memorization. The importance of mastering science process skills is apparent through various studies performed domestically and internationally. Many studies have focused on students' active participation during science lessons, and emphasis on the mastery of science process skills (Abraham & Millar, 2008). According to Johnston (2009), mastery of science process skills is also related to cognitive growth; as noted

by Chin and Kayalvizhi (2005) mastery of these skills stimulates higher order thinking skills. Studies have also looked into students' aptitude in accruing the skill of formulating hypotheses (e.g. Braund and Hames, 2005).

Science process skills consist of competencies that must be mastered and applied by university students through physical and mental activities so that science can be more effective in problem solving as well as individual and social development (Akinbobola and Afolabi,2010). Science process skills involve the ability to use thinking in collecting information (Karamustafaoğlu, 2011) and aim to help students identify, observe, analyze, and hypothesize problems, draw a conclusion, and implement knowledge in real life (Nworgu and Otum , 2013). Science process skills can be classified into basic and integrated science process skills.

Good skills are not something that comes naturally. It is not the necessary outcome of usual teaching. It requires developing strategies, techniques and methods. Several studies, however, have indicated that improving students' skills requires more explicit teaching of it. Padilla, Cronin, and Twiest (1985) surveyed the basic process skills of 700 middle school students with no special process skill training. They found that only 10% of the students scored above 90% correct, even at the eighth grade level.

It is very important that students recognize how science process skills learned in science classes, such as search and inquiry, can be applied to problems they encounter in their daily lives. Using science process skills is an important indicator of transfer of knowledge which is necessary

for problem-solving and functional living (Akinbobola & Afolabi, 2010). Therefore, these skills are necessary for individuals living in a rapidly developing society. Individuals with these skills have the ability to make a major contribution to the improvement of society. It is easier for any individual who has developed the skill of formulating hypotheses to create conceptual knowledge (Lawson, 2001). For this reason, individuals' skill of formulating a hypothesis must be developed.

The acquisition of this skill makes science a meaningful subject since it is very much related to our daily life. It encourages logical and rational thinking; promotes higher order thinking, and it is also linked with problem solving ability (Akinbobola & Afolabi, 2010). In the process of coming up with a hypothesis, a student will draw on his or her ability to assess, that is to assess whether a particular hypothesis is true or vice versa. It is in this act of making an assessment that students use their logical and rational thinking. This clearly illustrates that formulating hypothesis is closely linked to thinking skills.

Cognitive Acceleration is a constructivist approach (CAA) to teaching, designed by Michael Shayer and Philip Adey, to develop students' thinking ability. It is the process of accelerating students' 'natural' development process through different stages of thinking ability, towards the type of abstract, logical and multivariate thinking which Piaget describes as 'formal operations' (Adey, 1999). The work of Piaget, Vygotsky and Feuerstein formed the basis of a theoretical platform of CAA.

Cognitive Acceleration lessons are centred on cognitive conflicts which form the basis of CAA. Hence, the theoretical foundation of the CAA is partly Piagetian, with an emphasis on providing conflict situations which encourage equilibration and the construction of the reasoning patterns of formal operations by students themselves. The aim of a CASE lesson is to maximise cognitive conflict, that is to create experiences which are puzzling and challenge children's current levels of understanding. The cognitive conflict is resolved through investigation and discussion where students have to use most of the process skills. The whole class share results and experiences, and the teacher facilitates metacognition through a conscious summary of the strategies and skills successfully applied. The studies conducted provide clear evidence that Cognitive Acceleration Approach prepares students to think critically and analytically. Therefore the investigator felt that Cognitive Acceleration Approach, a teaching and learning strategy may develop the skill of formulating Hypothesis among students. So the investigator decided to experiment the effect of CAA on the skill of formulating Hypothesis.

Objectives of the Study

1. To study the distribution of scores of the skill of formulating Hypothesis among the pupils of Standard Eight of experimental and control group.

2. To find out the effect of Cognitive Acceleration Approach on the skill of formulating Hypothesis when compared with existing method among secondary school students

Hypotheses of the Study

1. There is significant effect of cognitive acceleration approach when compared with existing method on the skill

of formulating Hypothesis among secondary school students.

Methodology of the Study

The investigator selected the design pretest, post-test non equivalent group design for the present study. In this design there are two groups. One of the groups serves as the experimental group and the other as the control group. The investigator selected Intelligence as the extraneous variable for the study, since Intelligence may affect the dependent variable irrespective of other learning conditions.

Tools used in the present study

The investigator used the following tools during the different phases of the study. (i) Test on the skill of formulating Hypothesis, a subtest of the test battery, 'Test on Thinking Skills in Chemistry' developed by Thomas and Joseph in 2016 (ii) Ravens' Standard Progressive Matrices Test of Intelligence (RPM, 1996).

Sample for the study

The population for the present study covers all the pupils of Standard Eight of Kottayam District Kerala. The investigator selected Holy Cross Higher Secondary School Cherpunkal in Kottayam District for the present study. From the school the investigator selected two Groups randomly as Experimental and Control consisting of 39 students each.

Analysis and findings

Objective 1: Distribution of the Pretest and Posttest Scores on the Skill of formulating Hypothesis

Before the treatment, the students in the experimental and control groups were undergone the pretest on the skill of formulating Hypothesis which is a subtest of the test battery, 'Test on Thinking Skills in Chemistry'. The same test was administered as posttest to both the groups after conducting the experiment. The investigator analysed the pretest and posttest scores on the skill of formulating Hypothesis descriptively. The investigator found the mean, median, mode, standard deviation, skewness of the pretest and posttest scores. Table 1 furnishes descriptive statistical values of the pretest and posttest scores.

Table 1

Descriptive Analysis of the Pretest and Posttest Scores on the skill of formulating Hypothesis

Test	Group	Mean	Median	Mode	SD	Skewness
Pretest	Experimental	4.11	4.00	4.00	1.35	0.54
	Control	4.36	4.00	4.00	1.61	0.33
Posttest	Experimental	5.67	6.00	6.00	1.89	0.22
	Control	5.03	5.00	4.00	1.75	0.21

From Table 1 it is clear that the means of the pretest scores on the skill of formulating Hypothesis is more or less same for the students in the experimental and control groups and it can be interpreted that there is not much difference in the pretest scores on the skill of formulating Hypothesis among the students in the experimental and control

groups. The positive value of the skewness indicates that the scores have a tendency to cluster at the lower end of the distribution. It is evident from the data that the groups are not much different in terms of the pretest scores.

In the case of the posttest scores on the skill of formulating Hypothesis of the students in the experimental and control groups, the mean scores differ. The mean of scores on the skill of formulating Hypothesis of the students in the experimental group is higher than that of the students in the control group and it is inferred that performance in terms of the skill of formulating Hypothesis of the students in the experimental group is better than that of the students in the control group.

Table 2

Sum of Squares, Degrees of Freedom, Mean Square and F value for the skill of formulating Hypothesis

Source of Variation	SS	df	MS	F -value	p -value
Intelligence	0.83	1	0.83	0.39	.533
Pretest Scores	0.97	1	0.97	0.43	.515
Between Groups	10.73	1	10.73	4.74*	.033
Within Groups	163.08	72	2.26		
Total	2491.00	78			

Note: * p < .05 ; SS - Sum of squares; MS - Mean squares

Objective 2: Effectiveness of the Cognitive Acceleration Approach over the Activity Oriented Method on the skill of formulating Hypothesis

The investigator formulated the following null hypothesis to find the effect of the Cognitive Acceleration Approach over the Activity Oriented Method on the *skill of formulating Hypothesis*.

Null Hypothesis: There is no significant effect of the Cognitive Acceleration Approach over the Activity Oriented Method, on the posttest scores on the *skill of formulating Hypothesis* when the effects of the scores on Intelligence and the pretest scores are controlled.

Scores on Intelligence and Pretest scores are treated as covariates

From Table 2 the investigator observes that the calculated *F* value for the skill of formulating Hypothesis $(F_{(1,72)} = 10.73, p < .05)$, is significant at .05 level. Therefore the null hypothesis H_0, 'There is no significant effect of the Cognitive Acceleration Approach over the Activity Oriented Method, on the posttest scores on the skill of formulating Hypothesis, when the effects of the scores on Intelligence and the pretest scores on the dependent variable are controlled', is accepted.

In order to know whether the Cognitive Acceleration Approach or the Activity Oriented Method is more effective for improving the skill of formulating Hypothesis, the investigator compared the means adjusted for the covariates. The result is shown in Table 3.

Table 3
Comparison of the Adjusted Means of the skill of formulating Hypothesis

Variable	Group	Mean	Mean difference	Significance
Skill of formulating Hypothesis	Experimental	5.67	1.31	.002
	Control	4.36		

From the adjusted means for the skill of formulating Hypothesis given in table 3 it is evident that the adjusted Mean of the experimental group is 7.99 and that of the control group is 5.20 and the mean differences for formulating Hypothesis is 2.79 which is at .05 level. Since the adjusted mean of experimental group is greater than that of the control group, the null hypothesis 'There is no significant effect of the Cognitive Acceleration Approach over the Activity Oriented Method, on the posttest scores on the skill of formulating Hypothesis, when the effects of the scores on Intelligence and the pretest scores on the dependent variables are controlled', is not accepted. Hence the investigator concludes that the CAA is more effective than Activity Oriented Method in developing the skill of formulating Hypothesis.

Major findings of the study

1. Most of the pupils possess average scores in the skill of formulating Hypothesis
2. There is significant effect of Cognitive Acceleration Approach when compared with existing method on the skill of formulating Hypothesis

Conclusion

A reasonable portion of the science curriculum should emphasize science process skills according to the National Science Teachers Association. In general, the research literature indicates that when science process skills are a specific planned outcome of a science program, those skills can be learned by students. Teachers need to select curricula which emphasize science process skills. In addition they need to capitalize on opportunities in the activities normally done in the classroom. Though not an easy solution to implement, the explicit teaching of process skills remains the best available at this time.

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