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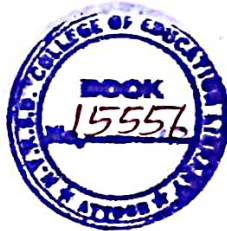
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Editorial

“Connect the Disconnected” : The Reality of the Hour

Preparing students of today for tomorrow has got a lot to do with teaching about how to use and evaluate knowledge. Gone are the days when students spent their time memorizing facts that were readily available to them. Contemporary students need to learn the tactics of learning at their own time and at their own pace. So we must give them the type of education that prepares them for lifelong learning, so that they know how to study and how to evaluate the importance of what they learn all by themselves.

Improving the quality, minimizing the costs, and increasing access to education are the debatable issues of discussion by administrators and academicians of higher education with regard to collection and dissemination of knowledge. The advances in Information and Communication Technologies (ICT) have been perceived to be the supposed solution to these issues. Undoubtedly, Web-based technology has a dramatic impact on learning and teaching. It is one of the emerging needs of the information age.

Since access to education is going to become crucial for the success of our information society, a lot of potential is seen in learning through virtual environments. A Virtual Learning Environment (VLE) is a system for delivering learning materials to students via web. It offers students a full range of learning opportunities powered by the latest online technologies available. It brings learning to pupils instead of pupils to learning. E-learning education enhances student's learning experiences by including computers and Internet in the learning process. The Internet is rapidly becoming the biggest repository of information we have ever known. A system based on the Web, it enables teaching not only to traditional full-time students but also those who cannot regularly visit the campus due to geographic or time restrictions. Virtual learning

environment (VLE) or learning platforms are the basic components of contemporary distance learning. It typically uses Web 2.0 tools for 2-way interaction, and includes a content management system.

The student-teacher interaction is the key to student success. For this reason, it allows students and teachers to meet and interact in socially shared spaces and engage in online real-time seminars, tutorials, threaded discussions, chatting, Web meetings etc. These systems include curriculum mapping, student tracking, online support to both teacher and student, electronic communication through e-mail, threaded discussions, chatting, Web publishing and Internet links to outside curriculum resources.

In the future, as higher education shifts from traditional classroom teaching to online learning, exploiting the wonders of these new communication technologies are definitely going to enhance the quality of learning as it provides exciting opportunities to explore. It maximizes the learning experience of the learning society. Hence Virtual Learning Environment is effectively vital in the higher education scenario. It can support and enhance effective learning, if implemented with careful planning. To conclude we can quote:

“You can't teach people everything they need to know. The best you can do is position them where they can find what they need to know when they need to know it.” (Seymour Papert).

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Relationship between Teaching Competency and Personality Traits of English Language Teachers

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** Dr. B. Minnelkodi

ABSTRACT

In this study, an attempt has been made to study the relationship between teaching competency and different personality traits of English language teachers. The Teaching Competency Scale for English Language Teachers (TCSELT) constructed and standardized by the investigators and the Dimensional Personality Inventory (DPI) standardized by Mahesh Bhargava (2006) was used to collect data from a sample of 540 English language teachers in Cuddalore district of Tamilnadu. The survey method has been followed and the Cluster sampling technique was used in the administration of the research tools. The result of the analysis revealed that there is a positive and significant correlation between Activity-Passivity, Enthusiastic-Non-enthusiastic trait and Teaching competency of English language teachers. There is a negative and significant correlation between Depressive- Non-depressive trait, Emotional instability –Emotional stability trait and Teaching competency of English language teachers.

INTRODUCTION

The term teaching competency has been defined by various authors. According to some authors it includes knowledge, attitude, skill and other teacher characteristics (Haskew,1956; Wilson,1973). Rama (1979) defines teaching

competency as “the ability of a teacher manifested through a set of overt teacher classroom behaviours which is a resultant of the interaction between the presage and the product variables of teaching within a social setting”. Teaching competency means an effective performance of all the observable teacher behaviour that brings about desired pupil outcomes.

Personality is the dynamic organization within the individual of his para psychological system that determines his characteristic behavior and thought (Allport,1961). Most of the definitions on personality accepted today are patterned on this definition of Allport. A trait is defined as an “observed constellation in individual action tendencies” (Eysenck,1947). In other words, trait is simply an observed consistency among the habits or repeated acts of the subjects.

NEED OF THE STUDY

The role of teacher has been observed by Indian Education Commission(1964) as, “the destiny of India is now being shaped in her classrooms”. Obviously the destiny-makers are the teachers, who play constructive role in influencing the quality of education and its contribution to national development. The Education Commission has pointed out that, “Of all the different factors which influence the quality of education and its contribution to national

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development, the quality, competence and character of teachers are undoubtedly the most significant". The goals of education cannot be achieved unless teachers have the necessary skills and competencies. The success of teacher's teaching depends on the level of psychosocial climate. According to Pruner (2003) "a teacher's personality greatly influences the climate in the classroom. Researches show that, certain characteristics of a teacher such as warmth, emotional stability, self-confidence, rational approach, dynamics of a personality which enables the teacher to flexibly react to changes, and dominance contribute to a conflict free environment and to the positive development of pupils". There are some studies about the relationship of Teaching competency and Personality traits of teachers. But the researcher hardly found empirical studies about these two variables on English language teachers. To fill up this research gap in educational research this study was carried out to study the significant contribution of personality traits on teaching competency of English language teachers.

OBJECTIVES

- > To find out whether there is any significant relationship between different personality traits and teaching competency of English language teachers.
- > To find out whether there is any significant contribution of different personality traits on the teaching competency of English language teachers.

HYPOTHESES

- > There exists no significant relationship between different personality traits and teaching competency of English language teachers.

> There is no significant contribution of different personality traits on the teaching competency of English language teachers.

METHOD

The normative survey method was adopted for this study.

TOOLS

The Teaching Competency Scale for English Language Teachers (TCSELT) constructed and standardized by the investigators and the Dimensional Personality Inventory (DPI) standardized by Mahesh Bhargava(2006) were used to collect the data.

SAMPLE

The sample for the present study consisted of 540 English language teachers in Cuddalore district of Tamilnadu.

STATISTICAL TECHNIQUES

Correlation and Regression analysis were used for the analysis of data.

RESULTS AND DISCUSSION

The coefficient of correlation has been found out to determine the relationship between different personality traits and teaching competency of English language teachers. The result of the analysis is given in Table-1.

Table 1 shows that there is a significant and positive relationship between teaching competency and Activity-passivity, Enthusiastic-Non-enthusiastic traits. There is a significant and negative relationship between Depressive - Non-depressive and Emotional instability - Emotional stability traits. These findings revealed that more Activity and more Enthusiastic traits accounts for high level of teaching competency. The Depressive and Emotional Instability traits accounts for low level of teaching competency.

Table 1
Correlation between Teaching competency and different Personality traits

Personality traits	Activity-passivity	Enthusiastic-Non-enthusiastic	Depressive-Non-depressive	Emotional instability-Emotional stability
Teaching competency	0.146**	0.250**	-0.132**	-0.169**

** Significant at 0.01 level

Regression analysis for different Personality traits and Teaching competency of English language teachers

The regression analysis has been carried out to find out whether there is any significant contribution of Personality traits on the teaching competency of English language teachers. The result of the analysis is presented in tables 2 to 4.

Table 2

Contribution of different personality traits on Teaching competency of English language teachers

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.298	0.089	0.082	17.827

Table - 2 shows the R square value, which is found to be 0.089. It is evident that only 8.9% of the total variance in teaching competency is attributed by the Personality traits of English language teachers. The remaining percentage of variance 91.1% (1-R Square) is to be accounted by other factors which is not included in this study.

- a. Predictors: (constant) Activity - Passivity trait, Enthusiastic - Non-enthusiastic trait, Suspicious - Trusting trait and Emotional Instability - Emotional Stability trait.
b. Dependent Variable: Teaching competency.

Table 3

Anova for contribution of different Personality traits on Teaching competency

Model	Sum of Squares	df	Mean Square	F	Significance
Regression	16591.900	4	4147.975	13.052	0.000
Residual	170027.033	535	317.808		
Total	186618.933	539			

It is evident from table-3, that the F value is found to be 13.052, which is significant at 0.01 levels. It indicates that there is a significant contribution of Personality traits on the teaching competency of English language teachers.

- a. Predictors: (constant) Activity - Passivity trait, Enthusiastic - Non-enthusiastic trait, Suspicious - Trusting trait and Emotional Instability - Emotional Stability trait.
- b. Dependent Variable: Teaching competency

Table 4
't' value of contribution of different Personality traits on Teaching competency

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Significance
	B	Std. Error			
(Constant)	166.372	5.250		31.687	0.000
Activity-Passivity	0.283	0.282	0.045	1.004	0.316
Enthusiastic-Non-enthusiastic	1.354	0.264	0.225	5.122	0.000
Suspicious-Trusting-	0.373	0.293	-0.064	-1.274	0.203
Emotional Instability-Emotional Stability-	0.534	0.255	-0.105	-2.09	0.037

Table-4 shows the calculated 't' value, for the enthusiastic-non-enthusiastic trait (t=5.122) and Emotional Instability-Emotional Stability (t=2.097) significantly contributes to the teaching competency of English language teachers. The negative beta value shows that suspicious-Trusting (-.067) and Emotional Instability-Emotional Stability (-.105) contributed negatively to teaching competency. Hence, it is evident that highly suspicious and Emotional instability reduces the teaching competency of English language teachers. Moreover, activity-Passivity and Suspicious-Trusting traits are not significantly contributing to the dependent variable teaching competency of English language teachers.

FINDINGS

1. There is a significant and positive relationship between teaching competency and Activity-Passivity; Enthusiastic-Non-enthusiastic Personality traits.
2. There is a significant and negative relationship between teaching competency and Suspicious-Trusting; Emotional Instability-Emotional Stability Personality traits.
3. It is evident that 8.9% of the total variance in teaching competency is attributed by the different personality traits of English language teachers.

4. There is a significant contribution of the independent variable such as Enthusiastic-Non-enthusiastic and Emotional Instability-Emotional Stability on the dependent variable Teaching competency of English language teachers.
5. There is no significant contribution of the independent variables such as Activity-Passivity and Suspicious-Trusting traits on the dependent variable teaching competency of English language teachers.

CONCLUSION

The study revealed a positive relationship between teaching competency and activity-passivity, enthusiastic and non-enthusiastic personality traits. So it is concluded that the personality of the teacher greatly influences the teaching competency of English language teachers.

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Successful Intelligence and Learning Strategies of Higher Secondary School Students

* Remya P

** Dr.C.M.Bindhu

ABSTRACT

The present study is an attempt to find out the relation between Successful Intelligence and Learning Strategies of higher secondary school students. The sample was 640 higher secondary school students. Data were collected by using two tools namely Successful Intelligence Scale and Learning Strategy Scale. Results indicated substantial positive relationship between Successful Intelligence and Learning Strategies of higher secondary school students.

INTRODUCTION

Human intelligence has long been on the borderline between a scientific and a quasi-scientific field within the scope of psychological science. It is a much researched variable, but empirical tests of theories of intelligence have too often ranged from inadequate to non-existent. Mainly two extremes have prevailed in the study of intelligence. At one extreme are measurement of "g" factor of intelligence and in the other extreme are new and recent trends in measuring emotional intelligence (Goleman, 1995) and multiple intelligence (Gardner, 1983). Apart from the two extremes a middle ground is needed that recognizes the multifarious nature of intelligence and of people's conceptions of it. It is with great relevance in the

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present scenario that Robert J Sternburg has put forward the concept of Successful Intelligence.

People need all their skills to be operating in a very good order to be successful in life. Successful intelligence is the integrated set of abilities needed to attain success in life; however an individual defines it, within that individual's socio-cultural context. People are successfully intelligent by recognizing their weakness and find ways to correct or compensate for them. Successfully intelligent people adapt to shape and select environment by using a balance of analytical, creative and practical abilities. Strenburg (1998) defined successful intelligence as intelligence in terms of ability to achieve one's goals in life within one's socio-cultural context. Intelligence has traditionally been defined in terms of some kind of successes. Successful Intelligence is the integrated set of abilities needed to attain success in life - within that individual's socio-cultural context. According to Sternburg (2000) intelligence tests normally assess inert intelligence that does not lead to a goal-directed movement, but on the other hand successful intelligence is the kind of intelligence used to achieve important goals.

Individuals encounter various problems daytoday that may affect their life. Majority of people

have the ability to acquire and apply knowledge, but successfully intelligent people do not just have abilities, they use these abilities to solve every day problems that they encounter. People who succeed are those who have managed to acquire, develop and apply a full range of intellectual skills. People are successfully intelligent by recognizing their strengths, and knowing their weakness and find ways to correct or compensate their weakness by capitalizing on their strengths. Successfully intelligent people adapt to shape and select environments by using a balance of analytical, creative and practical abilities. So in accordance to this the outcome of education system should be the production of successfully intelligent generations.

The present system of education gives more importance to learner's characteristics. The students adopt their own learning strategies in learning. The concept of learning strategies developed almost recently at the later period of 20th century. Learning strategies are an individual's approach to a task. They indicate how a student organizes and uses a set of skills to learn content or to accomplish a particular task more effectively either in or out of school (Schumaker & Deshler, 1984)

Learning strategies enable students how to learn and how to be successful in and out of the academic settings. Learning strategies give students a way to think through and plan solution to a problem. Students who use learning strategies become more effective and independent learners in the present scenario of learning. As the learners are considered as autonomous entity in the present situation the international efforts to develop adequate learning strategies have got much momentum.

Almost all children can learn in an effective manner, if you teach them in a manner that matches their learning abilities. Successful intelligence can provide a practical way of teaching in which a solid

learning strategy can be developed which involves a well-balanced learning approach involving, analytical, creative and practical thinking skills. Thus education provides a deliberate and conscious activity on the part of civilized societies to lead a meaningful life. So the importance of education and research is crucial not only for the present development but also to tackle challenges successfully and open a way to future. Successfully intelligent people can develop learning strategies that could enhance the learning process, but this aspect is not reached to a great extent. Higher secondary school students represent the adolescent stage, which is a crucial stage which determines the academic future of students. It is at this stage, the student's starts thinking of choosing a profession and to succeed in life. These factors led the investigators to take up the study.

OBJECTIVES

- To find out whether there is any significant difference in the mean scores of successful intelligence of higher secondary school students based on gender, locale, type of management and subject.
- To find out whether there is any significant difference in the mean scores of learning strategy of higher secondary school students based on gender, locale, type of management and subject.
- To find out whether there exists significant relationship between Successful intelligence and Learning strategy of higher secondary school students for the total sample and the relevant subsamples.

METHOD

The investigators selected Normative Survey method for conducting the study.

SAMPLE

Sample for the study consisted of 640 higher secondary school students from Kozhikode, Malappuram, Plalakkad, Thrissur, Kannur and Waynad districts of Kerala.

TOOLS

Successful Intelligence Scale (Bindhu & Remya, 2012), Learning Strategy Scale (Kumar et al., 2001)

STATISTICAL TECHNIQUES

Mean difference analysis and Pearson's Product Moment Coefficient of Correlation

RESULTS AND DISCUSSION

It can be seen from table 1 that there is significant difference in the mean scores of successful Intelligence of subsamples like Science and Humanities (t=4.47) and Commerce and Humanities (t=3.82) at 0.01 level of significance.

Table 1

Data and Results of t-test of Successful Intelligence of Higher Secondary School Students Based on Gender, Locale, Type of Management and Subject

Variable	Category	N	Mean	SD	t-Value	Level of Significance
Successful Intelligence	Male	284	188.26	22.22	1.75	NS
	Female	356	185.29	20.46		
	Rural	458	187.12	20.98	0.96	NS
	Urban	182	185.32	22.06		
	Government	425	186.54	21.90	0.10	NS
	Private	215	186.73	20.09		
	Science	239	189.79	21.83	0.68	NS
	Commerce	211	188.41	20.62		
	Science	239	189.79	21.83	4.47	0.01
	Humanities	190	180.60	20.19		
	Commerce	211	188.41	20.62	3.82	0.01
	Humanities	190	180.60	20.19		

It can be seen from table 1 that there is significant difference in the mean scores of successful Intelligence of subsamples like Science and Humanities (t=4.47) and Commerce and Humanities (t=3.82) at 0.01 level of significance. While observing the mean scores, it is seen that the Science and Commerce students are more successfully intelligent than Humanities students. In case of Male and Female (t=1.75), Urban and Rural (t=0.962), Government and Private (t=0.10) and Science and Commerce (t=0.68) higher secondary school students there is no significant differences in the mean scores of Successful Intelligence.

Table 2

Data and Results of t-test of Learning Strategies of Higher Secondary School Students Based on Gender, Locale, Type of Management and Subject

Variable	Category	N	Mean	SD	t-Value	Level of Significance
Learning Strategies	Male	284	105.53	14.21	2.56	0.05
	Female	356	108.25	12.59		
	Rural	458	107.09	13.01	0.13	NS
	Urban	182	106.93	14.33		
	Government	425	107.01	13.99	0.09	NS
	Private	215	107.11	12.14		
	Science	239	109.43	13.23	0.43	NS
	Commerce	211	109.96	12.32		
	Science	239	109.43	13.23	6.82	0.01
	Humanities	190	100.80	12.71		
	Commerce	211	109.96	12.32	7.32	0.01
	Humanities	190	100.80	12.71		

Table 2 revealed that there is significant difference in the mean scores of Learning Strategies of subsamples like Male and Female (t=2.56), Science and Humanities (t=6.82), Commerce and Humanities (t=7.32) students. A close observation of the mean scores shows that female students have better Learning Strategies than Male students and Science and Commerce students have better learning Strategies than Humanities students. No significant difference exists between Urban and Rural (t=0.13) Government and Private (t=0.09) and Science and Commerce (t=0.43) higher secondary school students.

Table 3

Co-efficient of Correlation between Successful Intelligence and Learning Strategies for the Total Sample and relevant Sub Samples

Variables Correlated	Sample	Category	N	r	Level of Significance
Successful Intelligence and Learning Strategies	Total		640	0.68	0.01
	Gender	Male	284	0.74	0.01
		Female	356	0.64	0.01
	Locale	Rural	458	0.68	0.01
		Urban	182	0.66	0.01
	Type of Management	Government	425	0.68	0.01
		Private	215	0.67	0.01
		Science	239	0.69	0.01
	Subject	Commerce	211	0.65	0.01
		Humanities	190	0.65	0.01

The findings indicate that there exists substantial positive correlation between Successful Intelligence and Learning Strategies of higher secondary school students for the total sample ($r=0.68$) and the relevant subsamples.

CONCLUSION

The study revealed a positive significant correlation between Successful Intelligence and Learning Strategies. Successfully intelligent student can carefully formulate strategies for problem solving. The classroom should provide experiences to students to increase their problem solving abilities. It helps children to use the benefits of perceived strength and skills and use them to enhance learning abilities. Learning strategy is also very important quality of students. Providing better facilities, opportunities and proper guidance help to develop better learning strategy.

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Effect of Metacognitive Interaction in Enhancing Achievement in Economics among Secondary School Students

* Sony Francis C

ABSTRACT

Learning depends upon the methods, techniques and approaches employed for the teaching and learning. It is only through well - designed and effectively implemented educational programmes that the student would be equipped with necessary knowledge and skills to release his/her innate potentialities. Metacognitive interaction in teaching-learning process in economics helps the students to improve their achievement in economics as well as to apply those in their daily life. Experimental method was used for the study. From the results it was found that there is significant difference in the achievement test scores of the experimental and control group after giving the treatment and the experimental group performed better than the control group in achievement test due to the metacognitive orientation. This study also revealed that gender has no influence on enhancing academic achievement in economics through metacognitive orientation.

INTRODUCTION

In this era of knowledge explosion, educators are challenged more than ever before. This calls for equipping students with those skills which will not become obsolete. Assimilation of metacognitive behaviour will help the students to imbibe those skills in one's life. The Greek word

'meta' means beyond. Applied to the thinking process, metacognition refers less to thinking about what one is doing or experiencing and more to paying attention to the ways one is thinking. Metacognition includes not only a sharper awareness of the thought process but also a curiosity about the many ways one's thoughts happen. Metacognitive behaviour helps one to learn to manage one's own thinking more consciously and effectively. Thus the value of the concept of metacognition is that a transformation from ordinary awareness to a more self-reflective type of consciousness is possible.

While teaching a teacher should consider the fact that pedagogy and practice are not different. It should go hand in hand. Then only the real learning takes place. The main difference in teaching in United States and in India is that, they concentrate on promoting creative human development. In India more attention is paid to discipline with the result that the individual learner is less benefited. The teacher in the United States aims at enabling the student to lead a whole life. Therefore, instead of mere transmission of body of knowledge teacher should take care of the method of teaching also. The teacher must instill in the student thinking habit in such a way that he has to question ' what do I know?', ' What I do not know?', ' How much I

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know' etc. Such metacognitive training would be helpful for the creative human development.

In economics we come across mainly the competencies like decision making, optimization of resources, problem solving etc. Educationists incorporate those competencies in X standard economics in order to develop those skills among students. If various concepts in economics are learned only by rote for examination sake it will not be helpful for the student to develop various life skills. Only if they are able to apply those competencies in their life situations, they will be able to receive the real fruits of learning economics and to cope with the changing situations. The present study focuses on the effect of metacognitive interaction in enhancing achievement in economics among secondary school students.

OBJECTIVES

- To find out the effect of metacognitive interaction on achievement in economics at secondary school level.
- To study whether there exists any significant difference between the subsamples based on gender.

HYPOTHESES

- There is no significant difference between the experimental group and control group students with regard to post test scores.
- There is no significant difference between the post test scores of the experimental group with regard to the subsample gender.

METHOD

Experimental method was used for the study. The pre-test - post-test control group design

involves two groups both of which were formed based on the scores of the pre-test. One group received the experimental treatment while the other underwent conventional method and then both the groups were post tested on the dependent variable.

SAMPLE

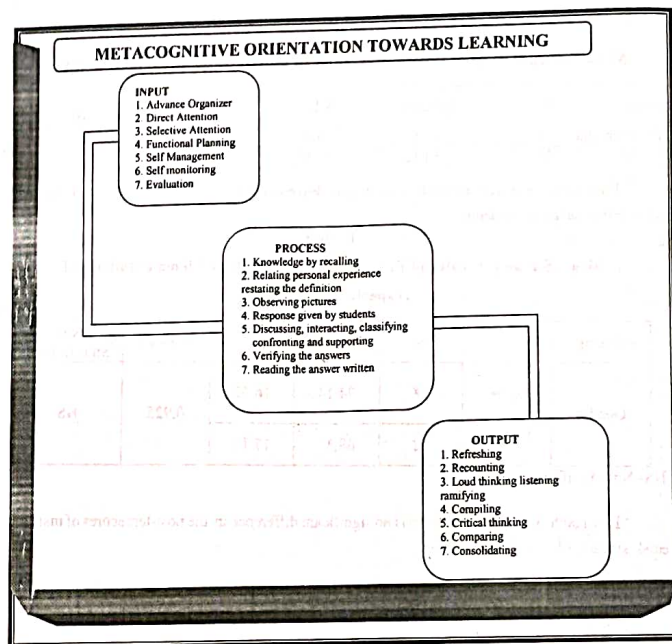
The investigator selected a group of sixty 10th standard students (30 in the experimental group and 30 in control group) studying in one of the government schools in Thrissur district, Kerala.

TOOLS

1. A metacognitive orientation framework.
2. An achievement test developed by the investigator.

EXPERIMENTAL TREATMENT : METACOGNITIVE INTERACTION

For metacognitive interaction the investigator selected a topic related with national income. The investigator impelled the attention of students towards national income by relating it with the family income (direct attention). The students were motivated to find examples from real life situation relating to primary, secondary and tertiary sector (functional planning). The investigator now and then posed questions to test their understanding level. Students were able to answer those questions in one or two sentences (self-management). Active discussion about the merits and demerits of calculating national income made the students clarify their doubts and answer the questions raised in the discussion (orchestrating and regulating). Individual exercise given to the student's made them verify their answers and evaluate themselves (monitoring and evaluating). The following figure represents the input, process and output of metacognitive interaction in learning economics.



RESULTS AND DISCUSSION

Table 1
Mean, S.D and 't' value of pre test scores of experimental and control group

Group	N	Mean	S.D	't' value	Level of Significance
Experimental	30	47.34	17.84	0.034	NS
Control	30	47.17	21.15		

NS- Not Significant

From table 1 it is seen that there is no significant difference between control group and experimental group students in the pretest scores.

Table 2
Mean, S.D and 't' value of Post - test scores of experimental and control group

Group	N	Mean	S.D	't' value	Level of Significance
Experimental	30	71.17	23.67	3.915	0.01
Control	30	50.12	17.52		

From table 2 it is seen that there is significant difference in the post-test scores of control group and experimental group students.

Table 3
Mean, S.D and 't' value of Post - test scores of male and female students of experimental group

Subsample		N	Mean	S.D	't' value	Level of Significance
Gender	Male	18	74.14	16.52	0.925	NS
	Female	12	68.32	17.11		

NS- Not Significant

From table 3 it is seen that there is no significant difference in the post-test scores of male and female students of experimental group.

FINDINGS

1. There is no significant difference in the achievement test scores of the experimental and control group before giving the treatment.
2. There is significant difference in the achievement test scores of the experimental and control group after giving the treatment (CR=3.915, $p > 0.01$). The experimental group ($m=71.17$) performed better than the control group ($m=50.12$) in achievement test scores due to the metacognitive orientation.
3. There is no significant difference in the post test scores of male and female students of experimental group. This indicates that gender has no influence on enhancing

academic achievement in economics through metacognitive orientation.

CONCLUSION

The results of the study show that a shift from the context of student-teacher interactions to an individual student's self regulation has enhanced student's achievement in economics. Moreover it makes them independent learners. One of the goals of education is to help children operate effectively on all levels of thought (knowledge, comprehension, applications, analysis, syntheses and evaluation). The attention of all levels of thinking may form a central theme in the metacognitive intervention in teaching-learning programme. Although most individuals of normal intelligence engage in metacognitive regulation when confronted without

effortful cognitive task, some are more metacognitive than others. Those who have supportive climate for goal orientation have greater metacognitive abilities and they tend to be more successful in their cognitive endeavour.

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Multimedia Application in Teaching High School Mathematics

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ABSTRACT

Learning of mathematics is a very complex cognitive process which requires a lot of effort from the learners. Hence it is essential to teach mathematics in a highly interesting fashion. For this we need to adopt instructional strategies that are interesting and stimulating. Educational technology has always demonstrated a significant positive impact on the achievement of students. Positive effects have been found for all major subject areas, in preschool through higher education, and for both regular education and special needs students. Evidence suggests that interactive instructional packages are especially effective when the skills and concepts to be learned have a visual component and when the software incorporates a research-based instructional design.

INTRODUCTION

Educators are now introducing various forms of software and multimedia presentation driven media into their classroom activities (Tolhurst, 1995). These creative presentation systems are producing a great deal of excitement among educators. Multimedia can be described as "the

combination of various digital media types, such as text, images, sound, and video, into an integrated multisensory interactive application or presentation to convey a message or information to an audience." It definitely has the power to extend the amount and type of information available to learners. Well-designed multimedia helps learners build more accurate and effective mental models than they do from text alone.

Recent studies indicate that students enjoy attending classes that utilize multimedia presentations because they find these classes to be more interesting and exciting. Multimedia offers remarkable opportunities and challenges for teaching mathematics. In their studies, some researchers suggest that the use of technology in the classroom can enhance student learning. Twenty years of research show that multimedia enhanced learning produces at least 30% more learning in 40% less time at 30% lower cost. When a multimedia presentation is used for multimedia methods of instruction, retention is raised to 80% in contrast to 40% for discussion methods or 20% with the traditional lecture method using visual aids (White and Kuhn, 1997). Hence, it is pertinent that

Mathematics educators examine the opportunities and challenges of new technologies in order to enhance their teaching styles. Recent comparisons of traditional mathematics instruction to its computer-assisted counterpart also yielded positive learning results related to the use of technology, including commercially available problem-solving software.

NEED AND SIGNIFICANCE OF THE STUDY

Researches have proved that the traditional method of teaching do not bring about fruitful results as far as student learning is concerned. This is because it has certain short comings (Alsop, 2004). The traditional type of instruction makes students passive recipients of knowledge. It consumes the time and energy of the teacher but at the same time does create little interest in the learners. If pupils' attention is diverted for a few seconds, then they will not be able to comprehend the remaining portions.

In the traditional method, there is a widespread assumption that children should sit still and listen and this has been repeatedly disproved by scientists, psychologists, and educators. Children are meant to move their bodies and play. This is how they learn the best. Furthermore, children in all school models are still being discriminated against, shamed and punished for having different learning styles. Sadly, children who learn more quickly or more slowly than their peers are often neglected in the classroom. Sometimes, learning content simply is not interesting enough or even age-appropriate. If children are unable to relate to the subject matter or the way in which it is delivered, they naturally

lose interest. Children are drawn toward classroom activities that are aligned with their stages of cognitive and emotional development

Research studies have shown significant links between multimedia instruction and achievement of learners. Schools that integrate technology into the traditional curriculum have higher student attendance and lower dropout rates, which leads to greater academic results (Fisher, 1999). Hence, educators will have to put aside some of their traditional teaching techniques to make room for multimedia. Moreover, complicated topics can be explained and understood better with the aid of pictures, graphs, animations and simulations (Kussmaul et al., 1996). Yet another benefit of multimedia is the option to present complex concepts in small, chronological steps as a means to improve students' ability to comprehend information in a meaningful way.

Multimedia is one of the latest technological innovations adopted in our schools for transforming teaching-learning process from dull dungeons of teacher-directed recitation to motivated self-assessed student learning. Multimedia integrates text, graphics, animation, audio, and video into one entity. Here, students actively participate in the process of learning due to the interesting and innovative nature of the technique. Hence it was presumed that a multimedia instructional package would be more effective for teaching high school mathematics than the traditional *chalk and talk* method of teaching.

OBJECTIVES

- To prepare an instructional package involving multimedia application for teaching high school Mathematics.

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- To test the effectiveness of the prepared instructional package involving multimedia application by comparing the achievement in Mathematics of the experimental and the control groups.
- To find out whether there is gender difference in achievement in Mathematics of the experimental and the control groups.

HYPOTHESES

- There will be significant difference in the achievement in Mathematics of the experimental and the control group.
- There will be significant gender difference in the achievement in Mathematics of the experimental and the control group.

METHOD

Experimental method was adopted for the study with the simple randomized post-test design.

SAMPLE

The sample consisted of 80 students out of which 40 were girls and 40 were boys studying in the 9th standard of a high school in Thiruvananthapuram district. Purposive sampling technique was used for the sample selection.

TOOL

The purpose of the study was to study the effectiveness of multimedia instructional package on the academic achievement of high school students. Hence a self-constructed achievement test was used as the tool.

STATISTICAL TECHNIQUE

't' test was applied to find out the significant difference between two groups.

RESULTS AND DISCUSSION

The data collected was analyzed using 't' test and the results are summarised in table 1.

Table 1
Mean, SD and 't' value of the Academic achievement of students of Experimental Group and Control Group

Category	N	Mean	SD	't' value	Remark
Experimental Group	40	32.4	4.82	3.7	Significant at 0.01 level
Control Group	40	28.2	4.74		

It is evident from the results shown in table 1 that the 't' value (3.7) is greater than the table value (2.64) which is significant at 0.01 confidence level. Hence the hypothesis that "There will be significant difference in the achievement in Mathematics of the experimental and control groups" is accepted.

Table 2
Mean, SD and 't' value of the Academic Achievement of girls of Experimental Group and Control Group

Category	N	Mean	SD	't' value	Remark
Experimental Group	20	30.3	4.25	5.62	Significant at 0.01 level
Control Group	20	22.4	4.63		

Results in table 2 clearly show that the 't' value (5.62) is greater than the table value (2.71) which is significant at 0.01 confidence level. Hence the hypothesis that "There will be significant difference in the achievement in Mathematics of the girls in the experimental and control groups" is accepted.

Table 3
Mean scores, SD and 't' value of the Academic Achievement of boys of Experimental Group and Control Group

Category	N	Mean	SD	't' value	Remark
Experimental Group	20	31.2	4.72	5.51	Significant at 0.01 level
Control Group	20	23.3	4.34		

Results in table 3 clearly show that the 't' value (5.51) is greater than the table value (2.71) which is significant at 0.01 confidence level. Hence the hypothesis that "There will be significant difference in the achievement in Mathematics of boys in the experimental and control groups" is accepted.

FINDINGS

- There exists significant difference in the achievement in Mathematics of the students taught with the multimedia instructional package. This shows that multimedia instruction is more effective in the teaching of high school Mathematics than the traditional method.
- There exists significant difference in the achievement in Mathematics of the girls of the experimental group and the control group.
- There exists significant difference in the achievement in Mathematics of the boys of the experimental group and the control group.

CONCLUSION

The present study reveals that students prefer multimedia instruction to the traditional classroom instructional method for learning high school mathematics. Introducing technology into the learning environment make learning more student-centered. Positive changes in the learning environment brought about by technology are more evolutionary than revolutionary. These changes occur over a period of years, as teachers become more experienced with technology.

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Multiple Intolligence of Primary Schoolteachers

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ABSTRACT

The present study aims at identifying the multiple intelligences of primary school teachers. The major objective of the study is to find out the significant difference if any in multiple intelligence and its dimension with respect to the background variables. The sample consists of 500 primary school teachers from four districts of Tamilnadu viz. Kanyakumari, Tirunelveli, Tuticorin and Madurai. The findings of the study revealed that primary school teachers have moderate level of multiple intelligence. It was found that female teachers are better than male teachers in verbal-linguistic, bodily-kinesthetic, musical-rhythmic, interpersonal and intra-personal intelligences but male teachers are better than female teachers in their logical-mathematical intelligence. Married teachers are better than unmarried teachers in their verbal-linguistic and inter-personal intelligence. Arts teachers are better than science teachers in their logical-mathematical intelligence. PG qualified teachers are better than TTC qualified teachers in their visual-spatial intelligence. Aided school

teachers are better than Government school teachers in their verbal-linguistic intelligence.

INTRODUCTION

The quality of a nation depends upon the quality of its citizens. The quality of the citizens rests upon the quality of their education. The quality of their education depends upon the competence, dedication and quality of school teachers. It is not brick and mortar of the classrooms, but the dialogues, rapport and interactions supported by deeds, between the learners and the teachers, all the time developing within its four walls that can make or mar the destiny of the youngsters. Being a teacher is to be a change agent transforming ideas into ideals and ideals into institutions which may spread the light of knowledge and wisdom into eternity. Only as intelligent teacher can act as a changing agent to transform the society.

SIGNIFICANCE OF THE STUDY

Today the students are very intelligent in their learning and other skills. They expect more from the teachers. They want to be dynamic in the

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digital world. So they expect the teachers to be intelligent in their profession. Teachers should be in a position to satisfy the urging needs of the students. So they must possess varied skill and intelligence to face the expectations of the students. They must possess intelligence in academic and extracurricular activities to be satisfied in their profession and to satisfy the needs of the students. Multiple intelligence is the set of abilities possessed by an individual to excel in certain situations. A teacher with multiple intelligences is the need of the hour. The investigator feels that primary school teachers are laying the foundation for the education of the youth. The present study aims at finding out the multiple intelligences of primary school teachers.

OBJECTIVES

- > To find out the level of multiple intelligence of primary schoolteachers
- > To find out the significant difference if any, in the multiple intelligence of primary schoolteachers with respect to gender, marital status, optional subject, religion, educational qualification and type of school.

HYPOTHESES

- > There is no significant difference between male and female primary schoolteachers in their multiple intelligence.
- > There is no significant difference between married and unmarried primary schoolteachers in their multiple intelligence.

- > There is no significant difference between arts and science group studied primary schoolteachers in their multiple intelligence.
- > There is no significant difference among primary schoolteachers in their multiple intelligence with respect to educational qualification.
- > There is no significant difference among primary schoolteachers in their multiple intelligence with respect to type of school.

METHOD

The Survey method was adopted for the present study.

SAMPLE

The investigator used the stratified random sampling technique for selecting the sample. The sample for the present study consisted of 500 primary teachers .

TOOL

The investigator has used the following tool for the present study.

- i) For measuring the multiple intelligence of primary schoolteachers the investigator adopted Terry Armstrong's Multiple Intelligence scale which was modified and validated.

STATISTICAL TECHNIQUES

The investigator used mean, standard deviation, t-test and ANOVA for the analysis of data collected.

RESULTS AND DISCUSSION

Table 1
Level of Multiple Intelligence of primary school teachers

Dimensions of multiple intelligence	Level	Frequency	Percentage
Verbal-linguistic	Low	97	19.4
	Moderate	335	67.0
	High	68	13.6
Logical-mathematical	Low	110	22.0
	Moderate	330	66.0
	High	60	12.0
Visual-spatial	Low	101	20.2
	Moderate	281	56.2
	High	118	23.6
Bodily-kinesthetic	Low	104	20.8
	Moderate	298	59.6
	High	98	19.6
Musical-rhythmic	Low	47	9.4
	Moderate	396	79.2
	High	57	11.4
Inter-personal	Low	72	14.4
	Moderate	340	68.0
	High	88	17.6
Intra-personal	Low	97	19.4
	Moderate	287	57.4
	High	116	23.2
Naturalistic	Low	97	19.4
	Moderate	266	53.2
	High	137	27.4
Existential	Low	113	22.6
	Moderate	310	62.0
	High	77	15.4

From table (1) it is inferred that, out of the 500 sample 19.4 percent have low level. 67.0 percent have average level and 13.6 percent have high level of verbal-linguistic intelligence; 22.0 percent have low level, 66.0 percent have average level and 12 percent have high level of logical-mathematical intelligence; 20.2 percent have low level, 56.2 percent have average level and 23.6 percent have high level of visual-spatial intelligence of; 20.8 percent have low level. 59.6 percent have average level and 19.6 percent have high level of bodily-kinesthetic intelligence; 9.4 percent have low level. 79.2 percent have average level and 11.4 percent have high level of musical-rhythmic intelligence; 14.4 percent have low level 68.0 percent have average level and 17.6 percent have high level of inter-personal intelligence; 19.4 percent have low level, 57.4 percent have average level, 23.2 percent have high level of intra-personal intelligence, 19.4 percent have low level, 53.2 percent have average level, 27.4 have high level of naturalistic intelligence;

22.6 percent have low level, 62.0 percent have average level, 15.4 percent have high level of existential intelligence.

Further it is concluded that majority of primary schoolteachers have average level of multiple intelligence.

Hypothesis 1

There is no significant difference between male and female primary schoolteachers in their multiple intelligence.

Table 2

Difference between male and female primary school teachers in their multiple intelligence

Dimensions of Multiple intelligence	Gender	N	Mean	Std. Deviation	P-value	t-value	Level of Significance
Verbal-linguistic	Male	179	23.41	8.32	0.00	3.32	S**
	Female	321	25.76	7.14			
Logical-mathematical	Male	179	16.65	4.50	0.01	3.46	S**
	Female	321	15.24	4.33			
Visual-spatial	Male	179	20.64	6.72	0.00	5.45	S**
	Female	321	24.01	6.57			
Bodily-kinesthetic	Male	179	26.61	7.73	0.01	2.76	S**
	Female	321	28.47	6.91			
Musical-rhythmic	Male	179	23.27	7.93	0.00	3.06	S**
	Female	321	25.74	9.06			
Inter-personal	Male	179	22.76	7.18	0.01	2.69	S**
	Female	321	24.45	6.50			
Intra-personal	Male	179	27.40	7.41	0.79	0.56	NS
	Female	321	27.79	7.45			
Naturalistic	Male	179	32.88	11.04	0.64	0.23	NS
	Female	321	33.11	10.95			
Existential	Male	179	25.97	8.19	0.14	1.55	NS
	Female	321	27.10	7.61			

S** - Significant at 0.01 level

From table(2), it is known that the calculated P values for multiple intelligence and its dimension like verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinaesthetic, musical rhythmic, interpersonal, are less than 0.01 at 1 percent level of significance, hence the null hypothesis, "there is no significant difference in the multiple intelligence of primary schoolteachers with respect to gender" is partially rejected. Hence there is significant difference in verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinaesthetic, musical rhythmic and interpersonal intelligence of primary schoolteachers.

While comparing the mean scores of male (X= 23.41) and female (X= 25.76) primary school teachers in their verbal-linguistic intelligence female teachers are better than male teachers.

While comparing the mean scores of male (X= 16.65) and female (X= 15.24) primary school

teachers in their logical-mathematics male teachers are better than female teachers.

While comparing the mean scores of male (X= 20.64) and female (X= 25.01) primary school teachers in their visual-spatial intelligence female teachers are better than male teachers.

While comparing the mean scores of male (X= 26.61) and female (X= 28.47) primary school teachers in their bodily-kinesthetic intelligence female teachers are better than male teachers.

While comparing the mean scores of male (X= 23.27) and female (X= 25.74) primary school teachers in their musical-rhythmic intelligence female teachers are better than male teachers.

While comparing the mean scores of male (X= 22.76) and female (X= 24.45) primary school teachers in their inter-personal intelligence female teachers are better than male teachers.



Hypothesis 2

There is no significant difference between married and unmarried primary schoolteachers in the multiple intelligence.

Table 3

Difference between married and unmarried primary school teachers in their multiple intelligence

Dimensions of Multiple intelligence	Gender	N	Mean	Std. Deviation	P-value	t-value	Level of Significance
Verbal-linguistic	Married	330	25.35	7.91	0.05	1.84	S
	Unmarried	170	24.07	7.09			
Logical-mathematical	Married	330	16.90	4.35	0.15	0.40	NS
	Unmarried	170	16.74	4.66			
Visual-spatial	Married	330	24.18	6.77	0.87	0.16	NS
	Unmarried	170	24.08	6.69			
Bodily-kinesthetic	Married	330	27.70	7.00	0.00	2.95	S**
	Unmarried	170	29.64	6.83			
Musical-rhythmic	Married	330	23.64	8.17	0.03	1.55	S*
	Unmarried	170	24.91	9.50			
Inter-personal	Married	330	25.93	7.30	0.00	3.69	S**
	Unmarried	170	23.45	6.69			
Intra-personal	Married	330	27.97	7.61	0.08	1.33	NS
	Unmarried	170	27.04	7.06			
Naturalistic	Married	330	33.55	11.12	0.06	1.48	NS
	Unmarried	170	32.02	10.64			
Existential	Married	330	26.77	7.91	0.68	0.29	NS
	Unmarried	170	26.55	7.71			

S* - Significant at 0.05 level

S** - Significant at 0.01 level

From table (3), it is known that the calculated P value of dimension verbal-linguistic, musical-rhythmic are less than 0.05 at 5 percent level of significance, and the P values of dimension bodily-kinesthetic and interpersonal are less than 0.01 at 1 percent level of significance, hence the null hypothesis, "there is no significant difference in the multiple intelligence of primary schoolteachers with respect to marital status" is partially rejected. Hence there is significant difference in verbal-linguistic, bodily-kinesthetic, musical rhythmic, interpersonal intelligence of primary schoolteachers.

While comparing the mean scores of married (X=25.35) and unmarried (X=24.07) primary schoolteachers in their verbal-linguistic intelligence married teachers are better than unmarried teachers.

While comparing the mean scores of married (X=27.70) and unmarried (X=29.64) primary schoolteachers in their bodily-kinesthetic intelligence unmarried teachers are better than married teachers.

While comparing the mean scores of married (X=23.64) and unmarried (X=24.91) primary schoolteachers in their musical-rhythmic intelligence unmarried teachers are better than married teachers.

While comparing the mean scores of married (X=25.93) and unmarried (X=23.45) primary schoolteachers in their inter-personal intelligence married teachers are better than unmarried teachers.

Hypothesis 3

There is no significant difference between arts and science group studied primary schoolteachers in their multiple intelligence.

Table 4

Difference between Arts and Science group studied primary school teachers in their multiple intelligence

Dimensions of teaching competency	Optional subject	N	Mean	Std. Deviation	P-value	t-value	Level of Significance
Verbal-linguistic	Arts	269	25.85	7.35	0.97	.15	NS
	Science	231	25.95	7.10			
Logical-mathematical	Arts	269	16.07	4.45	0.05	1.95	S*
	Science	231	15.37	4.42			
Visual-spatial	Arts	269	22.29	6.99	0.05	1.83	S*
	Science	231	23.40	6.57			
Bodily-kinesthetic	Arts	269	26.61	7.43	0.72	1.14	NS
	Science	231	27.37	7.32			
Musical-rhythmic	Arts	269	24.17	8.66	0.90	0.29	NS
	Science	231	23.94	8.67			
Inter-personal	Arts	269	24.18	6.69	0.75	0.68	NS
	Science	231	24.59	6.59			
Intra-personal	Arts	269	27.35	7.48	0.83	0.99	NS
	Science	231	28.01	7.38			
Naturalistic	Arts	269	32.57	11.22	0.60	1.01	NS
	Science	231	33.56	10.69			
Existential	Arts	269	26.23	7.72	0.74	1.41	NS
	Science	231	27.23	7.95			

S* - Significant at 0.05 level

From table(4), it is known that the calculated P value of dimension logical-mathematical, visual-spatial intelligence are less than 0.05 at 5 percent level of significance, hence the null hypothesis, "there is no significant difference in the multiple intelligence of primary schoolteachers with respect to optional subject" is partially rejected. Hence there is significant difference in logical-mathematical and visual-spatial intelligence of primary schoolteachers.

While comparing the mean scores of arts (X=16.07) and Science (X=15.37) group studied primary schoolteachers in their logical-mathematical intelligence arts teachers are better than science teachers.

While comparing the mean scores of arts ($X = 22.29$) and science ($X = 23.40$) group studied primary schoolteachers in their visual-spatial intelligence, science teachers are better than arts teachers.

Hypothesis 4

There is no significant difference among primary schoolteachers in their multiple intelligences with respect to educational qualification

Table 5

Sum of scores and mean square variance of multiple intelligence and its dimensions of primary school teachers with respect to educational qualification and calculated 'F' value.

Dimensions of teaching competency	Educational qualification	Variance	Sum of scores	Mean square	Df	F	P	Level of Significance
Verbal-linguistic	TTC	Between	146.04	73.021	2	1.40	0.25	NS
	UG PG	Within	25951.34	52.216	497			
Logical-mathematical	TTC	Between	6.61	3.305	2	0.17	0.85	NS
	UG PG	Within	9882.532	19.884	497			
Visual-spatial	TTC	Between	334.322	167.161	2	3.57	0.03	S*
	UG PG	Within	22324.018	46.800	497			
Bodily-kinesthetic	TTC	Between	155.99	77.99	2	1.43	0.24	NS
	UG PG	Within	27014.28	54.35	497			
Musical-Rhythmic	TTC	Between	62.44	31.219	2	0.415	0.66	NS
	UG PG	Within	37349.25	75.149	497			
Inter-personal	TTC	Between	99.15	49.58	2	1.12	0.33	NS
	UG PG	Within	21921.39	44.11	497			
Intra-personal	TTC	Between	20.39	10.193	2	0.18	0.83	NS
	UG PG	Within	27539.06	55.411	497			
Naturalistic	TTC	Between	134.58	67.29	2	0.56	0.57	NS
	UG PG	Within	59982.08	120.69	497			
Existential	TTC	Between	4.95	2.47	2	0.04	0.96	NS
	UG PG	Within	30611.62	61.59	497			

S* - Significant at 0.05 level

From table (5), it is known that the calculated P value of dimension visual-spatial are less than 0.05 at 5 percent level of significance, hence the null hypothesis, "there is no significant difference in the multiple intelligence of primary schoolteachers with respect to educational qualification" is partially rejected. Hence there is significant difference in visual-spatial intelligence of primary schoolteachers with respect to educational qualification. To find out the significant difference among the group, Post-Hoc Scheffes' test is applied.

Post Hoc Scheffe's test - Visual-Spatial Intelligence

Table 5.1

Mean, Standard deviation and Scheffe's p of visual-spatial intelligence of primary school teachers with respect to educational qualification

Educational Qualification	N	Mean	Std. Deviation	Pair	Scheffe's p	LOS
TTC (A)	142	22.23	6.61	A vs B	0.73	NS
UG (B)	253	22.80	6.99	B vs C	0.99	NS
PG (C)	105	24.51	6.77	A vs C	0.04	S*

From the table it is clear that primary school teachers with TTC and UG, UG and PG qualification do not differ in their visual-spatial intelligence at 0.01 levels, but primary schoolteachers with PG and TTC qualification differ in their visual-spatial intelligence.

Hypothesis 5

There is no significant difference among primary schoolteachers in their multiple intelligence and its dimensions with respect to type of school.

Table 6

Sum of scores and mean square variance of multiple intelligence and its dimensions of primary school teachers with respect to type of school and calculated 'F' values

Dimensions of teaching competency	Nature of school	Variance	Sum of scores	Mean square	Df	F	P	Level of Significance
Verbal-linguistic	Government Aided	Between	428.443	214.221	2	3.69	0.03	S*
	Matric	Within	25668.937	58.081	497			
Logical-mathematical	Government Aided	Between	1.56	0.782	2	0.039	0.96	NS
	Matric	Within	9887.58	19.89	497			
Visual-spatial	Government Aided	Between	24.86	12.431	2	0.27	0.76	NS
	Matric	Within	22633.48	45.540	497			
Bodily-kinesthetic	Government Aided	Between	5.028	2.514	2	0.05	0.95	NS
	Matric	Within	27165.25	54.66	497			
Musical-Rhythmic	Government Aided	Between	42.05	21.03	2	0.28	0.76	NS
	Matric	Within	37369.63	75.19	497			
Inter-personal	Government Aided	Between	14.521	7.26	2	0.16	0.85	NS
	Matric	Within	22006.03	44.28	497			
Intra-personal	Government Aided	Between	168.21	84.12	2	1.53	0.22	NS
	Matric	Within	27391.23	55.11	497			
Naturalistic	Government Aided	Between	609.37	304.684	2	2.54	0.08	NS
	Matric	Within	59507.29	119.73	497			
Existential	Government Aided	Between	174.34	87.17	2	1.45	0.24	NS
	Matric	Within	30442.22	61.25	497			

S* - Significant at 0.05 level

From table(6), it is known that the calculated P value of dimension verbal-linguistic intelligence is less than 0.05 at 5 percent level of significance, hence the null hypothesis, "there is no significant difference in the multiple intelligence of primary schoolteachers with respect to type of school" is rejected. There is significant difference in the verbal-linguistic intelligence of primary schoolteachers with respect to type of school.

Post Hoc Scheffe's Tests- Verbal-linguistic Intelligence
Table 6.1

Mean, Standard deviation and Scheffe's p of Verbal-linguistic intelligence of primary school teachers working with respect to type of school.

Type of School	N	Mean	Std. Deviation	Pair	Scheffe's p	LOS
Government	109	23.19	7.56	A vs B	0.03	S**
Aided	208	25.58	8.16	B vs C	0.88	NS
Matriculation	183	25.19	6.99	A vs C	0.09	NS

From the table it is clear that primary schoolteachers working in Government and Aided schools differ in their verbal linguistic intelligence at 0.05 level of significance, but teachers working in aided matriculation schools, matriculation and government schools do not differ in their verbal linguistic intelligence at any level of significance.

While comparing the mean scores of primary schoolteachers working in Government ($X=23.19$) and Aided ($X=25.58$) schools in their verbal-linguistic intelligence, teachers working in Aided schools better than teachers working in Government schools.

FINDINGS

1. The level of multiple intelligence of primary schoolteachers is moderate.
2. There is significant difference between male and female primary schoolteachers in their verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinaesthetic, musical rhythmic, interpersonal intelligences.

Female teachers are better than male teachers in verbal-linguistic, bodily-kinaesthetic, musical-rhythmic, interpersonal and intra-personal

intelligences but male teachers are better than female teachers in their logical-mathematical intelligence

3. There is significant difference between married and unmarried primary schoolteachers in their verbal-linguistic, bodily-kinaesthetic, musical rhythmic, interpersonal intelligences.

Married teachers are better than unmarried teachers in their verbal-linguistic and inter-personal intelligence.

4. There is significant difference between arts and science primary schoolteachers in logical-mathematical and visual-spatial intelligences.

Arts teachers are better than science teachers in their logical-mathematical intelligence.

5. There is significant difference between TTC and PG qualified primary school teachers in their visual-spatial intelligence.

PG qualified teachers are better than TTC teachers in their visual-spatial intelligence

6. There is significant difference between primary school teachers working in Government and aided schools in their verbal-linguistic intelligence.

Aided schoolteachers are better than Government school teachers in their verbal-linguistic intelligence.

CONCLUSION

The study revealed that primary schoolteachers have moderate level of multiple intelligence. The administrators, policy makers and authorities concerned with primary education should take necessary steps to formulate innovative and

properly planned strategies to attract, develop and retain the right individual as teachers in primary level. The administrators can analyse the performance of the teachers and may provide training in developing the different dimensions of intelligence.

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Primary Schoolteachers' Emotional Intelligence and Students' Performance

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ABSTRACT

The present study is focused on primary schoolteachers' emotional intelligence and students performance. The investigator used normative survey method. The sample consisted of 200 primary schoolteachers. The data were analysed using t-test and correlation analysis. The major findings of the study have revealed that there is no significant relationship between primary schoolteachers' emotional intelligence and students' performance.

Education is the harmonious development of physical, intellectual, aesthetic, social and spiritual powers of human beings. Education is a character-building process which enhances one's personality making him / her rational, capable, responsive and intelligently independent. It generates the will to refashion one's heart, head and life. It is a powerful instrument of social and economic change. Students are educated with one main objective in mind their success.

Emotions are internal events that coordinate many psychological subsystems including physical responses, cognitions and conscious awareness. Emotions typically arise in response to a person's changing relationships. Emotions and intellect are two halves of a whole.

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In recent years, it is argued that the current demands of society require additional skills in the areas of emotional awareness, decision making, social interaction and conflict resolution in children. Student performance is a very broad term, which indicates generally the learning outcome of pupils. Achievement of the learning outcomes requires a series of planned and organized experiences, hence learning is called a process. Learning affects major areas of behaviour of pupils, such as cognitive, affective and psychomotor domains.

Primary schoolteachers especially assume an important role in the educative process. They are the key figures and most important elements in the educative process. Their personality has a strong influence on the pupils' learning, manners, behaviour and above all the character and personality. **NEED AND SIGNIFICANCE OF THE STUDY**

Education for promoting emotions needs to be recognized as an essential element of the educational process in the classroom and as well as in the teaching-learning process. With the help of this study the investigator can find out the Emotional intelligence of primary schoolteachers and the role they are going to play in their teaching.

teacher with high Emotional intelligence can exhibit less anger and less stress, use of co-operative learning, more enthusiasm in teaching, actual participation in teaching and try new things and reduction of barriers to teaching effectively.

The education that we impart today focuses much on the cognitive aspect and we seldom give importance to the affective aspect. It has been accepted by all that education should help the individual to solve the challenges of life and make success. Emotional intelligence and character development will lead to reduced violence and aggression, higher academic achievement and improved performance in school and work situation.

Learning affects major areas of behaviour of pupils, such as cognitive, affective and psychomotor domains. It is difficult to say without proper evidence that pupils reach the same level in all the three domains at a time. As the areas of affective and psychomotor domains are not sufficiently exposed, it is generally a custom to restrict the term academic performance to the level of achievement of pupils in the cognitive area of various school subjects. An emotionally intelligent person can manage one's own feeling and behaviour and deal with others. Primary schoolteachers especially should be emotionally stable and have a great responsibility in moulding the character of children by giving quality education. It is the major task of teachers to be emotionally intelligent in order to facilitate the performance of students.

OBJECTIVES

- To find out whether there is any significant difference in Emotional Intelligence of primary schoolteachers with regard to Gender, Marital Status, Type of Institution and Experience.

- To find out whether there is any significant relationship between Emotional Intelligence of primary schoolteachers and Students' performance.

HYPOTHESES

- There is no significant difference in Emotional Intelligence of primary schoolteachers with regard to Gender, Marital Status, Type of Institution and Experience.
- There is no significant relationship between Emotional Intelligence of primary school teachers and Student performance.

METHOD

The method adopted by the investigator for the present study is Normative survey method.

POPULATION AND SAMPLE

The population for the study consists of primary schoolteachers. A sample of 200 primary schoolteachers were selected by random sampling technique.

TOOLS

The tools used are

- Personal Data sheet
- Emotional Intelligence Scale developed by -Anukool Hyde, Sanjot pethe and Upinder Dhar.
- Marks obtained by the students in the annual examination

STATISTICAL TECHNIQUES

The data collected were analysed using 't' test and Correlation Analysis.

RESULTS AND DISCUSSION

HYPOTHESIS: 1

There is no significant difference between the male and female primary schoolteachers in their emotional intelligence.

Table 1

Difference between male and female teachers in their emotional intelligence.

Variable	N	Mean	SD	t - Value		Remark at 5% level	
				Cal.	Tab.		
Gender	Male	93	145.84	13.94	0.77	1.96	Not Significant
	Female	107	144.26	15.12			

It is inferred from the above table that the calculated value is less than the table value at 5% level. So there is no significant difference between male and female teachers in their emotional intelligence. Hence the null hypothesis is accepted.

HYPOTHESIS: 2

There is no significant difference between married and unmarried primary schoolteachers in their emotional intelligence.

Table 2

Difference between married and unmarried teachers in their emotional intelligence.

Variable	N	Mean	SD	t - value		Remark at 5% level	
				Cal.	Tab.		
Marital Status	Married	84	145.19	15.08	0.16	1.96	Not Significant
	Unmarried	116	144.85	14.25			

It is inferred from the above table that the calculated value is less than table value at 5% level. So there is no significant difference between married and unmarried teachers in their emotional intelligence. Hence the null hypothesis is accepted.

HYPOTHESIS: 3

There is no significant difference between government and private primary schoolteachers in their emotional intelligence.

Table 3

Difference between government and private primary school teachers in their emotional intelligence.

Variable	N	Mean	SD	t- Value		Remark at 5% level	
				Cal.	Tab.		
Type of Institution	Govt	97	146.94	14.71	1.84	1.96	Not Significant
	Private	103	143.17	14.27			

It is inferred from the above table that the calculated value is less than the table value at 5% level. So there is no significant difference between government and private schoolteachers with respect to their emotional intelligence. Hence the null hypothesis is accepted.

HYPOTHESIS: 4

There is no significant difference between primary schoolteachers having experience below 5 years and above 5 years in their emotional intelligence.

Table 4

Difference between primary school teachers having experience below 5 years and above 5 years in their emotional intelligence.

Variable	N	Mean	S.D	t- value		Remark at 5% level	
				Cal.	Tab.		
Experience	Below 5 years	98	145.64	14.95	0.61	1.96	Not significant
	Above 5 years	102	144.37	14.24			

It is inferred from the above table that the calculated value is less than the table value at 5% level. So there is no significant difference between the primary schoolteachers having experience below 5 years and above 5 years in their emotional intelligence. Hence the null hypothesis is accepted.

HYPOTHESIS: 5

There is no significant relationship between emotional intelligence of primary schoolteachers and students' performance.

Table 5
Relationship between emotional intelligence of primary school teachers and students performance.

Σ X	Σ Y	Σ X ²	Σ Y ²	Σ X Y	r- value		Remarks at 5% level
					Cal.	Tab.	
28999	68126	4247369	24148090	9869516	-0.042	0.113	Not significant

It is inferred from the above table that the calculated value of correlation coefficient is less than the table value at 5 % level of significance. Hence there is no significant relationship between emotional intelligence of primary schoolteachers and students' performance.

FINDINGS

1. There is no significant difference between male and female primary schoolteachers in their emotional intelligence.
2. There is no significant difference between married and unmarried primary schoolteachers in their emotional intelligence.
3. There is no significant difference between government and private schoolteachers in their emotional intelligence.
4. There is no significant difference between primary schoolteachers having experience below 5 years and above 5 years in their emotional intelligence.
5. There is no significant relationship between emotional intelligence of primary schoolteachers and students' performance

CONCLUSION

Emotional intelligence is the ability to monitor one's own emotions to determine among them and to use the information to guide one's

Awareness of Learning Disabilities among Secondary Teacher Education Students

(*Dr.D.Sivakumar)

ABSTRACT

Every child has an equal right to get education. They may not have equal intelligence and abilities but they are all important to society. Learning disabilities are serious public-health problems, leading to lifelong difficulties in learning skills both in school and in workplace, and creating financial burdens on society. They usually show poor academic performance and many dislike classroom and teachers and even peer groups. Hence the investigation is mainly focused on the awareness of learning disabilities among B.Ed. teacher trainees. For the present study the investigator randomly selected a sample of 98 teacher trainees from Dr.Sivanthi Aditanar College of Education. From the analysis it was found that the gender differences of the B.Ed. teachers do influence their awareness in concept of learning disabilities, speech, reading and mathematical disabilities, expect awareness in the area of writing disabilities.

INTRODUCTION

Teacher education is said to be a very significant investment for bringing qualitative improvement in education. If a revolution in

education has to be initiated, it can be from teacher education programme. The teacher has a crucial role in the development of a country. Many new trends and innovations in the field of teacher education have emerged. "One of the chief differences between a teacher who is theoretically trained and one who is not, is that the theoretically trained teacher will perform a set of sophisticated concepts taken from the underlying disciplines of pedagogy as well as from the pedagogical field itself, and a teacher who is not theoretically trained will interpret events and object in terms of common sense (B.O.Smith, 1969).

The progress of a country depends upon the quality of its teachers and for this reason teaching is the noblest among all professions. Teaching can regain its earlier noble status if the quality of teacher-education in our country is improved. It is probably for this reason that the education commission recommended the introduction of "a sound programme of professional education of teachers". Education helps in the development of an individual's cognitive, psychomotor and affective abilities. Teacher-education programmes are

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designed to prepare effective teachers by providing theoretical awareness of teaching and develops teaching competency and teaching ability.

In the words of the Kothari Education Commission Report (1966) "the destiny of our nation is shaped within the four walls of the classroom". A developing country like India mostly depends upon the younger generation for development of the country. Therefore the younger generation should be free from mental, physical, psychological and sociological barriers. They are in need of good health, better education and proper guidance. But the present scenario indicates that the younger generations suffer from malnutrition, child and gender abuse, learning disabilities and problem behaviours. Among these problems, behaviour disorder is causing more effect on the entire student community. For alleviation of these learning disabilities in students, the responsibilities lie in the hands of Government, Educational Administrators, and society and mostly with teachers. Hence an awareness should be created among teachers about the concepts of learning disabilities.

Identification of a learning disabled child is the first step to prevent learning disabilities. Then only the teacher is able to distinguish between normal students and learning-disabled students. Therefore the teacher should possess awareness of learning disabilities in children. Better awareness on the part of the teachers about the concept, causes, characteristics, identification and assessment of instructional strategies, utilization of instructional materials, and guidance & counselling helps to modify the teaching environment and improve the quality of education to these children in normal schools.

OBJECTIVE

To find out the significant difference among B.Ed. teacher trainees in awareness of learning disabilities in children with respect to Gender, Age, locale of learner and subject groups.

HYPOTHESES

- > There is no significant difference among teacher trainees on the awareness of learning disabilities in children with respect to gender (male / female).
- > There is no significant difference among teacher trainees on the awareness of learning disabilities in children with respect to age (below 25 / above 25 years).
- > There is no significant difference among teacher trainees on the awareness of learning disabilities in children with respect to the locale (Rural / Urban).
- > There is no significant difference among teacher trainees on the awareness of learning disabilities in children with respect to the subject group (Maths / Science / Arts).

METHOD

The investigator adopted the survey method for the present investigation.

SAMPLE

The sample for the present study consists of 98 teacher trainees from Dr. Sivanthi Adityan College of Education, Tiruchendur.

TOOL

(For assessing the awareness of the B.Ed. teacher trainees on Learning Disabilities in students, the investigator used a Standardized tool prepared by N. Arunachalam (2006).)

(STATISTICAL TECHNIQUES)

For the present study, the investigator has used the following statistical techniques:

- i. Percentage analysis,
- ii. mean,
- iii. standard deviation,
- iv. "t" Test to find out the significant difference
- v. 'F' test has been applied to find out the significant difference for more than two groups.

RESULTS AND DISCUSSION

Table 1
Awareness of B.Ed. Teacher Trainees on Learning Disabilities with Respect to their Gender

S.No.	Disabilities	Sex	N	Mean	SD	't' Value
1	Concept of Learning disabilities	Male	40	73.93	5.69	2.06**
		Female	58	74.65	6.68	
2	Speech disabilities	Male	40	62.10	5.99	2.47**
		Female	58	64.73	4.81	
3	Reading disabilities	Male	40	43.82	4.79	2.34**
		Female	58	45.88	4.04	
4	Writing disabilities	Male	40	63.41	3.91	1.18@
		Female	58	65.06	7.18	
5	Mathematical disabilities	Male	40	59.13	5.13	3.36**
		Female	58	63.35	6.21	

@ Not Significant at 0.05 level, ** Significant at 0.05 level

From table 1, it is found that there is significant difference between male and female student teachers in their awareness on concept of Learning disabilities, Speech disabilities, Reading disabilities and Mathematical disabilities at 0.05 level. The male and female B.Ed. teacher trainees do not vary in their awareness in writing disabilities. Hence the formulated hypothesis there is no significant difference in the awareness of B.Ed. teacher trainees with respect to gender is rejected except in their awareness on writing disabilities.

Table 2
Awareness of B.Ed. Teacher Trainees on Learning Disabilities with Respect to their Age

S.No	Disabilities	Age	N	Mean	SD	't' Value
1	Concept of Learning disabilities	Below 25	80	73.18	6.34	2.05*
		Above 25	18	75.92	6.84	
2	Speech disabilities	Below 25	80	63.76	5.40	1.55*
		Above 25	18	65.40	4.18	
3	Reading disabilities	Below 25	80	45.31	4.37	0.65*
		Above 25	18	45.84	4.05	
4	Writing disabilities	Below 25	80	64.73	6.52	0.02*
		Above 25	18	64.68	7.06	
5	Mathematical disabilities	Below 25	80	61.98	5.88	1.50*
		Above 25	18	63.76	6.98	

@ Not significant at 0.05 level ** Significant at 0.05 level

From table 2, it is found that there is no significant difference in the awareness of student teachers with respect to their age on speech, reading, writing and mathematical disabilities at 0.05 level of significance. Hence the formulated hypothesis there is no significant difference in the awareness of B.Ed teacher trainees with respect to age is accepted except in their awareness of concept learning disabilities.

Table 3
Awareness of B.Ed. Teacher Trainees on Learning Disabilities with Respect to their Locale

S.No.	Disabilities	Nativity	N	Mean	SD	't' Value
1	Concept of Learning disabilities	Rural	64	73.63	6.63	0.85@
		Urban	34	64.59	6.49	
2	Speech disabilities	Rural	64	64.08	5.67	0.24@
		Urban	34	64.40	4.57	
3	Reading disabilities	Rural	64	45.40	4.35	0.15@
		Urban	34	45.51	4.22	
4	Writing disabilities	Rural	64	64.77	7.61	0.80@
		Urban	34	64.65	5.35	
5	Mathematical disabilities	Rural	64	63.31	5.98	1.77@
		Urban	34	61.46	6.40	

@ Not significant at 0.05 level

From table 3, it is found that there is no significant difference in the awareness of B.Ed teacher trainees in the concept of learning disabilities, speech, reading, writing and mathematical disabilities with respect to locale at 0.05 level of significance. Hence the formulated hypothesis is accepted. It is concluded that the locale of B.Ed. teacher trainees does not influence their awareness of concept of learning disabilities, speech, reading, writing and mathematical disabilities.

Table 4
Awareness of B.Ed. Teacher Trainees on Learning Disabilities with Respect to Subject of Study

S.No.	Disabilities	Group	N	Mean	SD	'F' Value
1	Concept of Learning disabilities	Maths	16	73.60	6.30	1.69@
		Science	41	76.08	6.51	
		Arts	06	73.42	6.06	
		Language	35	72.68	7.53	
2	Speech disabilities	Maths	16	64.86	4.94	0.43@
		Science	41	64.02	4.99	
		Arts	06	63.78	4.03	
		Language	35	63.59	7.40	
3	Reading disabilities	Maths	16	45.34	3.61	0.02@
		Science	41	45.43	4.12	
		Arts	06	45.57	5.01	
		Language	35	45.54	4.89	
4	Writing disabilities	Maths	16	65.19	4.96	0.43@
		Science	41	64.81	7.58	
		Arts	06	64.90	6.86	
		Language	35	63.27	8.64	
5	Mathematical disabilities	Maths	16	61.93	6.15	0.39@
		Science	41	63.37	5.60	
		Arts	06	62.45	6.91	
		Language	35	62.09	6.55	

@ Not significant at 0.05 level

From table 4, it is found that there is no significant difference in the awareness of students teachers with respect to the subject of study. Hence the formulated hypothesis there is no significant difference on awareness of B.Ed. teacher trainees with respect to the subject of study is accepted. It is concluded that the nature of group taken by B.Ed. trainees level do not influence their awareness in concept of learning disabilities, speech, reading, writing and mathematical disabilities.

FINDINGS

- 1 The gender of the B.Ed. trainees has influence on the awareness of concept of learning disabilities, speech, reading and mathematical disabilities.
- 2 The age of the B.Ed. trainees does not influence their awareness on speech, reading, writing and mathematical disabilities.

- 3 The locale of B.Ed. teacher trainees has no influence on their awareness on concept of learning disabilities, speech, reading, writing and mathematical disabilities.
- 4 The subject of study of B.Ed. trainees does not influence their awareness on the concept of learning disabilities, speech, reading, writing and mathematical disabilities.

CONCLUSION

From the investigation, it was found that the teacher trainees are in need of great awareness regarding learning disabilities. Therefore the study strongly recommended to revamp the existing B.Ed. curriculum by inculcating in it the concepts of learning disabilities. The government and the Department of Education should consider the prevalent rate of disabilities and take much care to frame proper strategy to minimize the rate of disabilities. Instead of clinical treatment to the students, teachers can be trained to approach the reality psychologically to bring down the rate of learning disabilities.

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Complexity of Cognitive Taxonomy and Social Science Learning

*Rajalakshmi.S

ABSTRACT

The cognitive domain involves knowledge and the development of intellectual skills. The revised taxonomy reflects a more active form of thinking. The structure of observed learning outcome taxonomy is a model that describes the levels of increasing complexity in a learner's understanding of subjects. From the pre- structural to the extended abstract the learner's cognitive outcomes attain a structure of complexity in a deeper level. Through the evaluation outcome the learner can build new intellectual skills and create instructional content which helps to design, develop and implement further learning context.

INTRODUCTION

Education is a process of changing behavior pattern of human beings and evaluation procedures. It tries to determine the effectiveness of the educational course in bringing about desired changes in human beings. Objectives occupy a central and pivotal position with respect to both teaching and learning experience and evaluation procedure which are interrelated to each other. The behaviours in the cognitive domain are considered as the high degree of consciousness on the part of an individual's behaviour. The subdivisions of cognitive domain start from the simplest behaviour

to the most complex. The domain involves knowledge and the development of intellectual skills. The six major categories have degrees of difficulties, the first one must be mastered before the next one. In social science learning the creative thinking and evaluation is necessary for better learning. The attainment of higher level of cognition develops creative thinking and problem-solving ability.

Studies related to the construction and standardization of achievement test based on Bloom's taxonomy (vimala,1981) and foreign studies of Vosen, Melissa(2008) and Nilay.T.Bumen (2007) related to the cognitive domain help the educators to make use of the hierarchical nature of knowledge in teaching and learning

NEED AND SIGNIFICANCE OF THE STUDY

Educational objectives change from time to time. So it is desirable to construct and standardize new instruments to evaluate the outcomes. The present study is important for considering cognitive domain as the major part of consciousness on the part of an individual's behavior. They attain higher level of cognition and develop creative thinking and problem-solving ability. In social science the abilities like analysis and evaluation is necessary for better

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learning and effective social awareness. The higher order complexity of the domain is relevant in this context.

OBJECTIVES

- To estimate the correlation between the scores of the different component outcomes in the total cognitive score.
- To interpret the 21 relationships for the total sample.
- To interpret the results to find out whether the theory of the increasing order of complexity of cognitive domain is substantiated.

HYPOTHESES

H₀
There will not be significant relationship among the six cognitive outcomes based on Bloom's taxonomy in social science learning.

H₁
The relationship will not increase as proceeds to correlate the variable pairs to the deeper level of cognitive domains against the correlations obtained between cognitive variables appearing at the more superficial levels of cognitive domains.

METHOD

The investigator used survey method for the completion of the present study. 300 secondary students from Trivandrum district is selected as sample for the study.

TOOL

An achievement test in Social Science prepared and standardized by the investigator was used as tool for the present study.

The reliability coefficient obtained for the tool by using spearman Brown Prophecy formula was found to 0.76 and hence it is highly reliable.

Table 1
Correlation Between Total Achievement and Cognitive Components

Total achievement	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
	0.2661	0.560	0.574	0.568	0.612	0.627

From the above table it is clear that the obtained r values between total achievement and each of the cognitive outcomes are greater than table value (0.182) for degrees of freedom (n-1) at 0.01 level of significance. Hence it can be concluded that correlation exists between total achievement and each cognitive component of the taxonomy.

ANALYSIS OF THE DATA

The data were analyzed by using correlation analysis. The whole sample is analyzed and their values are determined.

Table 2
Correlation Between Pair of Cognitive Components

	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Knowledge		0.237	0.225	0.267	0.324	0.334
Comprehension			0.3234	0.338	0.372	0.374
Application				0.342	0.353	0.367
Analysis					0.412	0.424
Synthesis						0.512

From the above table it is clear that the obtained r values between the pair of cognitive outcomes are increasing at higher levels and positively correlated. The r values are greater than table value (0.182) for degrees of freedom (n-1) at 0.01 level of significance. When we compare the relationship between the scores of Application level to Evaluation levels, the values are increasing with its higher cognitive levels. From this it is clear that the values of variable pairs are increasing at the deeper level of cognitive domain and show a positive correlation.

FINDINGS

1. The r values of knowledge with other cognitive components are significant at 0.01 levels. The values are increasing and positively correlated.
2. The r values of knowledge and evaluation, synthesis and evaluation are significant at 0.01 levels. The values of variable pairs are increasing at the deeper level of cognitive domain

CONCLUSION

The main conclusion based on the analysis is that there is interrelationship with the components of the cognitive domain. This conclusion is substantiated by the r values of the cognitive component from knowledge to synthesis which is significant at 0.01 level of significance and are positively correlated.

The total achievement scores and the cognitive outcomes are related to each other.

The obtained 21 r values of the cognitive domain are increasing and positively correlated to the total scores.

The theory of increasing order of complexity propounded by Bloom is substantiated by interpreting the results of the relationship of the study.

Thus the components follow an increasing order of complexity and interrelated to each other. From knowledge to evaluation the arrangement is in hierarchical order. The achievement scores and its components based study give the findings that all the cognitive components follow an increasing order of complexity. The analyzing and evaluating tendency of students in social science is in a better position. Those who have the evaluating tendency possess all the other mental operations. Taxonomy provides a very suggestive source of ideas and materials for each students. In the cognitive domain, it appears that the behavior becomes more complex and the individual is more aware about the existing facts.

EDUCATIONAL IMPLICATIONS

The present study is aimed to testify Bloom's assumption regarding the increasing order of complexity. Objectives have a wide application

in the field of education. Application outcome is one of the most important aspects of the entire education process. Taxonomy is necessary in maintaining a proper feedback. The constructivist approach and multiple intelligence have also borrowed from Bloom's taxonomy. Taxonomy opened new avenues for fruitful research in the field of education.

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Self-Confidence and Emotional Adjustment of Higher Secondary Schoolstudents

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**Santha Kokilam.G

ABSTRACT

The present study investigates the relationship between self-confidence and emotional adjustment of higher secondary students based on gender, locale and type of management. Here the investigators used survey method to collect data from a sample of 500 higher secondary students from various schools of Kanyakumari district. According to the result of the study, there exists a positive relationship between self-confidence and emotional adjustment. Moreover it is observed that the findings of the study hold implications for the need of effective guidance for higher secondary school students to overcome difficulties by giving warmth and support, thereby creating self confidence and emotional adjustment in them.

INTRODUCTION

The prime aim of any education programme should be to shape the behaviour of the learner. It is necessary to take into consideration various factors which directly or indirectly influence the behaviour of the child. Self-confidence is one such factor and it often plays an important role in influencing the behaviour of children studying in school.

Self-confidence comes when you are comfortable with who you are in the world. You feel worthwhile, with a right to occupy your place in the world. You feel capable, competent, relaxed, happy, energetic and positive. People with high self-confidence are likely to be successful and popular. A high level of self-confidence gives people inner strength, making them more resistant than others. They will be more in touch with what they want and more motivated to go out into the world and get it.

Emotional adjustment is the combined influence of several forces in one's environment that operate to produce a well adjustment or poorly adjusted personally. The family, peer group, Society, as well as schools and colleges contribute much towards an individual's emotional adjustment. Emotional adjustment is a process by which one becomes able to cope with emotions in relation to one's psychological and mental makeup (Good, 1973). The higher secondary level is a crucial stage as far as Indian students are concerned. The students achievement in the course determine the direction of their higher education. The students

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belonging to adolescence period achieve high marks in S.S.L.C, but score less marks in their higher secondary examination. There are several reasons. Self-confidence and emotional adjustment play an important role in students' performance. Hence the present study is an attempt to find out the relationship between self-confidence and emotional adjustment of higher secondary students.

OBJECTIVES

- To compare the mean scores of self-confidence of higher secondary students based on sex, locale and type of management.
- To compare the mean scores of emotional adjustment of higher secondary students based on sex, locale and type of management.
- To study whether there exists any significant relationship between self-confidence and emotional adjustment of higher secondary students.

HYPOTHESES

- There is no significant difference in the mean scores of self-confidence for the subsamples based on sex, locale and type of management.
- There is no significant difference in the mean scores of emotional adjustment for the

subsamples based on sex, locale and type of management.

- There is no significant relationship between self-confidence and emotional adjustment for the total sample.

METHOD

The investigator adopted Normative Survey Method for the present study.

TOOLS

The tool used for the present study was self-confidence scale (V.S.Pavithra Kumar & Dr.B.Krishna Prasad, 2007) and Emotional adjustment scale (S.Sree Kala & Dr.B.Krishna Prasad, 2004).

SAMPLE

The study was conducted on the sample of 500 higher secondary students in various schools of Kanyakumari district.

STATISTICAL TECHNIQUES

In the present study Mean, Standard deviation, t-test, ANOVA and Pearson Correlation were used.

RESULTS AND DISCUSSION

The collected data were subjected to statistical analysis to arrive at conclusions.

Table 1

Comparison of self confidence based on sex

Sex	Mean	SD	N	t	p	Remark
Male	14.49	3.60	248	4.53	0.000	Sig. at 0.01 level
Female	15.91	3.41	252			

From the above table the calculated 't' value is 4.53 the calculated 't' value 4.53 is greater than the table value at 0.01 level of significance. Hence the null hypothesis is rejected. So there is significant difference between the male and female higher secondary school students in their self confidence.

Table 2

Comparison of self confidence based on Locale

Locale	Mean	SD	N	t	p	Remarks
Rural	15.73	3.44	192	2.63	0.01	Sig. at 0.01 level
Urban	14.88	3.63	308			

From the above table the calculated 't' value is 2.63. The calculated 't' value 2.63 is greater than the table at 0.01 level of significance. Hence the null hypothesis is rejected. So there is significant difference between the rural and urban higher secondary school students, in their self confidence.

Table 3

Comparison of self confidence based on type of School

Type of school	Mean	SD	Source	Sum of squares	df	Mean square	F	p	Remarks
Govt.	14.42	3.83	Between Gp	153.54	2	76.77	6.12	0.002	Significant at 0.01 level
Aided	15.55	2.96	Within GP	6232.24	497	12.54			
Self Finance	15.64	3.77	Total	6385.78	499				

From the table it is evident that the calculated mean values are 14.42, 15.55 and 15.64. The corresponding SD values are 3.83, 2.96 and 3.77 respectively. The calculated F value 6.12 is greater than the table at 0.01 level of significance. Hence the self confidence of higher secondary students does differ with their type of school. hence the null hypothesis is rejected.

The result doesnot help to identify exactly the pairs of groups which differ significantly. Hence, scheffe's multiple comparison is used for further analysis.

Table 4

Comparison of Emotional adjustment based on Sex

Sex	Mean	SD	N	t	p	Remarks
Male	14.30	2.99	248	0.19	0.853	NS
Female	14.35	3.03	252			

From the above table the calculated t value is 0.19. The calculated t value 0.19 is lesser than the table value at 5% level of significance. Hence the null hypothesis is accepted. So there is no significant difference between the male and female higher secondary school students in their Emotional Adjustment.

Table 5

Comparison of emotional adjustment based on locale

Locale	Mean	SD	N	t	p	Remark
Rural	14.20	3.24	192	0.74	0.46	NS
Urban	14.41	2.86	308			

From the above table the calculated t value is 0.74. The calculated t value 0.74 less than the table value at 0.05 level of significance. Hence the null hypothesis is accepted. So there is no significant difference between the rural and urban higher secondary school students in their emotional adjustment.

Table 6

Comparison of emotional adjustment based on type of School

Type of school	Mean	SD	Source	Sum of squares	df	Mean square	F	p	Remark
Govt	14.61	3.91	Between Gp	32.2	2	16.10	1.79	0.168	NS
Aided	13.99	2.83	Within GP	4476.0	497	9.01			
Self Finance	14.38	3.24	Total	4508.2	499				

From the table it is evident that the calculated mean values are 14.61, 13.99 and 14.38. The corresponding SD values are 2.91, 2.83 and 3.24 respectively. The calculated F value 1.79 is less than the p value 0.168 at 0.05 level of significance. Hence, the emotional adjustment of higher secondary students does not differ with their types of school. Hence the null hypothesis is accepted.

Table 7

Coefficient of correlation between self-confidence and emotional adjustment of higher secondary school students (total sample)

N	r	Remark
500	0.243	Significant at 0.01 level

From the above table 7. It is clear that ($r=0.243$), there is significant correlation between self confidence and emotional adjustment of higher secondary school students.

FINDINGS

The following are the major findings of the study.

(There was significant difference in the mean score of self-confidence of higher secondary school students with respect to sex and locale. From the mean score it is found that female have more self-confidence than male and rural students have more self-confidence than urban students.)

There was significant mean difference between Government and aided students in their self-confidence and Government and Self financing students in their self confidence. Self financing students have more self-confidence than Government and aided school students. No significant mean difference was found between aided and self financing school students.

There was no significant difference in the mean score of emotional adjustment of higher secondary school students with respect to sex, locale and type of management.

(There is significant positive correlation between self-confidence and emotional adjustment of higher secondary school students.)

CONCLUSION

The findings of the study have revealed that there exists a significant positive correlation between self-confidence and emotional adjustment of higher secondary school students. Hence it can be concluded that the better the self-confidence the better the emotional adjustment will be.

EDUCATIONAL IMPLICATIONS

The research findings of this study highlight the need for developing self-confidence and emotional adjustment of higher secondary school students. It is clear that sex, locale and type of management have influence on self-confidence. This stage of higher secondary school students is a turning point in their life. In this stage measures should be taken to develop the self-confidence and emotional adjustment of students. Practical life skill course and life skill education should be given to higher secondary school students. Effective guidance programme should be given to the students to overcome their difficulties and to become emotionally adjusted persons.

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Problems of Residential School Students Seeking Guidance: A Critical Analysis

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ABSTRACT

At this present scenario each individual is facing some or the other problem, which continues lifelong. If the individual fails to get timely solution of the problem raised, then there will be frustration. Frustration hampers the individual progress and further affects the national progress. As the life is getting complex day by day, the problems for which expert help is required are increasing proportionately. Thus the need of guidance is increasing. Man faces various problems while living in society. Problems differ at every stage of growth. Adolescence is the most important period of human life. Adolescence is a phase of dynamic and rapid changes, changes in personality characteristics, changes in nature of relationships, emerging planning for future educational and vocational goals, mounting concern with social, political and personal values and developing a sense of personal identity in life. Thus at this stage all these changes result in many problems. The raised problems must be provided with suitable guidance timely. Human beings by nature tend to seek advice and assistance from others whenever they are confronted with a problem. When an individual is living with his family, whatever problem arises then remedial guidance is supposed to be provided by the family. But when

an individual is studying in residential institutions she faces different circumstances every day. Surprisingly, these circumstances every day are problematic to one individual and may be not to another.

Banasthali Vidyapith is a residential institution. In this institution students come from various states from all over India and abroad. The students differ from each other in many aspects. These differences result in generation of many problems. The problems that arise are solved by the individual herself. She may seek the help of peer group, teachers, and wardens. There is an opportunity to seek help from the Guidance Programme under the Faculty of Education.

When the researcher came to know about the Guidance Programme of Faculty of Education, Banasthali Vidyapith, where the school students are free to express any problem, an urge to know the problems which these residential students face, he made the researcher undertake this study. Due to individual differences a problem may not mean anything to one individual but to the other it may mean everything. It can be said that every problem may be specific to an individual. Thus the present study is an attempt to find out the kinds and nature

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of problems of residential school students who are seeking guidance. These problems are being put up by the students under an open programme (without having any boundary on the kind and nature of the problem). Since the problems of the adolescents need careful study not only because they are important in day-to-day behaviour but also because they deeply affect their overall development. So it becomes imperative that all concerned should have a sound knowledge about the types of problems that often worry the adolescents. This research work will provide this valuable information about adolescents to those teachers and guidance workers who are ready to take up this huge responsibility.

INTRODUCTION

The process of socialization in this developing and ever-changing era are getting complicated. Students are facing various problems to cope with these complications. Thus Guidance is the requirement of the hour, where an expert help is sought to take care of the present needs and problems. Not only the parents but the teachers, the schools and all persons concerned with the individual have the responsibility to meet and sort out the problems. When the need of guidance arises among students, it is being recognised that no agency of society has such access to the child and such opportunity to study him or to guide him as has the school. Thus a suitable guidance programme in schools can help in meeting out students need and problem. Setting up of guidance programmes on each and every school of our country is a fallacy, since the meagre resources of our country can ill afford it. So the responsibility to take care of the needs and problems of the students and to provide guidance services is vested in the teachers when

there is lack of specialists in guidance services in a school.

In order to meet the challenges ahead, the Teacher Education College Programme includes Guidance and Counselling as an area of specialization where the student teachers are provided with the necessary skills to carry out the work of Guidance. These specialization areas are included both in pre-service as well as in in-service programmes.

Pre Service Teacher Education programme (B.Ed.) is being carried out by Banasthali Vidyapith under the Faculty of Education. Guidance and Counselling is included as an area of specialisation both at M.Ed. as well as B.Ed. level. In order to make the student teachers competent to provide guidance services to their pupils, there is an opportunity for them to gain practical experience. Practical component of the Educational Guidance and Counselling at B.Ed. level includes a Guidance programme carried out by student teachers, where an attempt is made to fulfill the guidance requirements of school students. The programme is open to all kinds of problems which the school students are facing. The students are neither bound to disclose their identity nor to approach the B.Ed. student teachers. Rather, they have to write their problems in a piece of paper and submit it in the question box set up at the Faculty of Education. The remedial solutions are provided by the student teachers, after referring it to various resources, and are displayed at Guidance corner.

RATIONALE OF THE STUDY

Future of every country lies solely on the shoulders of the new generation. But if the new generation itself is undergoing pressures and is

facing problems it will affect their overall development and further will hamper the nation's progress as well. An individual seeks guidance from his parents, family members whenever required. But when an individual is studying in a residential school, whom should he seek guidance from?

Banasthali Vidyapith is a residential institution where students who differ in many aspects reside together. Differences may be because of their students coming from different locales, their mother tongue, their living style, eating habits etc. Hence because of these differences many problems are generated among the students. Individuals may make attempts to resolve the problems all by themselves. They may seek help of peer group, teachers and wardens too. An opportunity is also provided to seek help from the Guidance Programme functioning under the Faculty of Education, Banasthali Vidyapith.

When the researcher came to know about the Guidance Programme of Faculty of Education, Banasthali Vidyapith, where the school students are free to express any problem, an urge to know the problems which the residential students face, has made the researcher undertake this study. Due to individual differences a problem may not be anything to one individual but to the other it may mean everything. A few question came over to the researcher and through this study, an attempt has been made to answer these questions. The questions are given below. It can be said that problems are specific individuals. Thus few questions arise in the mind of the researcher.

- What kinds of problems are mostly faced by the school students?
- What is the nature of the raised problems?

On the basis of the above questions the researcher felt a need to explore the problems of guidance seeking residential school students and has been taken up the study.

OBJECTIVES

To analyse the problems of residential school students seeking guidance according to

- a) kind of problems
- b) Nature of problems

HYPOTHESIS

Problems of the students seeking guidance vary in kind and nature.

METHOD

Qualitative method of analysis is used in the study.

POPULATION

The population of the study includes the students of Senior Secondary School, Banasthali Vidyapith.

SAMPLE

Through convenient sampling the data has been collected. The sample includes the questions raised by the students of Senior Secondary School, Banasthali Vidyapith, seeking guidance during the year 2002-03 and 2004-05.

SOURCES OF DATA

The sources were the records of the questions raised by the students seeking guidance during the year 2002-03 and 2004-05. These records were maintained in the Faculty of Education, Banasthali Vidyapith.

NATURE OF DATA

The data collected was qualitative in nature.

FINDINGS

The following are the findings of the study.

1. The problems of residential school students vary in kind and thus were categorised into educational, vocational and personal problems.
2. The problems of residential school students vary in nature.
3. With the passage of time, more inclination towards career, and the choices of vocational preferences have generated among the students; hence problems are mainly vocational oriented. Thus an increase in the number of problems in vocational area is observed when we compare the two years (2002-2003 and 2004-2005).
4. In the year 2002-2003 most of the students faced problems in educational area while in the year 2004-2005 most of the students faced problems in vocational area.
5. Problems in the personal area were least in both the years.
6. Students mostly face educational problems related to subject content. These queries arise among the students when they are not satisfied in class due to lack of initiative of the learner to ask questions or the focus of the teacher may be on the syllabus only. Students find various queries in General Science, General Knowledge and English.
7. Students also face educational problems related to selection of subject/s for a vocation which reveal the career consciousness among the students.
8. Students also face learning difficulties in various subjects especially in English, Maths and Science.
9. Students face problems related to preparation for examination. They exhibit their willingness to change their study habits which they think are hampering their learning. They ask questions about how to improve their results.
10. Students also face problems of concentration hence seek guidance for that.
11. Students also seek guidelines related to improvement in subjects especially English, Maths and Science.
12. Students often face educational problems relating to fear of examination. Hence they seek guidelines to eradicate/overcome it.
13. Sometimes students have specific subject preference but non availability of that specific subject leads to problems.
14. Students face educational problems related to the choice of subject combination for various streams, especially when the students are opting for a new stream such as commerce.
15. Residential students often face problems related to the rules and regulations of the educational institution including the hostel.
16. Subject preferences often lead to the generation of queries related to the availability of particular subject in different schools.
17. Most of the students are curious about various vocations. Students are not only curious about the traditional career areas like Medicine, Teaching etc, but are also curious about the challenging areas like Biotechnology, Defence, Engineering etc.
18. Students need guidance related to the selection of vocation because of the absence of guidance from parents, teachers and elders, and hence they fail in making desired vocational goal.

19. Students are career conscious and hence prefer those vocations which have better future prospects, and therefore seek guidance for that.
20. Students often choose their career goals after being influenced by their peer group, parents, role models etc. Thus queries about qualification/eligibility for various vocations develop in order to achieve their career goals.
21. With the advancement and increase in new areas/fields of career one is often curious to know about the emerging new areas hence students develop queries in this regard. It reveals that the student's interest varies from traditional field to challenging fields.
22. Students need guidance related to fee structure, duration of course and number of attempts for entrance examination etc. regarding institutions and vocations. It reveals the consciousness of students towards financial bearability and towards number of years they need to settle.
23. Students need vocational guidance regarding the preparation for various vocations so that they may give their optimum effort and leave no stone unturned.
24. Sometimes students want to take admission in some specific universities (because of its renown). Hence queries like availability of certain courses in such specific universities develop.
25. Sometimes students fail to decide which career to opt with the combination of subjects they have and hence seek guidance in this regard.
26. Since due to the establishment of many institutions providing similar courses students are confused in selecting the appropriate institution for the course chosen as per cases. Hence problems arise.
27. Students face problems in deciding the coaching institutes which will help them in the preparation of entrance examinations of the vocations chosen.
28. It was found that with an increase in the career opportunity in different fields students preferences too have inclined towards them.
29. Students are self-conscious (towards their height, weight, fairness, pimples etc.). Adolescents undergo such drastic physical changes that affect the individual's identity. Hence such problems arise among them.
30. Adolescents undergoing the physical changes fail to understand who they are. Hence guidance is sought thereafter for knowing the "self."
31. Students face health problems for which guidance is sought.
32. Residential students differ from each other because they come from different states, have different backgrounds, different nature etc. Hence face problems of social adjustment.
33. Laziness (in daily routine etc.) is observed among students which affect their studies hence guidance in this regard is being sought by the students.
34. Residential students usually face problems of homesickness.
35. Students are unaware of the relationships like marriages, friendship etc. Hence queries in this regard in the form of emotions regarding relationship develops among them.
36. Students have fear of the unknown and hence problems develop.

37. Students are found emotionally imbalanced. Reasons are numerous but a few identified are due to failures they face in academics and non-academic activities, and due to unfulfilment of expected outcome in academic or non-academic activities. Hence seek guidance in this regard.
38. Students often develop inferiority complex when they are not in accordance with their group members. Hence guidance is sought.
39. Residential school students face problems of loneliness mainly due to non-acceptance by peer group, social group and feeling of homesickness etc. Hence seek guidance in this regard.
40. Guidance for the development of confidence is being sought by the students because they themselves realise that due to lack of confidence they fail to do a thing which they can easily do.
41. Students during the adolescence age develop analytical thinking capacity, thus raise queries regarding the phenomenon they observe.

CONCLUSION

An individual learns from the experiences and works accordingly. Similarly the experiences of the present study are the beam of light for future proceedings.

In the present study the researcher found that the students of a residential school face various problems which differ in kind and nature. On the basis of the findings of the study the following educational implications are formed.

- 1) The present study will help teachers in -
 - Identifying students' problems. It would help subject teachers in identifying the students who

are weak in their respective subjects and thus would be able to take measures for it.

- Motivating the students to raise their problems in front of them (teachers).
- Identifying students' preferences regarding vocational choices. They would be able to provide information regarding subject combinations at higher secondary level in different streams. And would be able to provide information related to the various career options in those subjects.
- Developing a harmonious relationship with their students, by this teachers will be able to give information about adolescence period, the changes (physical, emotional etc.) without any hesitation. So that problems related to adolescence can be reduced.

2) This study will help school management in

- Arranging guidance services for the various kinds of problems which the students face.
- Understanding the students and thereby creating a warm- welcome atmosphere in school where students can put their words before any school authority without any hesitation.
- Making arrangements for guest lecturers, specialists according to student's problems.
- Providing required information (Various career options, the institutions which provide professional courses etc.) in the information corner maintained by the school. This is possible only when the school management will understand the problems of the students.

3) This study will help parents in -

- Understanding the problems of their children and would help them in creating a harmonious relationship with their children.

- Understanding their children better and thus they will be able to accept and appreciate their child's preferences. They will understand not to levy their preferences on their children rather they will take care about their children's preference.
- 4) This study will help hostel wardens in understanding the students and their problems. Especially in understanding the underlying reasons behind problems in social adjustment, homesickness so that necessary help and guidance could be provided to the students by the hostel wardens.
- 5) The study would be helpful to the counsellors in understanding the problems of the students. Even though students don't approach them due to hesitation, they would be able to identify the problems of students and provide timely needed guidance.
- 6) The study would be useful to the students since they would be able to understand their problems more deeply and thus self-initiation to solve it would be encouraged.
- 7) The teacher education colleges would be able to enrich their course content in Guidance and Counselling (the area of specialisation), as they would come to know about the actual problems of the residential school students.

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FRONTIERS IN EDUCATION AND RESEARCH NOTES TO CONTRIBUTORS

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- Articles should be titled and should contain the name and address of the author.
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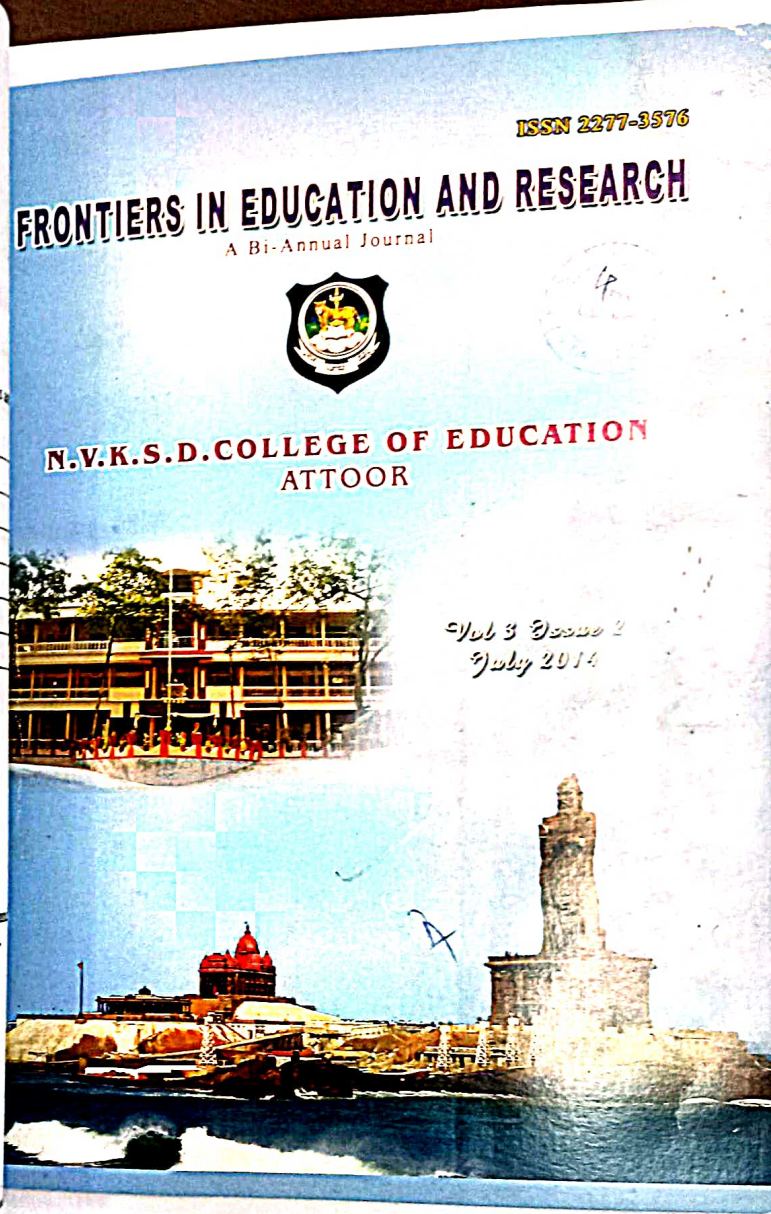
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Editorial

"Make the world a better place"

The environment of our planet is degrading at an alarming rate because of non-sustainable urbanization, industrialization and agriculture. Unsustainable trends in relation to climate change and energy use, threats to public health, poverty and social exclusion, demographic pressure and ageing, management of natural resources, biodiversity loss, land use and transport still persist and new challenges are arising. Since these negative trends bring about a sense of urgency, short term action is required, whilst maintaining a long term perspective.

The world's population is rapidly growing which results in increased pressure on the environment. The main environmental challenges include loss of wild life habitat, loss of forests, extreme exploitation of natural resources, increased emission of carbon dioxide and increased production of synthetic materials which are extremely toxic to the environment.

The data shows that wild life species are disappearing faster than ever before in earth's history, while the average global temperature is dangerously rising. The glaciers are melting and extreme weather events are becoming more common and if we do not start taking better care of the environment, we are risking an unprecedented climate change which may threaten the very existence of life.

The environment is the most important resource for life. So we desperately need to save the environment. Conservation of environment is the need of the hour. Conservation means the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and

recreational enjoyment by the public and safe guarding the options of future generations. Environmental conservation includes taking care of the air and the earth's atmosphere, animal and plant life, humans and planet's water. It shares a lot of interests with human rights, because keeping unprivileged populations healthy and thriving has a lot to do with preserving the earth. Conservation can be as little as planting a tree and maintaining it or as big as saving a species of whales.

Environmental conservation means the planning and management of resources so as to secure their wise use and continue of supply while maintaining and enhancing their quality, value and diversity. The primary objective of conservation is to protect the present resources, to a good, clear and self sufficient environment could be made available to the future generation.

Considering preservation and conservation of environment, the United States, environmental preservation is viewed or seen as the setting aside of earthly resources for preventing damage normally caused by certain human activities like mining, logging etc, only to replace them with new human activities such as tourism and recreation. Furthermore regulations and laws may be enacted for the conservation of natural resources. To safeguard the natural environment from continuous degradation conservation measures are necessary. Being earth-friendly is very essential as this will save our planet at the time making a better place to live in for us, for future generation.

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Attitude of High School Students Towards Science

*K.A. Antony Samy
**Dr. G Porgio

ABSTRACT

Students' attitude towards science can significantly contribute towards their achievement in science as well as their personality development. In the present investigation, an attempt has been made to find out the significant differences in the attitude towards science of high school students with respect to certain selected variables. The findings of the study indicate that male students, rural school students and students participating in nature club had higher attitude towards science than the female students, urban school students and students not participating in nature club activities.

INTRODUCTION

Attitude is one of the important traits that contribute towards the wholesome development of the personality of an individual. Attitude tends to change along with the physical growth of an individual. It

is a known fact that attitude affects our behavioral acts either positively or negatively. Formation of correct attitude during the formative period of the students in the schools is considered to be very important.

SIGNIFICANCE OF THE STUDY

One of the foremost tasks of a science teacher is to understand varied behavior of his/her students so that he/she can adjust his/her teaching accordingly. It is a known fact that attitude of students towards science exerts significant influence on the school life of the students. Attempts have already been made to assess the attitude of the students towards science. Dhindsa and Chung (2003), Osborne, et al (2003) have done extensive studies on students' attitude towards science. In general student's attitude towards science decreases with age (Osborne, et al (2003); boys show more positive attitude towards science than

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girls (Simpson Olier, 1985; O'Brien & Porter 1994; Francis & Green, 1999) and more negative attitudes are associated with physical sciences rather than biological sciences (Spall, et al, 2004).

The present investigation is an attempt to study the attitude of high school students towards science. Science being an important subject in the school curriculum, students and teachers have to pay special attention to it. Moreover achievement in science decides students' choices of courses of higher education in arts and science colleges, technical and professional institutions. As attitude towards science affects achievement in science, there arises the need to find out the attitude of students towards science.

OBJECTIVES

1. To find out the level of the attitude of high school students towards science.
2. To find out the significant differences in the attitude towards science of the high school students with respect to (i) gender (ii) location of school (iii) nature of school and (iv) membership in nature club.

HYPOTHESES

1. There is no significant difference in the attitude towards science of the high school students with respect to (i) gender (ii) location

of the school and (iii) membership in nature club.

2. There is no significant difference in the attitude towards science among the government aided and self financed school students.

METHOD

The investigator adopted normative survey method for the present study.

TOOL

The tool used for the present study was science attitude scale designed and validated by the investigator. The scale consisted of 84 items.

SAMPLE

The sample for the study included 364 high school students selected by random sampling method from the schools located in Thanjavur, Tiruvarur, Nagappattinam and Cuddalore districts.

STATISTICAL TECHNIQUES

In the present study percentage, mean, standard deviation, *t* test and ANOVA were used.

RESULTS AND DISCUSSION

Table 1
Level of Students' Attitude Towards Science

Variables		Attitude Level				High	
		Low		Moderate		N	%
		N	%	N	%		
Sex	Male	130	20.10	392	60.50	126	19.40
	Female	234	33.10	404	57.10	70	9.80
School Location	Rural	205	25.60	455	56.90	140	17.50
	Urban	159	28.60	341	61.30	56	10.10
School Type	Govt.	77	16.00	299	62.20	105	21.80
	Aided	75	19.90	251	66.58	51	13.52
	Self financed	212	42.58	246	49.40	40	08.02
Membership in Nature Club	Yes	34	20.50	83	50.00	49	29.50
	No	330	27.70	713	59.90	147	12.40
Total		364	26.80	796	58.70	196	14.50

HYPOTHESIS - 1

Data given in table.1 indicates that 38.7% of high school students have moderate level of attitude towards science; only 14.50% of them have high level of attitude towards science.

There is no significant difference in the attitude towards science of the high school students with respect to their (i) gender (ii) location of school, and (iii) membership in nature club.

Table 2

Difference in the Mean Scores among the High School Students with respect to Gender, School Location and Membership in Science Club.

Variables		N	Mean	SD	t' Value	Remarks
Gender	Male	648	50.66	13.13	5.65	S
	Female	708	46.64	13.05		
School Location	Rural	800	49.78	14.33	4.29	S
	Urban	556	46.78	11.26		
Membership in Nature Club	Yes	166	55.72	18.72	5.46	S
	No	1190	47.56	11.96		



Empowering Women for Development through Community-driven Sustainable Programmes

*Suprabha. K

**Dr. G. Subramonian

ABSTRACT

The National Environmental Management Act defines 'sustainable development' as 'the integration of social, economic and environmental factors into planning, implementation and decision making so as to ensure that development serves present and future generations'. It is important that municipal councils develop mechanisms to consult the community and community organizations in performing their functions and exercising their powers. Women must become active partners. That is, for women to be empowered they have to be active partners in such an empowerment. Vocational centers for skill acquisition should be set up in different areas to address the plight of illiterate and unemployed women. For these organizations to do well, the government must be willing to support them. Government support should be backed with

relevant and practical policies. The required expertise will be local authorities, academics, professionals and business people. Communities should have support for what they are doing. Everyone within a particular community should strive towards a common goal.

INTRODUCTION

Sustainable development is an increasingly popular term. Many authors clearly place themselves in the category of those who support and wish to encourage the use of the concept of sustainable development. Conceptually, there is no uniform understanding of the term 'development', because it is mostly defined by individuals or institutions functioning within a specific sector (whether in the political, economic, social or environmental sectors). Although, most of the definitions contain universal elements formulated in terms of a need or desire to attain a better

standard of living or way of life. Thus, development may, in general, refer to the process of improving the quality of all human life through raising people's living standards, i.e., income, access to food, medical services and education; creating conditions conducive to growth through the establishment of social, political and economic systems and institutions; and increasing people's freedom to choose by enlarging the range of choices variables (Fox and Mayer, 1995).

According to Hunter (1997), the word 'sustains' means to 'keep going without interruption' and 'sustainability' would therefore imply a strategy that 'presumably does not run into insurmountable obstacles'. It is however important to refer to sustainability in terms of appropriate qualifying adjectives, eg. political sustainability, environmental sustainability, economic sustainability or sustainable social development. Economic development in general refers to 'the growth and appropriate changes in the structure of economic activity and improvements in the distribution of income and wealth'. Environmental sustainability is best referred to as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development, 1997). However, sustainable environmental

development can only be achieved if environmental management is integrated and if it is acknowledged that all elements of the environment are linked and interrelated. Social development requires an orientation of values, objectives and priorities towards the well-being of all and the strengthening and promotion of conducive institutions and policies. The ultimate goal of social development is to improve and enhance the quality of life of all people and therefore, cannot be separated from the political, cultural, economic and spiritual environment within which it functions.

SUSTAINABLE DEVELOPMENT

In general, definition of sustainable development involves two components: the meaning of development (i.e. What are the main goals of development: economic growth, basic needs and rights, etc.) and the conditions necessary for sustainability. Thus sustainable development mainly focuses on how present environmental constraints might be overcome and the standard of living maintained. The need for development, of ensuring that all people in the world might obtain the resources they need for survival and development.

The National Environmental Management Act defines 'sustainable development' as 'the integration of social, economic and environmental factors into

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planning, implementation and decision making so as to ensure that development serves present and future generations'. In practical terms, sustainable development in a country would be about ongoing access to water, food security, health care, energy, employment opportunities, debt relief, more development assistance, and a safe and clean environment with the focus on self-reliant and cost effective development.

Adams (1990) draws on a number of different sources, including nature conservation, tropical ecology and managerialism, and a growing awareness of an attempt to respond to global environmental constraints, to explain the emergence, evolution and popularity of sustainable development.

WOMEN'S SUSTAINABLE DEVELOPMENT

Human capital is a part of the web of life cutting across various capitals, i.e. social, institutional, economic, and technological capital. It is generally accepted that human capital as part of social capital is the single most important area that has been underutilized and that needs capacitating in various aspects and at various levels to contribute to sustainable development. In addition, one must also recognize that civil culture and social capital are inextricably linked and are inseparable when dealing with issues of effective resource utilization and its influence on

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sustainable development. By incorporating cultural aspects as part of social capital, the disparities that exist between men and women and the promotion of gender equality in terms of rights, resources and voice become part of the equation for sustainable development. Consequently, various policy documents address the issue of the importance of the role of women in sustainable development.

COMMUNITY-DRIVEN SUSTAINABLE PROGRAMS

Sustainable participatory community development requires tough minds and soft hearts. There will always be hard choices to make and compromises to reach in order to safeguard the future. As local government is the closest sphere of government to the people, it is regarded as the primary vehicle to facilitate sustainable development. It is imperative that both the community and all the relevant stakeholders are actively involved through, i.e. active participation in the process of community development. It is important that municipal councils develop mechanisms to consult the community and community organizations in performing their functions and exercising their powers. In order to ensure that local communities are able to participate in the development and monitoring of municipal programmes, the executive shall :

- annually report on the involvement of communities and community organizations in the affairs of the municipality and

- ensure that consideration is given to public views and report on the effect of consultation on the decisions of the council

EMPOWERING WOMEN FOR DEVELOPMENT THROUGH COMMUNITY-DRIVEN SUSTAINABLE PROGRAMMES

The solution proposed is that women's inequality could be obliterated systematically through some systematic regionally planned community education programmes, both formal and non-formal. By community education is meant an education for the community and hence for citizenship and the term denotes a process of community empowerment. In broader terms, community education remains a philosophy that provides for the educational needs of all community members. It is a process by which members of the community learn to work together to identify problems and to seek solutions to such problems. It is through this process that an ongoing procedure can be established for people to work together on women's issues. The crux of this philosophy lies in its recognition of the importance of citizen involvement, the sharing of decision-making and total community participation. In the real sense :

participation of all. Women must become active partners. That is, for women to be empowered they have to be active partners in such an empowerment. Bopp (1994) opines that development is not something that can be delivered to people. Rather, it is a phenomenon that comes from within. Thus, when women are made active participants in their own empowerment processes, they get opportunities to reflect on the conditions of their lives. It is this reflection that becomes a foundation on which to develop programmes that are meant to empower them. This could be the strongest starting point to stir changes.

Such an effort will increase the numbers of the individuals involved in this type of social transformation. Collective actions have the potential to create stronger voices against the discriminatory structures. Thus, a wide range of community-driven programs will enable the development of a wide range of skills and competencies. They should stress the importance of building adequate capacity for all women, single, married, divorced, widowed, deserted, marginalized and otherwise. There is greater need to address the educational imbalances in our society in order to accord women, their rightful contributions in the development of their countries.

WOMEN EMPOWERMENT COMMUNITY - DRIVEN PROGRAMMES

Women's organizations: - There is a need for the proposed women's organizations to look into employment policies to ensure that they reflect equal employment opportunities and conditions of service. Equal responsibilities with regard to the raising of and caring for children must become a critical agenda of these women's organizations.

ENTREPRENEURSHIP PROGRAMMES

Entrepreneurship programmes could be put in place, especially for women in the informal sector. The main goal of these programs would be to help women earn a living for themselves and their families. This can help them to break from their dependency on men as providers. This will give them economic empowerment. Vocational centers for skill acquisition should be set up in different areas to address the plight of illiterate and unemployed women. For these organizations to do well, the government must be willing to support them. Government support should be backed with relevant and practical policies.

Formation of women-oriented NGOs: The role of NGOs should be to organize some training programs towards the empowerment of women. Membership of

these organizations should include lawyers, paralegal personnel or human rights advocates. They should unite to organize legal literacy workshops and seminars on a regular basis in order to stimulate action for women's liberation.

CULTURAL AWARENESS PROGRAMMES

We are witnessing an era in which more female-headed families are becoming the norm; where divorce has become the order of the day; and where more and more women are receiving an education that makes them legitimate heads of the family. The same education has conferred on women the right to be leaders in societies and organizations; to be heads of state; to be organizers of development activities; and to be in other influential positions where their potential and educational achievement lead them. Therefore, gender awareness activities and change processes in which both men and women are made aware that 'sex' is a discriminating criterion in judging women's potential contributions in the home, community, nation and the world at large.

CHALLENGES OF WOMEN'S PARTICIPATION IN THE LOCAL ECONOMY

In both developed and developing countries, many challenges to women's gainful participation in the local economy persist. They are

- ✓ The low status of women's work
- ✓ Gender inequalities in wages
- ✓ Occupational segregation that stifles women's earnings
- ✓ Economic opportunities and progress.

GUIDING PRINCIPLES FOR THE EFFECTIVE PARTICIPATION OF COMMUNITIES

Communities must be involved in the processes, mechanisms and structures created by the government to facilitate community participation. Following are the criteria for effective participation:

- Communities must and should have a voice in any decisions or activities that will have an influence on their lives.

- The contribution made by the communities must have an effect on the final result.
- Information should be readily available to communities so that their contributions are relevant.
- The process of participation should clarify how people should participate.
- The interest and needs of the participants should be taken into account during the process
- Communities should be informed as to the manner in which their contributions were reflected in the decisions made.

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Metacognitive Awareness in Teaching among Student Teachers at Secondary level

*Dr. Minikutty A
**Seema Gopinath

ABSTRACT

Education is an important instrument for bringing out potentialities of human beings while effectiveness of a system of education is mainly dependent upon its teachers. Metacognition is a process of varying approaches, thinking about and using different learning styles to enable the teacher to teach better. It is for the teachers who are already in the profession and also for others who are on the way of the teaching profession. In the present study the investigator found out the level of metacognitive awareness in teaching among student teachers at secondary level. The tool used was Metacognitive Awareness Inventory in Teaching. The sample was selected using stratified random sampling technique with 500 student teachers at secondary level. The results revealed that the Metacognitive Awareness in Teaching of student teachers at secondary level was at an average level. Also there exists no

significant difference in metacognitive awareness in teaching among student teachers with respect to Type of management of Institution, Locale of Institution, Educational Qualification and Subject of study.

INTRODUCTION

Education is an important instrument for bringing out potentialities of human beings while effectiveness of a system of education is mainly dependent upon its teachers. That is why, among all the branches of education, teacher education is considered to be the most crucial and considered as the base of all educational systems.

The quality and nature of teacher training determines the nature and success of educational systems. Hence teacher education which is an integral component of the educational system intimately connected with society and is conditioned by the ethos, culture and character of nature.

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The very purpose of teacher education is to make the student teacher a skillful practitioner, adequately equipped with educational practices along with the abilities to tackle the demands of social environment.

Metacognition has now emerged as an important part of teacher preparation programs. The term metacognition was introduced by psychologists to refer to knowledge about and control over thinking and learning activities. (Flavell, 1976). Metacognition involves at least two components (1) an awareness of the skills, strategies and resources needed to perform a task effectively- knowing what to do and (2) the ability to use self-regulatory mechanisms to ensure the successful completion of the task-knowing how and when to do the what. The strategies in the first component 'knowing what to do' include identifying the main idea, rehearsing information forming association and images using mnemonics, organizing new material to make it easier to remember, applying test taking techniques, outlining and note taking.

The regulatory mechanisms the second component, knowing how and when include checking to see if you understand, predicting outcomes, evaluating the effectiveness of an attempt at a task, planning the next move, testing strategies, deciding how to apportion time and revising or switching to other strategies to overcome any difficulties encountered (Baker, 1994 &

Brown, 1978). The use of these regulatory mechanisms is known as cognitive monitoring (Flavell, 1985).

NEED AND SIGNIFICANCE OF THE STUDY

Teacher education is going through an unprecedented period of change. Across the world, the number and quality of teachers are becoming a key policy concern. This phenomenon affects the richer industrialized nations and those in the process of developing stronger economic infrastructure. Ensuring adequate supply of higher quality teachers is therefore a challenge, as is the expanding task of providing coherent, career-long, professional development, opportunity for teachers. As knowledge increases and technologies emerge, so the status of teachers has to adapt. The scale of demand for teacher education is large. In this context, it is clear that the institutions of teacher education created in the twentieth century will be unable to meet the demands of the twenty first century. Any educational effort loses its vitality if it does not give adequate attention and importance to the teachers, one of the most important pillars of education. The National Policy of Education (1986) while defining the role of teacher says that their principal role is and will always be teaching and providing guidance to their students, not only through classroom

instruction and tutorials and numerous other ways, but also by personal contact.

Several researches offer evidence that metacognition is teachable (Cross & Paris, 1988; Dignath et al., 2008). Metacognitive skills and beliefs about learning have consequences for student's learning and performance. Teaching metacognition-introducing these new skills and beliefs and giving students practice at applying them-improves student's learning (Lovett, 2008). Metacognition is a special type of knowledge and ability that develops with personal experience and with schooling. It is a recursive loop with cognitive development in that it produces and is a product of cognitive development (Paris and Winograd, 1990). Metacognition plays an important role in communication, reading comprehension, language acquisition, problem solving and personality development (Flavell, 1979)

OBJECTIVES

1. To identify the existing level of Metacognitive Awareness in Teaching among student teachers at secondary level.
2. To compare the existing level of Metacognitive Awareness in Teaching among student teachers at secondary level based on

- (a) Type of Management of the Institution (Government- Aided/ Unaided)
- (b) Locale of Institution (Rural/ Urban)
- (c) Educational Qualification (Graduate/ Post Graduate)
- (d) Subject of Study (Science/Language)

HYPOTHESIS

There is no significant difference in the existing level of Metacognitive Awareness in Teaching of student teachers at secondary level belonging to different sub groups based on

- (i) Type of Management of the Institution (Government- Aided/ Unaided)
- (ii) Locale of Institution (Rural/ Urban)
- (iii) Educational Qualification (Graduate/ Post Graduate)
- (iv) Subject of Study (Science/ Language)

METHOD

The method adopted for the study was survey method.

TOOL USED

For measuring the Metacognitive Awareness in Teaching of student teachers, the investigator constructed and standardized a Metacognitive Awareness Inventory in Teaching (MAIT).

SAMPLE

The sample for the study consisted of 500 student teachers randomly selected from 4 districts of Kerala viz. Alappuzha, Kollam, Kottayam and Kozhikode.

STATISTICAL TECHNIQUES

The major statistical techniques employed for the study were the following

1. Descriptive statistics like mean, median, standard deviation, skewness and kurtosis.
2. Test of significance of difference between the means of two independent groups.

RESULTS AND DISCUSSION

Nature of scores on Metacognitive awareness inventory in Teaching.

Here the Metacognitive Awareness in teaching of student teachers as a whole and with respect to the subsamples, Subject of Study, Locale of Teacher Education Colleges, Type of Teacher Education Colleges and Academic Qualification of student teachers were found out. The scores were tabulated and then calculated the mean, median, standard deviation, quartile deviation, skewness and kurtosis. The details are given in the following table.

Table 1

Measures of Central Tendency, Dispersion, Skewness and Kurtosis of Metacognitive Awareness in Teaching Scores of Student Teachers at Secondary Level.

Group		N	M	Md	S.D	Q	Sk	Ku		
Total		500	129.93	128.5	27.39	20.13	0.16	0.272		
Subject of study	science	Physical science	75	125.88	125	26.25	19.25	0.1	0.274	
		Natural science	75	129.51	130	28.60	23.75	-0.05	0.303	
	language	Maths	100	129.41	121	25.90	18.63	0.94	0.273	
		Social science	55	128.91	126	23.62	19.25	0.37	0.322	
		Eng	55	130.58	132	27.57	18.25	-0.15	0.257	
		Hindi	55	130.38	130	29.49	20.5	0.04	0.256	
		Malayalam	55	136.22	136	29.01	22.75	0.02	0.289	
		Arabic	30	132.13	133	28.61	21.88	-0.09	0.290	
		Place of institution	Rural	250	129.16	129	27.64	21	0.02	0.283
		Urban	250	130.71	128	27.11	19.38	0.3	0.268	
Type of institution	Govt/Aided	100	131.13	131	27.77	21.88	0.01	0.295		
Unaided	400	128.74	128	26.94	20	0.08	0.274			
Educational Qualification	Graduate	250	129.36	129.5	27.55	21	-0.02	0.277		
Post graduate	250	130.51	128	27.21	19	0.28	0.2632			

From table 1 it is clear that the Arithmetic Mean and Median of all the groups are almost same. The mean scores of all the groups were having a value less than 50% of the total score. This indicates that the student teachers were having less Metacognitive Awareness in Teaching.

The standard deviations of the scores on Metacognitive Awareness in Teaching of all the groups indicates that the scores are somewhat dispersed from the central value. Since there is slight difference in the standard deviation and quartile deviation values of all the groups, there is certain individual differences among the groups.

The distributions were positively skewed for all the groups except Natural science, English, Arabic and Graduate groups. This showed that the scores were massed at the low end of all the distributions except the above mentioned groups. Thus the number of student teachers who got high scores were comparatively lower than those

who scored low marks for all cases except for the above mentioned groups and for these groups the number of student teachers who scored high scores was greater than those who scored low marks. The kurtosis of all the groups except English and Hindi groups were higher than the normal value. Therefore all the distributions were platykurtic except for English and Hindi groups and for these groups the distribution is leptokurtic and for post graduate groups the distribution was almost normal or mesokurtic.

Comparison of Metacognitive Awareness in teaching among different subgroups.

In this section, the Arithmetic Mean and standard deviation of subsamples based on type of institution, locale of institution, academic qualification of student teachers and subject of study of student teachers were found out and tested the significance of difference between mean scores for large independent sample using critical ratio. The details are given in table 2.



Table 2
Comparison of Metacognitive Awareness in Teaching Scores of Student Teachers at Secondary Level. (Consolidated)

Group	Category	N	M	SD	CR
Type	Govt/Aided	100	131.13	27.77	0.98
	Unaided	400	128.74	26.94	
Locale	Rural	250	129.16	27.64	0.63
	Urban	250	130.71	27.11	
Academic qualification	Graduate	250	129.36	27.55	0.47
	Postgraduate	250	130.51	27.21	
Subject of study	Science	250	128.27	26.89	1.36
	Language	250	131.60	27.78	

The critical ratio obtained for the mean scores on Metacognitive Awareness in Teaching of student teachers at secondary level with respect to the sub groups based on type of management of institution showed that there was no significant difference in the scores on metacognitive Awareness in Teaching of student teachers at secondary level studying in Government/ Aided and Un aided Teacher Education Colleges ($M_1=16.94, M_2=17.22; CR=0.57, P>0.05$). Thus this part of the null hypothesis was accepted.

The critical ratio obtained for the mean scores on Metacognitive Awareness in Teaching of student teachers at secondary level with respect to the subgroup based on locale of institution showed that there was no significant difference in the scores on metacognitive Awareness in Teaching of student teachers at secondary level studying in Teacher education Colleges located in

Rural and Urban areas. ($M_1 = 16.80, M_2 = 17.35; CR=1.13, P>0.05$). Hence this part of the null hypothesis was accepted.

The critical ratio obtained for the mean scores on Metacognitive Awareness in Teaching of student teachers at secondary level with respect to the sub group based on Academic Qualification showed that there is no significant difference in the scores on metacognitive Awareness in Teaching of student teachers at secondary level with Graduate and Post graduate degree. ($M_1=16.99, M_2 = 17.16; CR=0.34, P>0.05$). So this part of the null hypothesis was accepted.

The critical ratio obtained for the mean scores on Metacognitive Awareness in Teaching of student teachers at secondary level with respect to the sub group based on Subject of Study shows that there was no significant difference in the scores on

metacognitive awareness in Teaching of student teachers at secondary level studying Science and Language subjects ($M_1 = 16.63, M_2 = 17.52; CR=1.82, P>0.05$). Therefore this part of the null hypothesis was accepted.

FINDINGS

The following are the major findings of the study.

- 1 The Metacognitive Awareness in Teaching of student teachers at secondary level is less.
- 2 Student teachers studying in Government Aided and Unaided Teacher Education Colleges are having equal level of Metacognitive Awareness in Teaching.
- 3 Student teachers studying in Teacher Education Colleges situated in rural and urban areas have equal level of Metacognitive Awareness in Teaching.
- 4 Student teachers with graduate and post graduate degree have equal level of Metacognitive Awareness in Teaching.
- 5 Student teachers studying language and science subjects have also equal level of Metacognitive Awareness in Teaching.

CONCLUSION

It is highly believed that knowing what teachers know about their own teaching should be a starting point for a

change in teacher Metacognitive Awareness can help the teachers to realize their teaching effectiveness. Hence knowing about the metacognitive level of student teachers in their teaching is very important during teacher education programme for developing their skills in teaching. A teacher's pedagogical understanding of metacognition should include knowledge of how to demonstrate thinking, knowledge of the strategies, knowledge of students and knowledge of when to implement strategies (Griffith & Ruan,2005; Gourgey,1999). It requires that teachers should understand what is needed to successfully teach students with metacognitive skills. Thus teachers should make a point to include instruction on how to instruct students to become metacognitive. Teachers are absolutely willing to invest effort in the instruction of metacognition within their lessons, but they need the tool for implementing metacognition as an integral part of their lessons (Veenman et al.,2006). These teachers appeared to have an academic understanding of what is necessary for teaching students to be metacognitive; but they also seem to value activities that are not highly correlated with helping students to become metacognitive. Therefore professional development and graduate teacher training courses need more emphasis on the instructional strategies which can encourage metacognition.

they can recognize and challenge injustices much more carefully.

NEED AND SIGNIFICANCE OF THE STUDY

Legal awareness is a dynamic concept that will find expanded expression and constantly covers new areas as human society continues to evolve to higher levels of development. Law is the powerful force that fosters the modern interactive society of global dimension. Constitutional interpretation and application were made necessary by the very nature of the constitution. The constitution limits the court to deal with cases and controversies. Social and economic justice is increasing the inequalities in most spheres of human activity and the endless discrimination against the weaker sections of society. When we are inactive, stay immobile at a single point and live on the benevolence of others, perhaps we can ignore law. But if we are active in life we can earn income, accumulate wealth etc. Legal system has become sophisticated, technical and has assumed much significance.

"Being common citizens many of us may be faced with various kinds of situations requiring legal assistance. Judicial independence means that judges needn't fear punishment, for using their best judgment to interpret the law. This concept is important, because it provides for continuity and stability in our legal system,

guaranteeing that disputes can be resolved fairly and impartially.

The legal age would also mean knowing all our legal rights and responsibilities. Not everyone has the resources to know everything about the law that's why lawyers exist. Every society or even community should be living under a common law. This is to maintain the quality of established relationships. It is even considered to be the backbone of the society. Of the several age groups that we have, the minors (or) the children and the elders are those who need legal assistance.

If one knows his rights and privileges as a citizen of the state, then no one could ever step down. It is considered to be one of the most valuable knowledge that a person could have. Legal awareness is considered as a tool to bring about qualitative change at grass root level. It has been witnessed that better awareness of laws help people work more effectively in diverse spheres. Educational processes have to be directed towards creating a human civilization where every person regardless of caste, creed and sex responsible for this process is familiarized not only with their own national, constitutional and legal frameworks but also with the international covenants and conventions to which their nations are committed.

The lawyers and judges can't solve the problems of the society, unless the citizens are well aware of the rights and duties. It is necessary for achieving the goal of social, national and international cooperation and integrations. It is important to develop integrated personality for developing sense of justice, equality which will help him/her to adjust with the changing environment.

From child's early years itself, the legal awareness is necessary. The school children and college students are aware of social and political issues and they have a right to learn about values which have been universally proclaimed. The failure of execution of many laws is the result of lack of awareness among the beneficiaries. Awareness should go hand in hand with a greater democratization of schools and college life and be supplemented by a broad range of extracurricular activities. Education can play a vital role in promoting legal awareness among students.

Common human rights are right to education, right to equality, right to freedom of speech, right against exploitation, right to freedom of religion and right to constitutional remedies. The social evils are violence against women, gender bias, child labour, black money, corruption etc. Like that the college students should be aware about legal issues related to ragging, eve-teasing, drug abuse, mal practice, drunk and

drunk driven, cyber crime, pornography etc. The students should have good legal knowledge and awareness. The present study is an attempt to find out the legal awareness among college students.

OBJECTIVES

- 1 To study the level of legal awareness among college students.
- 2 To compare the mean scores of legal awareness of college students with respect to the background variables namely, gender, age, community, religion, locale of the student, group of study, type of management, educational qualification, type of family, father's educational qualification and mother's educational qualification.

HYPOTHESIS

There exists no significant difference in the mean scores of legal awareness of college students with respect to gender, age, community, religion, locale of the student, group of study, type of management, educational qualification, type of family, father's educational qualification, mother's educational qualification.

METHOD

Present study used normative survey method.

TOOLS USED

Legal awareness test prepared and validated by Jasmine and Prasad (2013)

SAMPLE

The sample for the present study consisted of 400 students from Arts and Science colleges in Kanyakumari District.

STATISTICAL TECHNIQUES

For the present study the following statistical techniques were used Percentage, Arithmetic Mean, Standard Deviation, *t* test and ANOVA

RESULTS AND DISCUSSION

Table 1
Legal awareness of college students

Number	Mean	Standard Deviation
400	27.86	7.85

From the table 1 it is evident that the mean score is 27.86 out of 44. This indicates that the college students possess legal awareness at moderate level. The obtained standard deviation was 7.85.

Table 2
Data and results of *t* test of legal awareness of sub samples

Variable	Category	Mean	SD	N	t-Value	P	Remark
Gender	Male	23.27	7.69	219	0.4945	0.6212	NS
	Female	23.64	6.93	181			
Age group	Below 20	23.39	7.32	212	0.228	1.966	NS
	Above 20	23.45	7.38	188			
Locale	Rural	23.51	7.67	175	0.182	0.855	NS
	Urban	23.38	7.08	225			
Group of study	Arts	23.19	7.36	208	0.695	0.487	NS
	Science	23.70	7.32	192			
Type of Management	Aided	23.41	7.12	320	0.140	0.888	NS
	Unaided	23.55	8.21	80			
Educational Qualification	UG	23.36	7.30	213	0.220	0.825	NS
	PG	23.52	7.39	187			
Type of Family	Nuclear	23.43	7.25	313	0.031	0.975	NS
	Joint Family	23.46	7.69	87			

From the table 2 it can be observed that the calculated t-value is not significant at any level. So it can be concluded that there is no significant difference in the mean scores of legal awareness of subsamples, male and female ($t = 0.4945$), age group below 20 and above 20 ($t = 0.228$), rural and urban, arts and science, aided and unaided, graduate and postgraduate, nuclear and joint family.

Table 3
Comparison of Legal awareness of subsamples, based on Community and Religion

Variable	category	Mean	SD	Source	Sum of Squares	df	Mean Square	F	P	Remark
community	OC	23.04	6.38	Between groups	53.54	3	17.85	0.329	0.803	NS
	BC	23.32	7.59	Within Groups	21430.9	396	54.12			
	MBC	24.19	7.80							
	SCST	23.44	7.14	Total	21484.44	399				
Religion	Hindu	23.06	6.72	Between Groups	121.26	2	60.63	1.126	0.325	NS
	Christian	23.96	7.34	Within Groups	21363.18	397	53.81			
	Muslim	22.56	8.57	Total	21484.44	399				

From the table 3 it can be seen that the F-value is not significant at any level. So it can be concluded that there is no significant difference in the mean scores of legal awareness of subsamples, based on community and religion.

Table 4
Legal awareness of subsamples, based on Educational qualification of Father and Mother

variable	category	Mean	SD	Source	Sum of squares	df	Mean square	F	P	Remark
Educational qualification of father	Below SSLC	24.14	7.45	Between Groups	239.14	2	119.57	2.234	0.108	NS
	Above SSLC	22.82	7.29	Within Groups	21245.3	397	53.51			
	IISC Above	24.62	7.22	Total	21484.44	399				
Educational qualification of mother	Below SSLC	21.22	8.13	Between Groups	413.75	2	206.88	3.897	0.021	S
	Above SSLC	24	8.31	Within Groups	21070.69	397	53.08			
	IISC and above	23.82	7.17	Total	21484.44	399				

It can be seen from table 4 that there is significant difference among the mean scores of legal awareness of college students whose mother's have different educational qualifications. From the Scheffe's analysis, college students whose mother's educational qualification is above SSLC have higher legal awareness than their counterparts.

FINDINGS

- 1 From this study, it has been found that the college students possess moderate Legal Awareness. This result is supported by the following finding (Arithmetic mean is 27.86 for a total score of 44 and Standard deviation is 7.85)
- 2 Gender, age, community, religion, locale of the student, group of study, type of management, educational qualification, type of family, father's educational qualification had no influence on the legal awareness of college students. Mother's educational qualification had influence on legal awareness of college students.

CONCLUSION

The study has revealed that Arts and Science college students have moderate legal awareness. Mother's educational qualification has influence on legal awareness of college students. The other variables such as gender, age, religion, locale, group of study, type of management,

educational qualification, type of family, and father's educational qualification, had no influence on legal awareness of Arts and science college students. Legal awareness plays an important role in life to solve and overcome any kind of complicated circumstance. So college students may be given special coaching on legal awareness and they may be encouraged for group learning to understand various laws.

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A Study on Attitudes of Heads of Departments Towards Departmental Library in University of Kerala.

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ABSTRACT

The University Library plays a conspicuous role in the national life of the community. The library has to play a vital role in the choice of material suited to the needs and desires of the students and staff from an infinite and complex world of books and making them readily available through an efficient service to the readers. University authorities takes necessary steps to improve the exciting space and furniture facilities and formulate a uniform method of stock verification. As far as level of book collection, periodicals, newspaper and e-resource are concerned they are poor. Hence university has to take necessary steps to provide this through university library. Selective method of acquisition policy is followed in text books and periodicals and exhaustive method for general books.

INTRODUCTION

The University library plays a conspicuous role in the national life of the community. It is the responsibility of a

library to acquire material to support the attainment of educational objectives of the university. The library has to play a vital role in the choice of material suited to the needs and desires of the students and staff from an infinite and complex world of books and in making them readily available through an efficient service to the readers. It is however obvious that a university cannot achieve and fulfill its twin tasks of spreading knowledge and expanding its frontiers until it has a first class library system. A university library is essential to improve the quality of teaching as well as research. A university needs a good library to meet the demands of its faculty. If the faculty is compared to the brain of a university, the library will then resemble a healthy heart circulating the life blood of learning through the arteries of the whole university body. A good professor, among other things, is a person to whom both teaching and research are very important. The availability of a first class library

for each a teacher is indispensable. The main aim of the departmental library is to provide service to the teaching staff as well as students of the departments. University authority provides adequate amount but the utilisation depends on the ability of the head. Hence the study is undertaken to assess his/her perception towards library activities such as collection, development policy, book acquisition tools, stock verification and their attitudes towards library budget.

OBJECTIVES OF THE STUDY

The main aim of the departmental library is to provide service to the teaching staff as well as students of the departments. University authority provides adequate amount but the utilisation depends on the ability of the head. Hence the study is undertaken to assess his/her perception towards library activities such as collection, development policy, book acquisition tools, stock verification and their attitudes towards library budget.

Sanderson, (2005) has demonstrated a performance-based allocation model for University libraries in India. The paper showed that many university libraries in India struggled to continue their existing operations and services due to financial problems. Careful budgeting and the most appropriate use of financial resources are essential to solve the existing financial problems. The model takes into account the efficiency and equity considerations, which can assist the library in allocating its budget in a transparent and fair manner. Rolkala and Rajalakshmi (2007) have concluded in their study that out of four agricultural Universities in Maharashtra, Library had the collection of books more than the standard

norms of ICAR i.e. more than one lakh books, and 30 foreign journals. The development of infrastructure in all the agricultural university libraries in Maharashtra is satisfactory. Nandhi (2006) has stated in his article that the smooth functioning of acquisition activities is very much important for rendering effective and efficient library services. Processing of books in the Acquisition Section should not be delayed, as user community will not be served with nascent information regularly. So the improvement of quality in the Acquisition Section is the prime task for libraries pursuing a dynamic collection development approach. Oseghale, Osagie (2007) has stated that, the library users judge the quality of a collection by the extent to which it fulfills their teaching, learning, and research requirements. University faculty must have a library collection that satisfies their curricular and accreditation needs. A questionnaire has been used to collect data from 70 academic staff who have participated in the study. Findings have revealed that most respondents find useful material in the library occasionally, but that the collection needs to be strengthened in particular subject areas and in print serials. Faculty judgments about the library might become even more critical in an environment where they do not have any means for expressing their opinion. The study

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recommends that collection development librarians should consider, in consultation with teaching faculty colleagues, what the library can and should provide, and how this balance will relate to teaching and learning.

HISTORY OF UNIVERSITY OF KERALA

The University of Kerala came into existence in 1937 as University of Travancore by a promulgation of the Maharaja of Travancore, Sri Chitra Tirunal Balarama Varma. The University committee appointed in Travancore in 1923 suggested that the new University should be able to work on local problems which are crucial to the development of the state. The Committee underscored the need for research work relevant to local conditions in such branches of study as the flora and fauna of Kerala and the relatively unexplored aspects of subjects like South Indian Languages and South Indian history. After the formation of the Kerala State in 1956, the University of Travancore was renamed as University of Kerala by the Kerala University Act, 1957 (Act 14 of 1957). The University with the entire state under its jurisdiction at that time had three campuses located in three different parts of the State at Trivandrum, Ernakulam and Calicut. In 1968 the University Centre at Kozhikode became a full-fledged university by covering all the colleges and departments located in Kannur, Trivandrum and Research

Kozhikode, Palakkad and Thrissur districts of Kerala. The area of the jurisdiction of the University of Kerala has been limited to Thiruvananthapuram, Kollam, Alappuzha and some parts of Pathanamthitta districts. The number of colleges affiliated to the University is 244 as on 1st January 2013. The number of colleges affiliated to the University is increasing steadily.

For the research purpose the entire departments are grouped into three faculties. The faculty of arts and social science consisted of Institute of English, library and information science, German and Russian, Economics, Sociology and the Science and Applied Science faculty had Chemistry, Geology, Aquatic Biology and Fisheries, Statistics and Future studies. The Oriental studies and other Departments consist of Malayalam, Sanskrit, Linguistics, Education, Commerce, Law, Management, Music and Directorate of distance education.

Table 1
Personal information

Sl. No.	Particulars	Faculty						Total	%
		Arts & Social Sci.	%	Science & App. Sci.	%	Oriental & Other	%		
	Total	6	100.00	5	100.00	9	100.00	20	100.00
1	Sex	4	66.70	3	60.00	5	55.56	12	60.00
	Male	2	33.30	2	40.00	4	44.44	8	40.00
	Female								
2	Present Post	2	33.30	2	40.00	5	55.56	9	45.00
	Professor	4	66.70	3	60.00	3	33.33	10	50.00
	Associate Professor	0	0.00	0	0.00	1	11.11	1	5.00
	Assistant Professor								
3	Adequacy of Facilities								
	Space	0	0.00	1	20.00	0	0.00	1	5.00
	Furniture	1	16.70	0	0.00	2	22.22	3	15.00
	Seating Arrangement	2	33.30	0	0.00	2	22.22	4	20.00
	Ventilation	1	16.70	3	60.00	3	33.33	7	35.00
	Fan	2	33.30	2	40.00	4	44.44	8	40.00
	Proper lighting	4	66.70	3	60.00	2	22.22	9	45.00
	Computer terminals	1	16.70	0	0.00	2	22.22	3	15.00
	Telephone	2	33.30	1	20.00	1	11.11	4	20.00
4	Book selection by								
	Librarian	1	16.67	2	40.00	2	22.20	5	25.00
	Faculty	5	83.33	3	60.00	7	77.80	15	75.00
5	Letter to UL for purchase	3	50.00	4	80.00	6	66.70	13	65.00
	Reason								
	Costly books							13	65.00
	Rare books							1	5.00
	No frequently use							4	20.00
6	Stock verification done	6	100.00	5	100.00	7	77.78	18	90.00
	Once in a year	1	16.67	2	40.00	2	28.57	5	27.78
	Once in two years	3	50.00	1	20.00	4	57.14	8	44.44
	Handover charges	2	33.33	2	40.00	1	14.29	5	27.78

University of Kerala has 41 teaching departments. Among them, only 20 heads of departments have responded and returned the questionnaires. Majority of (60%) them are male and 50% of them are Associate

Professors and 5% are Assistant Professors. By category wise analysis in the case of oriental and other faculty 55% of them are professors. Regarding adequacy of facilities nearly 40% of them are satisfied with

Table 4
Acquisition Policy of different reading materials

Sl. No.	Particulars	Faculty						Total	%
		Arts & Social Sci.	%	Science & App. Sci.	%	Oriental & Other	%		
1	Acquisition policy of Text Books								
	Highly Selective	2	33.33	1	20.00	4	44.44	7	35.00
	Selective	4	66.67	4	80.00	4	44.44	12	60.00
	Exhaustive	0	0.00	0	0.00	1	11.11	1	5.00
2	Acquisition policy of Reference Books								
	Highly Selective	4	66.67	1	20.00	2	22.22	7	35.00
	Selective	2	33.33	3	60.00	7	77.78	10	50.00
	Comprehensive	0	0.00	1	20.00	0	0.00	3	15.00
3	Acquisition policy of General Books								
	Highly Selective	1	16.67	0	0.00	2	22.22	3	15.00
	Selective	3	50.00	3	60.00	5	55.56	11	55.00
	Comprehensive	2	33.33	2	40.00	2	22.22	6	30.00
4	Acquisition policy of Periodicals								
	Highly Selective	1	16.67	2	40.00	1	11.11	4	20.00
	Selective	5	83.33	3	60.00	8	88.89	16	80.00
5	Acquisition policy of E Resource								
	Highly Selective	0	0.00	0	0.00	1	11.11	1	5.00
	Selective	3	50.00	3	60.00	5	55.56	11	55.00
6	When consult budget								
	Beginning	2	33.33	1	20.00	4	44.44	7	35.00
	Time of purchase	0	0.00	0	0.00	2	22.22	2	10.00
	End of the year	1	16.67	0	0.00	0	0.00	1	5.00
	Time of sending report	0	0.00	0	0.00	1	11.11	1	5.00
	Whenever needed	3	50.00	4	80.00	2	22.22	9	45.00
7	Amount is Sufficient	2	33.33	0	0.00	5	55.56	7	35.00
8	Consult others in preparation of budget								
	Librarian	2	33.33	2	40.00	1	11.11	5	25.00
	Other faculties	3	50.00	3	60.00	6	66.67	12	60.00
	No consult	1	16.67	0	0.00	2	22.22	3	15.00
9	Copy previous year budget	1	16.67	1	20.00	2	22.22	4	20.00
10	Separate allocation	6	100.00	3	60.00	6	66.67	15	75.00
11	Consider inflation while preparation of budget	4	66.67	3	60.00	4	44.44	11	55.00
12	Financial need was assessed by the method of								
	Per capita method	2	33.33	1	16.67	1	11.11	4	20.00
	Proportional method	1	16.67	1	16.67	2	22.22	4	20.00
	Methods of Detail	2	33.33	0	0.00	2	22.22	4	20.00
	None	1	16.67	3	50.00	4	44.44	8	40.00

Acquisition policy is concerned that in textbook category, majority followed selective method followed by highly selective and exhaustive are 35% and 5% respectively. As for as Reference book is concerned 50% follows selective method. Among this faculty of Science and Oriental Studies are maximum. Art faculty follows highly selective method of acquisition. In periodicals and e-resource are concerned selective method is followed. Majority of the heads told that the budget book was referred whenever needed followed by at the beginning of year and least is end of the year. 35% told that the allocated amount for books and periodical was sufficient. Among this Oriental Studies and Arts faculty has 55% and 33% respectively. When preparing the budget 60% consult the other faculty members followed by Librarian and 15% of them prepared independently. Among all faculties 40% of science faculty consults the Librarian. Hence we conclude that science faculty has given more importance to Librarian than other faculty. Only 20% copied the previous year budget due to lack of time. Majority (70%) demanded separate allocation of funds for different category of books. Among this cent percentage of them are arts faculty. 55% suggested to told that consider the raising of price of books while preparing the budget. Majority of them told that no method was followed when preparing the budget. Only 20% of them followed per capita, proportional and method of details each.

Table 5
Attitudes of the HOD towards Library

Sl. No.	Particulars	Faculty						Total	%
		Arts & Social Sci.	%	Science & App Sci.	%	Oriental & Other	%		
1	Not given importance to Library								
	Agree	2	33.33	2	40.00	3	33.33	7	35.00
	Highly agree	2	33.33	1	20.00	2	22.22	5	25.00
	Disagree	1	16.67	2	40.00	3	33.33	6	30.00
	Highly disagree	1	16.67	0	0.00	1	11.11	2	10.00
2	Requested amount was not allocated								
	Agree	4	66.67	4	80.00	6	66.67	14	70.00
	Highly agree	0	0.00	1	20.00	2	22.22	3	15.00
	Disagree	2	33.33	0	0.00	1	11.11	3	15.00
3	More fund to Science depts.								
	Agree	2	33.33	4	80.00	3	33.33	9	45.00
	Highly agree	2	33.33	1	20.00	4	44.44	7	35.00
	Disagree	2	33.33	0	0.00	2	22.22	4	20.00
4	Not follow any norms for allocation by University								
	Agree	1	16.67	2	40.00	2	22.22	5	25.00
	Highly agree	1	16.67	0	0.00	3	33.33	4	20.00
	Disagree	4	66.67	3	60.00	4	44.44	11	55.00
5	Allocation based on influence								
	Agree	1	16.67	2	40.00	2	22.22	5	25.00
	Highly agree	1	16.67	3	60.00	2	22.22	6	30.00
	Disagree	3	50.00	0	0.00	4	44.44	7	35.00
	Highly disagree	1	16.67	0	0.00	1	11.11	2	10.00

As far as attitudes of head of departments are concerned 60% agreed that University has not given importance to

library and 40% disagreed with the statement. Nearly 85% agreed that the University has not allocated the requested number to books

and periodicals. Majority of them agreed the statement that more fund is allocated to science faculty, in this science faculty has maximum. Only 20% of them disagreed the statement and nobody is from science faculty. Majority 55% of them told that the allocation of fund is based on influence and only 10% highly disagreed the statement. By faculty wise analysis 50% in Arts faculty disagreed and 60% science faculty highly agreed the statement.

Majority of the heads of the departments used publisher's catalogue for book selection tools followed by visiting of book shops. University authority takes necessary steps to improve the existing space and furniture facilities and formulate a uniform method of stock verification. As far as types of book collection, periodicals, newspapers and e-resources are concerned it is poor. Hence University takes necessary steps to provide this through University library. Selective method of acquisition policy is followed in text books and periodicals and exhaustive method for general books. For preparation of budget majority of them consult other faculty members. They may consult the librarian concerned while preparation of budget. Separate allocation will be provided to different category of books. University authority forms uniform method of

assessment of needs. University authority will give importance to library and requested amount to books and periodicals is to be given. University authority will give equal importance to all faculties.

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