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Editorial

EDUCATION FOR SOCIETAL CHANGE

Education is the basis of human life. Development and progress of a society depends on education. Only a sound education will enable the future citizens to adopt a healthy attitude towards society and make them able to perform their duties and responsibilities well as members of society. Education should sensitise the learners to change their outlook and behaviour in accordance with the needs of society. Pandit Jawaharlal Nehru viewed education as a force that could render useful service in the building up of a new social order.

Of all the segments of society, teaching is significant where responsibilities are challenging and demanding. From the emergence of human beings and the evolution of human society in the world, it is the teacher who moulds the future citizens of our nation. The future of our country is truly in the hands of today's students and they have to be moulded right from their young age.

The research papers and articles in this issue focus on the topics such as pro-environmental behaviour, environmental awareness, school environment, problems in learning, technology for special learners, self regulated learning and other such realms of knowledge. It is hoped that these contributions would throw light on the teaching community to enrich themselves to revamp the educational system for the enrichment of society.

Editor

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RITUALISATION TO REVOLUTION: NEED FOR A CRITICAL METHOD IN EDUCATIONAL RESEARCH

* Dr. Amruth G Kumar

ABSTRACT

This paper elaborates on the ways and means of educational research that has been conflated into the positivist methods. Critiquing upon the positivist approach, an attempt is made to expose its ritualistic nature when it is applied in education research. The mechanical nature of positivist research is juxtaposed with critical research. The paper argues that the proclivity of critical theory towards those people who are on the fringes of society should be appropriated in educational research to make research to be a source of solving the problems of educational settings. The paper restricts its scope to the need and scope of employing critical theory in educational research. Attempts to elaborate upon the methods of critical research is not made as it may also result in standardization of research methodology following the lines of positivist methods. It proposes the essence of individually crafted research methods that fit to the context of the researcher and the educational problem selected.

INTRODUCTION

Does research method obstruct the genuine interests of an educational researcher? If it happens so, would the researcher be able to passionately pursue a research problem trimmed by the established research methods? These questions are a bit disturbing for everyone who engages in the institutionalized research in education. The paradigm of educational research seems to be very rigid with strict rules and regulations to be followed meticulously. Often the strict rules and regulations, imposed, take the form of a ritual to be followed by those who engage in the production of knowledge in education. The ritualisation of educational research has been the result of high regard and respect gained by positivist methods in educational research. In spite of the nature of the problem to be investigated, there have been attempts to compress the field experiences of researcher in positivistic exploratory procedures. This often questions the very nature of 'research'. This paper explores the scope of critical theory as an alternative to the iron fist of positivist framework in educational research. Since critical theory does not represent a single or unified approach, it cannot be described with a single definition (Held 1980; Tar 1977). There are excellent models of applying critical theory in education (See Freire 1986). These models help one to see how they work in real life settings. Reflections upon critical theory in education would serve as a stepping stone for educational researchers to wield its power for finding solutions for educational problem.

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The major purpose of critical education is to increase the awareness of forces of contradictory conditions of action which function in the public understanding in a tacit form. The edifice of critical education is founded on the principle that all stakeholders of education have potential ability to construct knowledge they need. This implies that every individual, engaged in the process of education, are subjects not objects in the process of education. Those who engage in the process of education are neither abstract individual nor the world without people, but people in their relation with people (Freire 1986). Critical education proposes that the subjects of education are bearing the imposed ideology of the dominant which make them believe that people share some common beliefs that explain the world to them rationally (Parson 1937). It means that students remain to be silent and obedient just because they believe that compliance to the existing system is the best means for achieving their goal. Values like obedience and compliance contradict people's (student's) objective interest of liberation (Agger 1991).

CRITICAL THEORY

Critical Theory is generally referred to a broad theoretical position which approach critically to the prevailing norms, practices and standards. Poststructuralist literary theory and queer theory would be examples of Critical Theory. The writings and activism of Paulo Freire is an example of critical theory in education. Emanated from the Frankfurt school Theodor Adorno, Max Horkheimer, Hebert Marcuse, Frederic Pollock, Walter Benjamin, Leo Lowenthal Jürgen Habermas, and Axel Honneth are the key figures who evolved a basic structure for critical theory (See Agger 1991, Clarke and Hulatt 2014).

Through Critical Theory the main attempt of critical theorists was to reflect upon the reasons of failure of socialist revolution as prophesied by Marx. Following the line of Marxian criticism offered by George Lukas the Frankfurt theorists believed that Marx did not give due importance to the possibilities of the exploitation of the false consciousness of the labourers by capitalists to keep the economic and social system run smoothly (Agger 1991). The ways and means of deepening exploitation being the key focus, Critical theorists argued for changes in favour of the underprivileged in the society. In his classical essay 'Traditional and Critical Theory' Max Horkiemer argues that the fundamental aim of Critical Theory is to emancipate human beings from exploitation and oppression by providing them with the conceptual resources to transform the social order which oppresses them into a 'society without injustice' (Horkheimer 1975). As a very latest concept Critical Theory is treated as a continuation of Post Kantian tradition. According to Clarke and Hulatt (2014) "Critical Theory can be seen as continuous with the postKantian tradition in at least two ways. First, many of the themes, preoccupations, and theses that are characteristic of Critical Theory can be traced back to the Critical Philosophy of the post-Kantians. Second, almost all of the Critical Theorists develop and elaborate their positions through detailed readings of, and critical engagement with, their post-Kantian predecessors".

CONFORMISM IN EDUCATIONAL RESEARCH

As critical education view the human element in education as a creative and critical organism, the research method of positive social science never serve its purpose. Drawing heavily from empiricist principle, positive social science treat human element in education as neutral datum for systematic observation (Comstock 1982). Attracted by the convenience and acceptability of positive social science, educational research is closed to diverse perspectives and innovative approaches in educational research. This, especially in India, has closed chances for discussion on new methodologies in the field of educational research. Aberration from the dominant methodological

practices (which is rooted in Positive social science) happened very rarely and if someone dares to do it, which would attract the wrath of adjudicators. As the educational researchers are realizing that use of new methodologies as 'aberration' their incentive for constructivist methodological approach is self-quelled. Conformity to prominent research methods make feeling among researchers that methodology is the result of immutable principles. The prevalence of hegemony and power structure in the educational research, that impose conformity over researcher, is a major concern addressed by critical theory in education. The main reason for the prevalence of conformity and educational research is due to the prominence of Positivism in educational research.

Positivism originated as an offshoot of enlightenment offered great expectation on its role in demystifying the religion and mythology. If positivism would have performed as expected, conformity imposed by the religion and several such powerful agencies would have declined. Instead of demystifying religion and mythology positivist theory of science has become a new mythology and ideology (Horkheimer&Adorno 1972). Thus instead of promoting changes positivist science resulted as the prop up for the maintenance of status quo. Horkheimer&Adorno (1972) continue to argue that positivism has become a dominant form of ideology in the late capitalism and it taught people the world as it is and there by deep rooted the belief of immutability and control beyond ability in social phenomenon.

Positivism and its influence as shown above have serious effect on educational research as well. It has narrowed down the methodological perspectives and imposed conformity to established research methods from educational researchers. Instead of viewing methodology of research as something to be constructed by the researcher positivist methodological framework deep rooted immutability of methodology. The notion that existing (positivist) methodology can facilitate generation of

knowledge has led to the uncritical acceptance of methodology. Uncritical acceptance of research methodology in educational research has resulted in 'reification' of methodology. Such reification has resulted in custodians of 'methodological knowledge' in educational research. Custodial possession of methodology by ' methodological experts' has been a gateway to converting research methodology in to a commodity which is scarcely available with those who are in need(researchers) of it.

Narrowing of methodological perspectives in educational research will have serious repercussions on the knowledge generated. This will impugn the ability of the new generation of educational researchers to revive the methods and thereby personalizing the methods that fit to the context in which they work. The system in which they work also stop the researchers to bring out with new creative and innovative methodological attempts in research that push the limits of the research practices often get unpublished. It proves that the dominant research methodology by defining itself strictly and narrowly is a well sponsored and pepped up by the dominant (soio-economic-political) system that prevails. Any such initiative to determine what counts 'knowledge' is oppressive. The role of critical theory as a methodological tool for research against domination of practices followed without questioning is having greater significance in this context. It is within these epistemological and ontological frameworks a contemporary educational researcher take methodological decisions.

CRITICAL EPISTEMOLOGY

In an epistemological perspective critical theory is a serious challenge on positive social science. But the post second world war period witnessed a change in the epic center of critical theory from Germany to America (Adorno 1969, Arato&Gebhardt 1978). This period marked anchoring of critical theory to the paradigm of

empirical social science (Agger 1991). This could be mainly because of considerable ambivalence by the members of the Frankfurt school toward empirical research and their negligence to the research methods appropriate for the development of social science in line with the perspectives of critical theory.

The central argument of this paper is that production of knowledge for an egalitarian society requires a critical research method in the contemporary society. Potential of investigative logic developed by the positive social sciences is not hopeful in this direction. This paper limits its scope to the application of critical theory in educational research. The methodology of positive social science cannot be applied to the contemporary educational issues. The epistemology of positive social science remains to be an elephant in the room of educational research. Grounded in empiricism, positive social science proposes that school and its functions are neutral datum for systematic observation and study.

Rich past and opulent literature related to critical theory has not resulted in an active epistemology of educational research. This could be mainly because; the critical theory and its discussions are constricted to the academic ivory towers and are almost miles and miles away from the actual issues of the people or class whom they address. The critical theorists and their ideas are in no way used by the people who are facing oppression in the process of education, be it teacher, student or any stakeholder of education. The concrete struggle of the educational stakeholders, mainly students in the classroom and teacher in the school settings, for a progressive change is scuttled by the call for larger social issues. It is very evident from the literature that, for critical theorists' education and its issues are rarely a subject of reflection. Great advancement spearheaded by Paulo Freire through his writing and activism is of course an exception. But most of the contributions of Freire were limited to a critical method that help student to develop critical consciousness. Freireian educational movement for building critical consciousness and empowering the individual to choose the ontological vocation was not properly bolstered by attempts to outline, at least a broad, framework of research methods. A large number of researchers who chose to work in the area of critical education addressed only theoretical questions and the end product of their research was theory building. For the purpose of theory building these researchers heavily adopted the epistemology of positive social science.

CRITICAL THEORY IN EDUCATIONAL RESEARCH

A quick survey of the four volumes of survey on educational research published by National Council of Educational Research and Training, New Delhi will prove the influence of positive social science in educational research. This compendium being the documentation of institutionalized research in India in the post-independence period is a better indicator for the methodological influences on educational research. Large majority of the studies published in this compendium were on the methodology of positive social science. The edifice of positive social science, as applied in educational research, is built on an assumption that educational institutions and the people involved in the process of education were objective and neutral. Invoking objectivity and neutrality very evidently denies its historic influences and its expectations for a future. Critical theory in educational research on the other hand views education as a construction of human being which can be mutated on the base of people's construal about their experience of the past and expectations about the future. If immutability is imposed on education, it is against the very basic interest of peoples' proclivity for bringing changes into the process of education. By attributing 'thing like' quality to education positive social science opened the possibility of commercializing the educational research. Research methods, rooted in positive

social science, become marketable due to its custodial nature in the hands of experts.

Educational researchers are alienated when they come across methodological hurdles. Positive social science perspective in educational research never acknowledges education as human construction. Being historical in its fundamental nature the research rooted in positivist methodological changes could never herald a progressive educational change. On the contrary a critical method in educational research is consciously engaged in restructuring the very nature of education to help those who are on the fringes of the educational process.

Critical educational research begins from the living experiences of those individuals, institutions or agencies that are on the fringes and alienated from the educational process. Often such groups will be put to maintain the system but never allowed to control or to make change according to their valid and socially justifiable interests. Starting from the lived experience, this method and its output aim at empowering the subjects to be more creative and constructive participants in the process of education. Kindling the critical consciousness of the oppressive class in education through enlightenment leading to liberation is the main purpose of critical methods in educational research.

Critical method in educational research can attain its aim through dialogue, which is the most powerful and democratic method suggested by critical theorist. Comstock (1982) argue that "its (dialogue) effect is to heighten its subjects' self-awareness of their collective potential as the active agents of history". This needs a thorough understanding about the social, cultural, economic and political background of the participants. A proper understanding of the background will help the critical researcher to design a programme of education inclined to the subjects. For this purpose an account of the dynamics of the educational

process of the subjects is very essential. Also the critical educational research must be able to provide critique on the politics of education that pull the marginalized further to the oppressive conditions. Even when oppression is apparent and palpable in the Indian education system the educational research methods maintain a dangerous silence over it. The positivist epistemology is an important tool for this. As positivist research methods in education calls for respect for the system, critical methods raise the clarion for an upheaval in favour of the oppressed in the process of education.

Educational change being the key purpose, critical theory in educational research can be treated as a practical science. Argument of Popper (1959) is very insightful in this regard. According to Popper (1959) "we must not look upon science as a body of knowledge, but rather a system of hypotheses; that is to say, as a system of guesses or anticipations which in principle cannot be justified". Every attempt to view the knowledge in education as a body of knowledge that would scuttle the proclivity for challenging the knowledge in the light of one's experiences. Unless and until one's experience cannot be problematized the stimulation for praxis can never be original.

All social theories are ideological (Murray and Ozanne 1991). Critical theory also is ideological. But it stand distinct through its proclivity for those who are in fringes of the society. When applied in educational research it outlines a research method which is absolutely self-made, contextually relevant, change oriented procedures that challenge all sorts of physical or ideological or both, domination in education. It needs liberation from ritualization of positivist methods of scientific procedures to revolutionary methodological adaptations to make educational research to be humane.

CONCLUSION

Every attempt that highlight the relevance of something 'new' need to be presented in

comparison with the existing. The omnipresence of positivism in educational research is being used to compare and highlight the relevance of critical method. This is done due to the overarching influence of positivism in educational research in India and elsewhere. Unless the educational research has to be liberated from the overarching influence of positivism, generation of genuine knowledge will remain to be a chimera. Positivist depends heavily on mechanical and stereotyped research methods. It starts with 'feasible' problems, developing hypotheses, data gathering and testing of hypotheses. Critical research starts from the real life problems of the oppressed in the educational system focusing mainly on praxis. Its procedure is interpretive and dialectical phases of analysis with the purpose of promoting critical consciousness of the subjects and progressive changes in the system. Critical method in educational research cannot constrict its scope by understanding and predicting the system of education and its nuances but by changing it. This method never comply with standardization, instead it needs educational researchers who could personalize the methods that suit to the aims of research.

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INFORMATION AND COMMUNICATION TECHNOLOGY FOR THE STUDENTS WITH SPECIAL NEEDS IN THE INCLUSIVE SET UP IN KANNUR

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** Dr. Vanita.C

ABSTRACT

Inclusive Education is in view of the fact that children with disabilities form one of the largest groups that are still outside the fold of the general education system. The scheme provides an opportunity for children with disabilities, who have completed eight years of elementary education to continue their education in regular schools at secondary level in the inclusive environment. In contrast to the situation in inclusive classrooms, ICT has become a tool and essential element of teaching and learning. Most of the recent studies indicate that ICT helps for the improvement of learning. This paper also argues that it viz., ICT tools (Assistive tools) have an essential role for enhancing the learning outcomes among the students with special needs. The use of Information and Communication Technology can help and create an inclusive environment. But the present study indicates that more percentage of government schools are not using these kind of ICT tools for students with special needs. Only very few number of government schools are using these tools for the easy learning of students with special needs. The main objective of this study was to find out the percentage of schools using Information and Communication Technology tools for the students with special needs in the inclusive set up in Kannur district. Considering the time limit of the study, half of the population i.e., 44 schools have been selected as sample of the study. The study mainly focussed on the role and influence of ICT in the curriculum development and learning. It provides a real opportunity for teachers of all phases and subjects to rethink fundamental pedagogical issues alongside the approaches to learning that pupils need to apply in classrooms. The skills of all children can be developed by the effective integration of ICT in schooling, so that children can master a wide range of technologies. So each and every school can implement the ICT facilities for children. It will help improve their learning and cognitive strategies.

INTRODUCTION

Inclusive Education is in view of the fact that children with disabilities form one of the largest groups that are still outside the fold of the general education system. The scheme provides an opportunity for children with disabilities, who have completed eight years of elementary education to

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continue their education in regular schools at the secondary level in an inclusive environment. Inclusive set up is an approach towards educating the students with and without disability under the same roof. This is possible only in a flexible education system that assimilates the needs of diverse range of learners and adapts itself to meet these needs. Technology has great potential in providing access for all learners, and the ability to access the general education curriculum. Assistive technology is a generic term that includes assistive, adaptive, and rehabilitative devices for individuals with disabilities. An effective computer-based word-processing system can enhance classroom academic outcomes. Word Processing is an assistive technology tool that can be made use of for enhancing academic outcomes of students with writing disabilities in the general classroom **(Hetzroni & Shrieber, 2004)**. Thus ICT tools and resources may have a great potential to foster and actualize inclusive practices in schools and teachers play a fundamental role in capitalizing the opportunities offered by the new technologies to support the full inclusion of all students in mainstream education systems **(Ott et al., 2007)**. Essential technology skills for pre-service teachers and strategies that support inclusive educational practice and enhanced technology, pedagogy, and content knowledge (TPACK) model with assistive technology as a means can promote inclusive educational practice for pre-service teachers **(Beecher et al., 2008)**. ICT thus can improve the education of students with learning disabilities (LD). ICT certainly offers students the capacity to construct their own learning experiences, and many investigations suggest that this applies also to students with Learning Difficulties **(Adam & Tatnall, 2008)**. Effective use of assistive technologies (AT) can help governments in developing countries achieve inclusive education by helping children with disabilities in schools. Effective use of assistive technologies (AT) can help governments in developing countries to achieve inclusive education by helping children with disabilities in schools **(Gronlun et al., 2010)**. Inclusive educational technology fosters inclusive education and improves the quality of life by increasing participation and reducing social exclusion. Educational technology is a collection of research approaches to improve education aiming at effective use of technological tools to facilitate learning processes **(Bucksch & Hamburg, 2015).**

OBJECTIVE

To find out the percentage of schools using Information and Communication Technology tools for the students with special needs in the inclusive set up.

METHODOLOGY IN BRIEF

METHOD

For this research, exploratory and descriptive study was carried out through a check list survey on Information and Communication Technology for the students with special needs in the inclusive set up in Kannur.

SAMPLE

There are 89 Government schools in Kannur district, which constitute the population for the study. Considering the time limit of the study, half of the population i.e., 44 schools have been selected as sample of the study.

TOOL USED

In order to realise the objective of the study, the investigators developed two checklists. The checklists consist of listing of schools using Information and Communication Technology tools for the students with special needs in the inclusive set up. The investigator has gone through inclusive education books, magazines, research journals and discussion with resource teachers for preparing the checklists. The investigator personally visited the Government secondary schools in Kannur district with the permission of the concerned heads of the institutions. The investigator sent a letter mentioning the purpose of research to the heads of the institutions

and seeking their co-operation in the administration of the checklist.

The Analysis of Percentage is used as the statistical technique.

RESULTS AND DISCUSSION

The table-1 shows that, analysis of percentage ICT tools (Assistive tools) in schools for the students with special needs in the inclusive set up and analysis of percentage of available facilities to support ICT for the students with special needs in the inclusive set up and the number of schools selected for study.

TABLE 1

ANALYSIS OF THE PERCENTAGE OF SCHOOLS USING ICT TOOLS (ASSISTIVE TOOLS) FOR THE STUDENTS WITH SPECIAL NEEDS IN THE INCLUSIVE SET UP

(ICT TOOLS (ASSISTIVE TOOLS) FOR SWSN NOT PROVIDED IN THE INCLUSIVE SCHOOLS)

SL.NO	ICT TOOLS (ASSISTIVE TOOLS) FOR SWSN NOT PROVIDED IN THE INCLUSIVE SCHOOLS (N=44)	PERCENTAGE OF ICT TOOLS FOR SWSN NOT PROVIDED IN INCLUSIVE SCHOOLS
1	Text phones	0%
2	Braille printer	0%
3	Voice recognition	0%
4	On screen boards	0%
5	Touch screen	0%
6	Scanning input	0%
7	Braille note taker	0%
8	Anti- glare screen	0%
9	Speech recognition system	0%
10	Variable speech recorder	0%
11	Electronic maths sheet	0%
12	Basic adaptive Key boards	0%
13	Alternative keyboards	0%
14	Electronic maths work sheet	0%
15	Proof reading programme	0%
16	Computer screen magnification	0%
17	computerized speech recognition	0%
18	Portable word processor	0%
19	OBR (optical braille reader) software	0%
20	Braille key label assisting with key boards	0%
21	Abbreviation expansion and word prediction software	0%
22	Closed-Circuit Television Magnification (CCTV)	0%
23	Large print display alternative colures on computer screen and voice input	0%

The above table-1 showed that the percentage of schools not using these ICT tools (0%). In many studies conducted abroad indicated that the above tools are used in schools for educating the students with special needs in inclusive set up. Hence the result from the table-1 indicates that the many schools are not providing these kinds of ICT tools (Assistive tools) for students with special needs in inclusive set up.

TABLE 2

LESS THAN 10 PERCENT OF INCLUSIVE SCHOOLS USING ICT TOOLS(ASSISTIVE TOOLS) FOR SWSN

SL.NO	ICT TOOLS (ASSISTIVE TOOLS) FOR SWSN	PERCENTAGE LESS THAN 10% OF INCLUSIVE SCHOOLS (N=44) (%)
1	Talking spell checkers	6.8
2	e-speaker	6.8
3	electronic dictionaries	4.5
4	adapted computers	2.3

It can be inferred from the above table-2 that only 6.8 % schools are using talking spell checker and ubuntu software. 4.5 % of schools are providing the electronic dictionaries. Only 2.3 % of schools are using adapted computer. Out of 44 government schools only one school provides the ICT tools like adapted computer.

TABLE 3

PERCENTAGE (10 %-49%) OF INCLUSIVE SCHOOLS USING ICT TOOLS (ASSISTIVE TOOLS) FOR SWSN

SL.NO	ICT TOOLS (ASSISTIVE TOOLS) FOR SWSN	PERCENTAGE (10%-49%) OF INCLUSIVE SCHOOLS (N=44) (%)
1	Screen reader	18.2
2	Talking calculator	15.9
3	JAWS(Jobs Access with Speech) text-to-speech software	13.6
4	Ubuntu	13.6

It is inferred from the above table - 3 that the percentage of schools using assistive tools in schools for students with special needs in inclusive set up is between 10 to 49 percentage .18.2% of schools are using screen reader.15.9% of schools are using talking calculator. And 13.6% of schools are using JAWS (Job Access with Speech) text-to-speech software and Ubuntu software.

TABLE 4

MORE THAN 50% OF INCLUSIVE SCHOOLS USING ICT TOOLS (ASSISTIVE TOOLS) FOR SWSN

SL.NO	ICT TOOLS(ASSISTIVE TOOLS) FOR SWSN	PERCENTAGE MORE THAN 50% OF INCLUSIVE SCHOOLS
1	Audio materials like talking books and audio cassettes of recorded lessons or Audio books	50

It is inferred from the above table - 4 that the percentage of schools using assistive tools in schools for students with special needs in inclusive set up is greater than 50 percentages. About 50 of schools are using the audio materials like talking books and audio cassettes of recorded lessons audio books as a ICT tool for students with special needs in inclusive set up.

FINDINGS

The major findings of the present study show that the percentage of ICT Tools (Assistive Tools) in government schools for the students with special needs is very poor in the inclusive set up. The study indicates that many government schools have not provided the tools like Basic adaptive Key boards, Alternative keyboards, Voice recognition, On screen boards, Touch screen, Scanning input, Speech recognition system, Abbreviation expansion and word prediction software, Anti- glare screen, Braille key label assisting key boards, OBR (optical braille reader) software, Braille note taker, Braille printer, Variable speech recorder, Closed-Circuit Television Magnification (CCTV),Computer screen magnification, Text phones, Electronic math sheet, Large print display alternative colours on computer screen and voice input, Electronic maths work sheet, Proof reading programme ,Portable word processor etc. That means that the government should actively focus on the ICT integration in general classroom for SWSN in all schools for their educational and skill development.

Yet another findings from the present study indicates that less than 10 percent of government schools are using the following tools like electronic dictionaries (6.8%), adapted computers (4.5%),Ubuntu software (2.3%),Talking spell checkers (2.3%), and e-speaker (2.3%). Out of 44 schools only one school is having adapted computer and which is not in working condition. From 10 – 49 % of government schools are using the following tools like Screen reader (18.2%), Talking calculator (15.9%), JAWS (Jobs Access with Speech) text-to-speech software (13.6%).

JAWS and screen reader and text-to-speech software which can help the user in adjusting the volume, pitch and speed of reading, and in choosing or adjusting to a male or female voice according to their preference. These softwares are more used by the blind students. The majority of the schools are now using JAWS for SWSN in inclusive class rooms. The screen reader can update in mobile phones, laptops, computers and tabs. Using the screen reader blind students can read the computer text passages, pdf files, analyze the phonetic structure of words and attempt re-constructing words by putting together astring of synthetic phonemes, ensuring easy understandability of the message by the student. Another findings from the study indicaties that 50% of government schools are using Audio materials like talking books and audio cassettes of recorded lessons or Audio books. The major findings is that out of 44 schools the 22 schools are using the audio books and talking books. The audio books are available in the forms of CD, DVD and cassettes. The recording machines can be used to record lectures, books and other study materials and help SWSN. The audio books are provided by the state government. These audio materials are distributed by DIET in the schools of Kannur district. The electronic devices like mobile phones and tablet are also used for recording lessons and lectures. In many schools the resource teachers are depending upon the mobile phones for teaching SWSN because it is very much helpful to visualize the videos (hearing impaired students) audios, play music and poems.

EDUCATIONAL IMPLICATONS AND SUGGESTIONS

The study has following educational implications.

1. It is very important that there should be proper financial support and funding from the side of the Government for the integration of ICT tools or assistive tools for the students with special needs in inclusive classrooms.

2. The ICT tools or assistive technology is a powerful tool for improving access to education and to increase achievement among students with special needs. Hence provide ICT tools in all government schools.

3. Students must be trained in the proper use of the assistive technology device to maximize their educational attainments by decreasing their difficulties.

4. Government should offer the new assistive tools and technology related facilities in schools for increasing the opportunities to exchange knowledge and information and better communication for school administration, resource teachers and students with special needs.

5. It is essential to conduct periodical workshops and seminars based on the objectives of Inclusive Education supported by Assistive Technologies within the overarching framework of Education For All (EFA) as defined in SSA and NCF 2005.

6. Need to conduct in-service and pre-service programs for resource teachers as well as regular teachers for the successful integration of ICT tools in inclusive classrooms.

7. It is important to give appropriate teacher training and support for teachers in the field of Information and Communication Technology.

CONCLUSION

It is necessary that ICT tools (Assistive tools) have an essential role for increasing the learning outcomes among the students with special needs. The use of Information and Communication Technology can help create inclusive environments. But this study indicates that more percentage of government schools are not using the ICT tools for students with special needs. Only very few number of government schools are using these tools for the benefit of students with special needs. High percentage of government schools lack these appropriate assistive tools. Only very few ICT tools are provided by the government and majority of the tools are bought by themselves. Another problem is due to insufficient funding. Majority of these tools are very costly and the students are mostly from poor families and not able to buy these tools. So very few students are using these kinds of tools. So it adversely affects the overall learning outcome of the students with special needs in inclusive set up.

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DEVELOPMENT OF PEDAGOGY OF TEACHING TO MITIGATE REVERSALS IN A DYSLEXIC CHILD – A CASE STUDY

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ABSTRACT

Dyslexic children have directional confusion of letters. A need was felt to help such children, since an early intervention was required to ride over the perceptual problems. Pedagogy of teaching was developed where the children could develop the perception of letters b, d, p, q and g which have reversals. The method was by using the child's own limbs as clue to guide in reading and writing reversal letters. The method was based on a module, which is an interplay between Bloom's taxonomy and the theory of multiple intelligence (Noble, 2004) and other researches to mitigate reversals. Since dyslexic children are not a homogeneous group, and to conduct a deep qualitative analysis, a case study was done to know the efficacy of pedagogy of teaching. The child was assessed on NIMHANS Index for Special Learning Disability (2006) in pre and post-test. Results revealed that the child developed the perception of these letters by taking clues during reading and writing. A qualitative analysis was made by interviews and observations. It was concluded from the opinion of the parents, class teacher of the school and a special educator that it was an effective method of teaching.

INTRODUCTION

Dyslexia is a specific type of learning disability. It is characterized by difficulties in reading, writing and spelling. The impact can be mitigated by correct teaching (British Dyslexia Association). The Rights of Persons with Disabilities act, 2016 articulates that all educational institutions funded or recognized by them are to provide inclusive education to children with disabilities and a suitable pedagogical measure to overcome their difficulties.

A dyslexic child may also have directional confusion of letters. The child might read or write letters with upside down or with left and right confusion. The most common letter reversals are b, d, p, q and g (Lee, 2006). Explicit teaching of letter formation and directionality may assist in overcoming orientation difficulties (Richmond & Taylor, 2014). An early intervention is required to help the dyslexic children to mitigate their problems in learning. Alphabet knowledge is consistently recognized as the strongest of literacy achievement. Early intervention in children with dyslexia will help to make substantial improvement not only in academics, but also can build self-confidence and social competency in them.

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NEED AND SIGNIFICANCE OF THE STUDY

Indian studies report that approximately 10 percent of Indian children are dyslexic, implying that approximately 28 million Indian children; aged 4-14 are dyslexic (Vasudevan and Iyer 2015). This is a major concern for a country like India, where the system of education emphasizes on reading, writing and arithmetic. The system caters to a particular standard of children where the individual needs of the children are not met adequately. Further it is found that there is high correlation between increased letter reversal rates and reading difficulty in young children (Badian, 2005).

Research studies have also shown that due to overstress in schooling, children exhibit psychosomatic symptoms which have no apparent organic reasons. They range from simple refusal to eat, to grave ailments like asthma (Kapur, 1997). It is also observed by reviewing 24 current methods of teaching that the efficacy of the methods is not established, developed scientifically or adopted as a systematic pedagogy of teaching.

So, considering the above conditions, a need was felt to develop a system of pedagogy of teaching that is informal and stress-free and to find the efficacy of the teaching methods which will cater to the needs of the children who have learning difficulties. Moreover, special children who are integrated in an inclusive set up need to be helped with an effective method of teaching based on research. Hence a case study on development of pedagogy to mitigate reversals in a dyslexic child was found to be appropriate.

OBJECTIVES

1. To develop

(i) Pedagogy of teaching based on interplay between Bloom's taxonomy and the theory of Multiple intelligence (Noble, 2004) and also other researches to mitigate reversals.

(ii) Method which is fun, informal and which can be used at any place by the child while reading or writing.

(iii) Materials like rhymes, activities like picture to picture matching, picture to letter matching, letter to letter matching, pictures sorting, letters sorting, repeating the pattern and tracing the sand paper letters.

2. To find out the efficacy of the pedagogy of teaching developed.

BASES FOR DEVELOPMENT OF PEDAGOGY OF TEACHING

Children with dyslexia have problems with establishing good inter-letter association. Simultaneous letter recognition makes it possible for the children to build up a network of association between letters or inter-letter association (Adams, 1990). So, the letters were taught simultaneously

The letters were fragmented into features (Geup, 1984). The common feature of the group of letters became the template. The common feature and the distinctive feature play an important role in recognition of letters (Fiset et al., 2008 and Chang et al., 2012). Since prior knowledge of a task improves performance in processing letters (Winn, 1986), the features were used for developing activities.

A rhyme was composed where the child could take the hint with movement of the hands. A definite bifurcation was created between template and distinctive features [terminal features] contribute to letter recognition (Fiset et al., 2008, 2009). Activities were prepared to develop the perception as given in the objectives.

METHODOLOGY

Since dyslexia is not a homogeneous group, it was decided to conduct a case study to do an in depth study. A case (xxx) was chosen from Ankura

remedial classes. Basic data of the child was collected along with the consent of the parents.

On pre-test,xxx was assessed on NIMHANS Index for Special Learning Disability (2006). In the subtest of dictation writing the child showed reversals of letters. In this case (xxx) was at risk and needed adequate opportunities to acquire the skills.

The intervention was for 2 months. Case (xxx) was given various exercises for development of visual and visual-motor perception of letters as suggested in objectives. The child was given stars for good performance. During each activity and session, observations were done and noted in the book along with videos and photographs. The parents, special educator and the class teacher of the child were also interviewed to know the progress of the child.

During post-test, the case (xxx) was administered the same tests as in the pre-test. He was able to write dictation letters without reversals. The child sometimes received hints to write the rhyme.

RESULT AND DISCUSSION

A qualitative analysis was made by using the observations and interviews. After repeated viewing of the outcome, it was checked whether it coincided with the objective of preparation of the pedagogy of teaching (Jorden and Henderson, 1995).

It was found that the child developed the perception of these letters taking clues during reading and writing. It was concluded from the opinion of the parents, class teacher of the school and a special educator that the pedagogy which was developed to mitigate letter reversals was an effective method for learning.

CONCLUSION

The study shows that the development of pedagogy of teaching to mitigate reversals in dyslexic child through an intervention was effective. The pedagogy of teaching throws valuable impetus to teachers and therapists working with children with dyslexia as an excellent explicit method of teaching. At any time, the rhyme and child's body parts can be used as memory pegs. This would reduce stress and dependency of the child on peers.

The present method of teaching will help to improve the learning performance of dyslexic children. This would be a nonthreatening way of teaching through fun to help the dyslexics to improve their learning skills.

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A STUDY ON CERTAIN COMPONENTS OF PRO-ENVIRONMENTAL BEHAVIOUR AMONG SECONDARY SCHOOLTEACHERS

* Lakshmi.S

ABSTRACT

The ultimate goal of any educational process is the modification of human behaviour. Pro-environmental behaviour is an extremely complex concept. Pro-environmental behaviour here refers to behaviour that consciously seeks to minimize the negative impact of one's actions on the natural and built world. (e.g. minimize energy and resource consumption, use of non-toxic substances, reduce waste production). The main aim of this study was to assess the extent of Pro-environmental behaviour and its various components viz, Travel behaviour, Consumer behaviour, Conservation behaviour, Activist behaviour and Vicarious behaviour among the subjects. Normative survey was used for the present study. The tool used for the study was Pro-environmental Behaviour Scale prepared by the investigator. Secondary schoolteachers (N=450) from Thiruvananthapuram district were selected as the sample for the study. The statistical techniques employed for the study were Percentage analysis, Mean and Standard deviation. The findings of the study showed that the Pro-environmental behaviour of secondary schoolteachers was only at moderate level. The study also revealed that the different components of Pro-environmental behaviour, viz, Travel behaviour, Consumer behaviour, Conservation behaviour, Activist behaviour and Vicarious behaviour among secondary schoolteachers was only at moderate level.

Over the last 40 years, environmental psychologists and sociologists studied in detail about the concept of Pro-environmental behaviour and found that pro-environmental behaviour is an extremely complex one to study. Pro-environmental behaviour means behaviour that consciously seeks to minimize the negative impact of one's actions on the natural and built world. (e.g. minimize energy and resource consumption, use of non-toxic substances, reduce waste production). The study of Pro-environmental behaviour is not complete without a plethora of entities (factors) which have either a direct or indirect bearing on Pro-environmental behaviour. Thus number of factors are found to have an influence on Pro-environmental behaviour and these factors may be positive or negative, external (e.g. institutional, economic, social, cultural) and internal (e.g. motivation, environmental knowledge, awareness, values, attitudes, emotions, locus of control etc.) Five main components of Pro-environmental behaviour are taken into account in the present study. These include Travel behaviour, Consumer behaviour, Conservation behaviour, Activist behaviour and Vicarious behaviour.

NEED AND SIGNIFICANCE OF THE STUDY

In the last century towards its end the human race seemed to realize, with some panic that the impact of the environment on human life and endeavours cannot be ignored any more, particularly after the way in which human beings had begun to

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use and misuse the environment. Awareness and knowledge concerning the environmental problems, favourable attitude, emotional and behavioural inclination would contribute greatly towards enhancing and promoting ecological consciousness, a feeling characterized by a sense of self as part of a large holistic system and awareness of the sociological processes within these systems. The review of studies reveals a dearth of Indian researches done in the field of environmental psychology especially in the area of responsible environmental behaviour among the teachers. It is of extreme importance in the present educational scenario that teachers behave pro-environmentally since they are considered to be the role models for students. Students tend to imitate the actions of their teachers blindly so there exists an immediate need to assess the Pro-environmental behaviour of teachers especially at the secondary level. The present study therefore ventures to explore the Pro-environmental behaviour (and its components) among secondary school teachers. It is in this context that the present study assumes great significance.

OBJECTIVES

1. To assess the extent of Pro-environmental behaviour among secondary school teachers.
2. To assess the extent of different components of Pro-environmental behaviour, viz, Travel behaviour, Consumer behaviour, Conservation behaviour, Activist behaviour and Vicarious behaviour among secondary school teachers.

METHODOLOGY IN BRIEF

METHOD

Normative survey method was used for the study.

SAMPLE

Secondary school teachers (N=450) from Thiruvananthapuram district constituted the sample for the study.

TOOL USED

A tool prepared by the investigator viz, Pro-environmental Behaviour Scale (PEB Scale) was used for collecting the required data. The PEB Scale included all the major components of Pro-environmental behaviour viz., Travel behaviour, Consumer behaviour, Conservation behaviour, Activist behaviour and Vicarious behaviour.

STATISTICAL TECHNIQUES USED

The statistical techniques employed in the present study are:

♦ Percentage Analysis

♦ Mean

♦ Standard Deviation

RESULT AND DISCUSSION

The details of the analysis of date are presented in the various tables with its interpretations.

TABLE 1

CLASSIFICATION OF THE EXTENT OF PRO-ENVIRONMENTAL BEHAVIOUR AMONG SECONDARY SCHOOL TEACHERS

S.NO.	PRO-ENVIRONMENTAL BEHAVIOUR	N	PERCENTAGE %
1	High Group	75	16.67
2	Average Group / Modulate	316	70.22
3	Low Group	59	13.11
Total		**450**	**100**

Table 1 shows that only 16.67 percent of secondary schoolteachers under study possess 'High Pro-environmental behaviour'. Majority of teachers fall in the 'Average' (70.22%) and a smaller proportion (13.11%) fall in the 'Low Pro-environmental behaviour' category. The total number of teachers in the 'Average' and 'Low' Pro-environmental behaviour groups comes above 80 percent (83.33% exactly). This shows that secondary schoolteachers with the exception of a few do not have high Pro-environmental behaviour.

TABLE 2

CLASSIFICATION OF THE EXTENT OF TRAVEL BEHAVIOUR AMONG SECONDARY SCHOOLTEACHERS

S.NO.	TRAVEL BEHAVIOUR	N	PERCENTAGE %
1	High Group	84	18.67
2	Average Group /Moderate	281	62.44
3	Low Group	85	18.89
Total		**450**	**100**

Table 2 shows that only 18.67 percent of secondary schoolteachers under this study possess 'High Travel behaviour'. Majority of teachers fall in the 'Average' (62.44%) and a smaller proportion (18.89%) fall in the ' Low Travel behaviour ' category. The total number of teachers in the 'Average' and 'Low' Travel behaviour groups come above 80 percent (81.33% exactly). This shows that secondary schoolteachers with the exception of a few do not have a high level of Travel behaviour.

TABLE 3

CLASSIFICATION OF THE EXTENT OF CONSUMER BEHAVIOUR AMONG SECONDARY SCHOOLTEACHERS

S.NO.	CONSUMER BEHAVIOUR	N	PERCENTAGE %
1	High Group	74	16.44
2	Average Group / Moderate	279	62.00
3	Low Group	97	21.56
Total		**450**	**100**

Table 3 shows that only 16.44 percent of secondary schoolteachers under study possess 'High Consumer behaviour'. Majority of teachers fall in the 'Average' (62.00%) and a smaller proportion (21.56%) fall in the 'Low Consumer behaviour' category. The total number of teachers in the 'Average' and 'Low' consumer behaviour groups come above 80 percent (83.56% exactly). This shows that secondary schoolteachers with the exception of a few do not have a high Consumer behaviour.

TABLE 4

CLASSIFICATION OF THE EXTENT OF CONSERVATION BEHAVIOUR AMONG

SECONDARY SCHOOLTEACHERS

S.NO.	CONSERVATION BEHAVIOUR	N	PERCENTAGE %
1	High Group	105	23.33
2	Average Group / Moderate	284	63.11
3	Low Group	61	13.56
Total		**450**	**100**

Table 4 shows that only 23.33 percent of secondary schoolteachers under study possess 'High Conservation behaviour'. Majority of teachers fall in the 'Average' (63.11%) and a smaller proportion (13.56%) fall in the 'Low Conservation behaviour' category. The total number of teachers in the 'Average' and 'Low' Conservation behaviour groups comes below 80% (76.67% exactly). This shows that secondary schoolteachers with the exception of a few do have a high Conservation behaviour.

TABLE 5

CLASSIFICATION OF THE EXTENT OF ACTIVIST BEHAVIOUR AMONG

SECONDARY SCHOOLTEACHERS

S.NO.	ACTIVIST BEHAVIOUR	N	PERCENTAGE %
1	High Group	80	17.78
2	Average Group/ Moderate	292	64.89
3	Low Group	78	17.33
Total		**450**	**100**

Table 5 shows that only 17.78 percent of secondary schoolteachers possess 'High Activist behaviour'. Majority of teachers fall in the 'Average' (64.89%) and a smaller proportion (17.33%) fall in the 'Low Activist behaviour' category. The total number of teachers in the 'Average' and 'Low' Activist behaviour groups come above 80 percent (82.22% exactly). This shows that secondary schoolteachers with the exception of a few do not have a high Activist behaviour.

TABLE 6

CLASSIFICATION OF THE EXTENT OF VICARIOUS BEHAVIOUR AMONG

SECONDARY SCHOOLTEACHERS

S.NO.	VICARIOUS BEHAVIOUR	N	PERCENTAGE %
1	High Group	68	15.11
2	Average Group	312	69.33
3	Low Group	70	15.56
Total		**450**	**100**

Table 6 shows that only 15.11 percent of secondary schoolteachers under study possess 'High Vicarious behaviour'. Majority of teachers fall in the 'Average' category (69.33%) and a smaller proportion (15.56%) fall in the 'Low Vicarious behaviour'. category. The total number of teachers in the 'Average' and 'Low' Vicarious behaviour groups comes above 80% (84.89% exactly). This shows that secondary schoolteachers with the exception of a few do not have high Vicarious behaviour.

FINDINGS OF THE STUDY

♦ The Pro-environmental behaviour of secondary schoolteachers is only at moderate level.

♦ The extent of different components of Pro-environmental behaviour, viz, Travel behaviour, Consumer behaviour, Conservation behaviour, Activist behaviour and Vicarious behaviour among secondary schoolteachers are noted to be at moderate level.

CONCLUSION

This study proves that the extent of Pro-environmental behaviour as well as its components among secondary schoolteachers are at moderate level. This finding indicates that sustainable development and proper utilisation of environmental resources are at stake. Teachers being effective transmitters of knowledge regarding environmental sustainability have to strengthen the pro-environmental behaviour by orientation and other in-service programme so that their pro-environmental behaviour can be enhanced and there by their students shall acquire necessary attitude towards environmental protection.

The teachers of today should be aware of the environmental issues, values and ethics. Only then they can be successful in transacting these to their students. The teachers should set an example before their students and this will in turn help them to develop interest in the natural environment. They also have the responsibility of ensuring that their educational offerings on sustainability serve the students and society alike. Hence the success of Environmental Education depends mainly on teachers who have a high level of specialized knowledge and pedagogical skills to impart information regarding new facts, relationships, threats and conflicts regarding environment and its

sustainability . In order to build a strong and eco-friendly generation the role of the teachers and students should go hand in hand. Teachers are the role models and they alone can build an ecofriendly nation.

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PROBLEMS ASSOCIATED WITH LEARNING BIOLOGY THROUGH CLASSROOM INTERACTION

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ABSTRACT

Biology is one of the core science subjects which is interesting to the students in school. But on the basis of observation it was found that many students have certain difficulties in learning Biology at the high school level. Some of the students face problem in writing the spellings of technical terms correctly. However some students pronounce biological terms correctly, but are unable to write the terms with correct spellings. Problems related with drawing and labelling diagrams were also identified while evaluating the classroom activities. Many students face problem in remembering the biological terms. It was also found that even though students understand the concept and process, some of them have problems to remember and deliver certain science processes in sequential order. Some others in the class are not interested to submit their science diary on time. Therefore apart from simple participatory learning, innovative strategies for various age level of learners must be provided for improving their academic excellence. More opportunities for group activities may also be provided and monitored properly.

INTRODUCTION

In the field of education, teachers use classroom researches as an interactive method of collecting information in order to explore topics of teaching, curriculum development and student behavior in the classroom. Classroom research helps educators to be more effective and help to improve the quality of teaching learning process without involving extra financial commitments. Those engaged in the task of teaching in schools have to face many problems which hinder the progress and learning outcome of students. The purpose of classroom research is to enable the teachers and students to find out solutions of such problems on the basis of their own investigations, as this in turn can point out the remedial measures to be adopted.

Biology is one of the core science subjects which is supposed to be one of the most interesting one to the students in school. But on observations of teachers it was found that many students have certain difficulties in learning Biology and therefore this study is focussed on it.

OBJECTIVES

1. To explore the nature of group activities and curricular approaches in Biology.

2. To identify the problems associated with learning of Biology through classroom Interactions.

METHODOLOGY

The study was conducted on the basis of qualitative analysis of the results obtained through

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the continuous evaluation, analysis of science diary, note books, activity log, oral test and various achievement tests of the students in the biology classroom and informal discussions with biology teachers.

The purpose of research was to know the problems and difficulties faced by the secondary school students when they were participating in teaching–learning activities during classroom interaction in the biology classroom. On the basis of the observation of learning and the way they perform the activities, involvement and nature of participation, analysis of home assignments and follow up activities the data was collected.

SAMPLE

The present study was conducted on a sample of 56 students of standard IX from a model higher secondary school in Kozhikode District.

TOOLS AND TECHNIQUES USED

Observation, document analysis, analysis of science of science diary, note books, activity log and work sheets, informal discussion with biology teachers, oral test and achievement test in biology were used as instruments for the research.

The data collected from the responses of the students in the biology classroom and regular observation and checking of the science diary, note books, activity log of the students the oral tests and the various achievement tests of the students in the subject biology were also analysed.

STATISTICAL TECHNIQUE USED

The data collected were consolidated and quantified in terms of frequency counts and interpreted using percentage analysis.

ANALYSIS OF CURRICULAR APPROACH IN BIOLOGY AND THE NATURE OF GROUP ACTIVITIES

The investigator studied the curricular approach in detail and studied the activities and performance done by the students.

CURRICULUM APPROACH

A learning process based on the idea of constructivism served as a foundation of the present curriculum. Constructivism looks upon learning as an active mental process and provides opportunities for construction of knowledge. Learning outcomes are the ideas, concepts, skills, attitudes, and values to be acquired by a learner during various stages of school education. Knowledge of learning outcome is highly essential to plan the teaching learning process and evaluation. The teacher has the freedom to employ suitable learning experiences or strategies which are learner oriented. Each learner constructs knowledge by linking it with his/her previous experiences. It occurs at individual level through meaningful societal interventions. Science learning also requires all these conditions to be effective. In addition to this, learning of science includes description of objects and events, questioning, acquisition of knowledge, explaining natural phenomena, testing those explanations and communicating it to others (National Research Council, 1996).

Learning is made interesting and effective through multisensory experiences, discovery learning, metacognition, co-operative learning, collaborative learning, reflective learning and giving opportunities to individual for group learning. Designing innovative strategies for learning and assessment, and ensuring Continuous and Comprehensive Evaluation on learning outcome are considered as very important in the present curriculum. A teacher has to be a mentor or facilitator to achieve all these. An effective mentor teacher alone can bring out the hidden talents of students. Mentoring is considered as a process in personality development and to create interest in learning.

PARTICIPATORY/ACTIVITY BASED GROUP WORK FOR CLASSROOM INTERACTION

In the classroom the students need to actively participate in group activities and encourage others to participate in all learning processes. Tasks provided are to be completed by the learner within the classroom on time. Individual and group assignments are to be prepared on selected topics as part of their studies. Activity based group work for classroom interaction are:

Group discussion

Debate

Drawings

Report analysis

Note making

Worksheet completion

Story telling

Completing the puzzle

Diagram/picture analysis

Labelling the diagram

Process of experimentation and observation

Experimenting and procedure writing

Table completion

Completion of diagram

Completion of Ven diagram

Comparison

Introducing /familiarising a newspaper report

Observing of permanent slides

Making observation report

Video observation

Documentary observation

Grouping and table preparation

Analysis of the reading report

Flowchart making

Worksheet assessment

Taking notes/preparing short notes

Chart/model observation

Experiments

Projects

Science album

Science journal reading

Picture album

ACTIVITY LOG

It is an important document required for assessment of the cognitive acts of the learner. The creativity of the learner, thought processes, language skills, socio-emotional domain are reflected in the activity log. It should contain details like various strategies adopted for the transaction of the lesson, prior planning made by the learner, interventions made by the teacher at various stages of activities details of learning outcome and product formed are recorded in the activity log.

PRESENT SCENARIO OF STUDENT PARTICIPATION IN THE GROUP ACTIVITIES DURING CLASSROOM INTERACTION

1. Interest of the learner in the learning activities, his/her participation in group activities are to be considered by the teacher while framing the classroom activities. Some learners voluntarily participate in the activity while others try to do it individually and some others share ideas and encourage other's participation. Thus all participate actively in group activities.

2. The conceptual understanding of the students is related to the previous knowledge. The students who have pre requisites try to involve in various stages of construction of content knowledge and also develop the ability to apply these concepts. All these lead to internalizing the content for future references.

3. Acquisition of skills in learning process is very important. Knowledge and awareness of process skills in science helps the learner to acquire the desired process skills through various activities. Some students lag behind and they require additional activities and support for acquiring the desired skills.

4. Presentation during group activities showed the dimensions of content internalization. Some learners tried to present the knowledge acquired through individual activity or group activity and explain well the findings in brief sessions.

5. Recording or completing the science diary and Activity log were also studied. The learners made necessary recordings in the various stages of activity. The recording was done systematically and precisely.

ANALYSIS OF THE PROBLEMS ASSOCIATED WITH LEARNING BIOLOGY THROUGH CLASSROOM INTERACTION

The investigator observed some classroom situations and identified certain problems. These are presented below:

Observation No 1: Teacher collected the notebooks of the students to check whether they have completed their notes. It was found that many of the students made spelling mistakes on biological terms. For further analysis the teacher conducted a spelling test for them. After that the students were asked questions in order to check the pronunciation of the biological terms. Through these methods it was found that most of the students were able to pronounce the terms correctly but were unable to write the spellings of the biological terms correctly.

Observation No 2: Teacher assessed the performance of students by asking questions. Many though knew the answer were unable to answer properly with confidence. To understand whether all the students suffer from some problem, teacher conducted a written examination on the next day. Through this the teacher identified that most of the students faced problems in remembering, pronouncing and writing the biological terms.

Observation No 3: After the completion of the lesson on 'water transpiration in plants', teacher asked a few students to explain the process for assessment. But most of the students did not respond to this question. Only a few students answered properly. From this teacher found that students have inability to remember the science process sequentially. So, teacher asked them to learn the process in the next day. The next day also the same problem continued when teacher asked questions. In the 'let us asses' session, the students couldn't complete the follow up activity in the flowchart by putting arrow mark related to the pathway of blood to and from the heart. In the topic 'The respiratory system' also those concepts which need to be remembered in correct sequence could not be recalled by the students in the sequential order.

Observation No 4: Teacher assessed the performance of the students by question-answer method. From that, teacher understood that they have problems in grasping certain concepts, which are abstract in nature like Transportation of Water in Plants and Gas exchange in Man. Teacher wanted to assess the problem and hence conducted a test for this topic. On the basis of observation and discussion with the students it was found that many students had difficulty in those areas. The students could not comprehend and differentiate the concepts properly. They could not memorize the concepts in this situation also.

Observation No 5:Teacher collected the notebook from every student to check whether they have completed their notes and gave correct instructions for them. Then teacher announced the date for submitting the notes and also reminded the date during class time. Even then majority of the students didn't submit their diary/ notes and activity log.

Based on the observation some of the most prominent problems identified were;

1. Students showed difficulty in writing and pronouncing biological terms correctly.

2. Students had problems related with drawing and labelling of scientific diagrams.

3. Students had problems related to remembering and writing of the biological terms.

4. Students had inability to remember science processes sequentially.

5. Students showed difficulties in learning certain concept in biology.

6. Students did not complete and submit their science diary and activity log in time.

For the proper analysis of the problem, teacher went through the activities and performances done by the students and also discussed the problem with the concerned biology teachers in the schools and also discussed the same with students.

FINDINGS OF THE STUDY

1. Difficulty in writing, pronouncing biological terms correctly

Students showed difficulty in writing and pronouncing biological terms correctly. The important reasons are poor teaching, improper method of teaching in the lower classes, medium of instruction, lack of interest in the subject, lack of confidence, lesser opportunities, poor motivation, carelessness of students, complexity of words, lack of learning resources and lack of familiarisation with biological terms.

To rectify the problems associated with spelling mistakes in biological terms motivate students for learning through reading. Writing the biological terms using different colours in the board makes the terms more clear and interesting to students. Provision of worksheets with crossword puzzles help in removing confusions with regard to spelling of biological terms. Emphasis to biological terms can be repeated by pronouncing the spelling once or more through drill. Conducting spelling tests regularly will help to memorise spellings. Also ask students to write the spellings of biological terms in their science diary separately. Displaying of the new biological terms using a chart and media will be highly helpful. Remedial programme may be conducted to rectify the problems associated with writing the spellings of biological terms correctly and there by can avoid spelling mistakes of biological terms.

2 Problems related to drawing and labeling scientific diagrams

Generally, most of the students show disinterest in studying Biology because of the diagrams and labeling process inherent in the subject. Many students lacked interest in drawing diagram scientifically and they draw diagrams using multiple strokes. They shade diagrams which require more time, skill and practice. Some of them were found to be having lack of confidence in drawing and labeling scientific diagrams. Improper method of teaching in lower classes, improper direction in scientifically labeling processes and lack of ICT usage in class rooms were some reasons which can be attributed.

To improve their abilities in drawing and labeling scientific diagrams, presentation of diagrams and illustration techniques in biology can be enhanced by using ICT videos and images. Give proper instruction to draw using smooth curve

instead of using multiple strokes, not to shade any biology diagrams but put neat dots and not to intersect the labeling line but draw the labeling by dotted lines parallel to each other as far as possible towards right side of the diagram. Worksheets for drawing and labeling with proper instructions are to be presented. Provide instructions by experts in the field of biology. Present of diagrams in the charts and draw the diagrams in the blackboard using color chalks while engaging the classes.

3. Problems related to remembering and pronouncing the biological terms

Generally some of the students have inability to remember, write and pronounce the biological terms correctly. So they confront difficulties and show disinterest in learning biology. Improper method of teaching, lack of interest in the subject, poor memory power carelessness of the students in the classroom, difficulty due to complexity of new words were the main reasons for their problems.

To provide easy techniques to remember the terms try to break down complex words to identify their roots and ask students to take the note of them, its definitions by understanding the roots. Help students to learn the biological terms just like singing a song i.e biological terms can be recited in the form of a song. This will be a much easier way to memorize names. Make funny sentences using certain biological terms thereby they can easily memorize. Make use of visual aids, draw images and associate it with the biological terms. By visualizing the image students can easily memorize. Ask students to write and pronounce the biological terms repeatedly. Print a copy of the list of biological terms which are offen used. All these may help students to learn the biological terms easily. Provide worksheets. In order to increase confidence level through proper expertise. Teachers can make use of charts to present biological terms. Write the biological terms in chalkboard while taking the class using color chalks. All these shall enhance to remember the biological terms easily and effectively.

4. Inability to remember the science processes sequentially

Generally most of the students have inability to remember the science processes sequentially. They showed lack of interest to study biology because of its complex processes involved. Some of them were found to have difficulty in remembering and explaining the processes in correct sequential order. Improper method of teaching, lack of interest to study, poor memory power, difficulty to memorize complex processes in correct sequential order, poor socio-economic background, inability to read and write and rote memorization were the reasons for their problem.

To enable the students to remember and explain the science processes in its correct sequential order, teach the biological processes in sequential order. Write the steps in charts and display them. In order to motivate study consolidate the steps of science processes in chalkboard using colour chalks. Include more activities in the class. Provide the opportunity to write the steps in chart and display them in the classroom. It should be learned well by using a variety of audio visual aids. Provide proper method of teaching with suitable learning resources which may help to study such complex processes easily and effectively.

5. Difficulties in learning certain concept in Biology

Students show difficulties in learning certain concepts in biology. This may be due to their lack of attention, lack of processing and sequencing, lack of working memory, lack of interest of the students, poor method of curricular transaction, inadequate learning resources for comprehending the concepts, inability to memorize the concept properly and rote memorization techniques.

Rectify the problem faced by the students while studying certain concepts in Biology which are abstract. Make the classroom teaching more

effective and interesting by following the maxims of learning such as general to specific, known to unknown, simple to complex and concrete to abstract for meaningful assimilation of the concept. Enhance cognitive skills like memory, attention, processing and sequencing which are necessary to become a successful learner,using various audio-visual aids. Reduce the quantity of the content to study and conduct more practical sessions. Connect concepts with their daily life situations. Provide more opportunities for group discussions.Encourage students to use various study technique and extension activities.

6. Science diary and activity log during classroom interaction

Teacher collected the notebook from every student to check whether they have completed their science diary/notes and activity log. Majority of the students did not complete their notes or activity log during classroom interaction. It was found that some students entrusted the leader in the group activity to write the science diary. Even though the teacher gave proper instructions,majority of the students didn't submit their notes. It was continued throughout the year. Lack of interest in biology, indifference of the students, family environment, lack of concentration of the students, inability to read and write properly, and absence of periodic checking by the teacher were the reasons for this.

To create interest in completing and submitting the science diary regularly the following activities can be carried out:

i) Write important points on the black board.

ii) Inform student's status to their parents.

iii) Provide opportunity for the students to read out notebook/science diary aloud in the classroom.

iv) Provide personal guidance for the students during free hours..

v) Reinforce the students well who complete their notes.

SUGGESTIONS

1. Make the classroom teaching more effective by creating interest. The effectiveness of the classroom teaching depends upon the variety of methods of teaching learning techniques, innovative strategies adopted by the teachers. Teachers can use various innovative learning strategies and encourage the participation of students in classroom.

2. Enhance instruction by using various teaching learning resources.Students learn well if they are motivated properly through different teaching learning resources. These resources develop proper images and also provide concrete examples for conceptual thinking. Incorporation of materials like, live specimens models, activity aids, Multimedia presentations, technological instruments and digital resources are examples in this regard.

3. Reduce the content included for the study. Too much content affect the process of learning. Therefore for meaningful assimilation of the content too much overloading is not good. Split the concepts in to simple facts and present it separately is another way.

4. Conduct more practical sessions. Practicals have an important role in developing understanding of biological concepts. Therefore arrange the experiments for better understanding of the concepts.

5. Provide more opportunities for group discussions. Classroom discussions offer students opportunities to compare their ideas and opinions with the ideas and opinions of their peers. Group activities may be monitored properly.

6. Include various follow up and extension activities. Collect relevant information from dailies, periodicals, magazines and journals and do extension activities by the students.

CONCLUSION

Science learning should be designed well for all kinds of students, who are at different levels. The teacher must recognize individual differences of his/her students and give instructions that will best suit to the learners. Incorporation of action programme mentionedabove leads to the sequential learning through the satisfaction of present needs, requirements and circumstances of the students. The students get more experience through outside sources than through teacher instruction. The students who are not able to assimilate the idea well may be helped to concretize or internalize the concept meaningfully. So apart from simple participatory learning, innovative strategies that suit to the age level of the learner should also be provided for improving their learning.

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DOES MATHEMATICAL INTELLIGENCE INFLUENCE THE LEARNING STYLES OF MATHEMATICS POSTGRADUATES?

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ABSTRACT

This paper aims to investigate the mathematical intelligence and learning styles of postgraduate students in mathematics. Three dimensions of learning styles considered are visual, auditory, and kinaesthetic ones. Mathematical intelligence is based on the Gardner's theory of multiple intelligences. This study included the categorical variables namely gender, locality of the residence, nature of administration and locale of the institution. The study sampled servey method. The sample comprised of 386 post graduate students of government aided and private colleges in Salem district. The data was collected through simple random sampling technique. The tools used were Mathematical Intelligence Scale and Learning Styles Scale which were constructed by the researcher. The reliability values of these tools were 0.81 and 0.78 respectively. The data collected were subjected to statistical techniques like frequency and percentiles, t test, F-test, and regression. The findings of this study showed that 42 percent of students had moderate level of mathematical intelligence and among the learning styles, visual style was more preferred one among mathematics postgraduates. The postgraduate mathematics students differed in the mathematical intelligence with regard to gender and nature of administration. Significant difference existed in the auditory style of postgraduate mathematics students with regard to nature of administration; and visual learning style had more influence on the mathematical intelligence and also whole learning process of mathematics among postgraduate mathematics students.

INTRODUCTION

This study aims to investigate the mathematical intelligence and learning styles of postgraduate mathematics students. Three dimensions of learning styles are visual, auditory, and kinaesthetic learning style and mathematical intelligence which is based on the Gardner's theory of multiple intelligences.

Logical-Mathematical intelligence is the ability to recognize the basic concepts of some kind of fundamental operations, the technique a scientist or a logician follows. Students with Logical-Mathematical intelligence can solve numbers, quantities, and operations easily and correctly.

A learning style is an individual's preferred way of learning. Students learning styles are the way in which learner learns best. The term "learning styles" is commonly used by all in educational fields and therefore, has many connotations. In general, it refers

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to the uniqueness of how each learner receives and processes new information through their senses.

Visual learners process information most effectively when the information is seen. Visual learners best work in their charts, graphs, flow charts and all the figurative arrows, circles, hierarchies and other strategies that instructor use to represent before them. These learners think in terms of pictures and have brilliant imagination.

Aural learners process information most effectively when spoken or heard. These learners answer well to lectures and discussions and are outstanding listeners. They also like to talk and enjoy music and drama. When trying to recall information, aural learners can often hear the way someone told them the information (Riding & Rayner1998).

Kinesthetic or Tactile learners practise information actively all the way through physical means. Kinesthetic learning refers to whole body movement while tactile learning refers only to the intelligence of touch. These learners use gesture when speaking, are poor listeners, and lose interest in long speeches. Most students who do not perform well in school or college are kinesthetic learners (Claxton & Roston 1978).

NEED AND SIGNIFICANCE OF THE STUDY

A variety of theories on learning have been advanced with increasing regularity in the last few decades. Multidimensional and instructional theories address well the student's environmental preference for learning and include the Learning Style Model of Dunn and Dunn (http://www.teresadybvig.com/learnsty.htm) and the multiple intelligences theory of Howard Gardner.

This paper therefore focusses on the theory by Howard Gardner in mathematical intelligence and learning styles of postgraduate mathematics students. Hence the investigator framed the research question as "does mathematical intelligence influence the learning styles of mathematics postgraduates?".

OBJECTIVES

1. To find the level of mathematical intelligence of postgraduate mathematics students.

2. To find out the significant difference in the mathematical intelligence if any, of postgraduate mathematics students based on the select subsamples – gender, locale of the residence, nature of institution, nature of administration, locale of the institution and type of family.

3. To study the learning styles of postgraduate mathematics students.

4. To find out the significant difference if any, in the learning styles of postgraduate mathematics students based on the select subsamples – gender, locale of the residence, nature of institution, nature of administration, and locale of the institution.

5. To find out the influence if any of learning styles on mathematical intelligence among postgraduate mathematics students.

HYPOTHESES

1. There is no significant difference in the mathematical intelligence of postgraduate mathematics students based on the select subsamples namely gender, locale of the residence, nature of administration and locale of the institution.

2. There is no significant difference in the learning styles of postgraduate mathematics students based on the select subsamples namely gender, locale of the residence, nature of administration and locale of the institution.

3. There is no significant influence of learning styles on mathematical intelligence among postgraduate mathematics students.

METHODOLOGY IN BRIEF

METHOD

Survey method was adopted for the study.

SAMPLE

Stratified random sampling technique was employed. The sample consisted of 386 postgraduate mathematics students studying in I and II years, randomly selected from five educational Institutions in Salem District, Tamil Nadu. The sample consisted of both male and female postgraduate mathematics students.

TOOL USED

The tool used to find out the mathematical intelligence and learning styles of postgraduate mathematics students was mathematical intelligence scale and learning styles scale developed and standardized by the researcher. Its reliability value was 0.81 and 0.78. The learning styles scale consists of three dimensions i.e. Visual Learning Style, Auditory Learning Style, and Kinaesthetic Learning Style.

STATISTICAL TECHNIQUES USED

The collected data were analysed by using statistical techniques like Frequency and percentiles, t-test and F test and regressions.

RESULTS AND DISCUSSION

TABLE 1

LEVEL OF MATHEMATICAL INTELLIGENCE OF POSTGRADUATE MATHEMATICS STUDENTS

LEVEL OF MATHEMATICAL INTELLIGENCE	N	PERCENT (%)
Low	113	29.3
Moderate	164	42.5
High	109	28.2
Total	386	100

From the table-1 it is inferred that 42% of postgraduate mathematics students have moderate level of mathematical intelligence, 29% of postgraduate mathematics students have low level of mathematical intelligence and 28% of postgraduate mathematics students have high level of mathematical intelligence.

TABLE 2

PREFERENCE RANKING ORDER OF LEARNING STYLES OF POSTGRADUATE MATHEMATICS STUDENTS

Learning Styles	N	Sum	Mean	Rank
VL	386	10105	26.18	1
AL	386	8490	21.99	2
KL	386	6760	17.51	3

The table-2 shows that postgraduate mathematics student's most preferred learning style is visual learning style followed by auditory and kinesthetic learning styles.

TABLE 3

MEAN DIFFERENCES OF POSTGRADUATE

MATHEMATICS STUDENTS IN THEIR MATHEMATICAL INTELLIGENCE

Mathematical Intelligence	Sub Sample	N	Mean	SD	t value	p value
Gender	Male	88	17.86	4.153	2.981	0.003*
	Female	298	16.36	4.185		
Locality of Residence	Rural	252	16.53	4.299	1.107	0.268**
	Urban	134	17.02	4.064		
Locality of the Institution	Rural	199	16.46	4.159	1.175	0.241**
	Urban	187	16.96	4.280		

From the above table-3, since p values are greater than 0.05, the null hypothesis is accepted at 5% level of significance in the locale of residence and locale of the institution. Hence it is concluded that there is no significant difference in the mathematical intelligence of postgraduate students with regard to locale of residence and locale of the institution. But p value is less than 0.05, the null hypothesis is not accepted at 5% level of significance in the mathematical intelligence with regard to gender. It shows that male students [17.86] have more mathematical intelligence than the female students [16.36].

TABLE 4

'F' VALUES OF POSTGRADUATE MATHEMATICS STUDENTS IN THEIR

MATHEMATICAL INTELLIGENCE

Nature of Administration	N	Mean	SD
1	163	15.95	4.130
2	95	18.27	3.844
3	128	16.49	4.322
Total	386	16.70	4.220

ANOVA

Mathematical Intelligence	Sub Group	Sum of Square	df	Mean Square	F	p- value
Nature of Administration	Between Groups	332.255	2	166.127	9.752	0.000*
	With in Groups	6524.484	383	17.035		

** Not Significant (Hypothesis is accepted); * Significant (Hypothesis is not accepted)

It is inferred from the above table-4, since p value is less than 0.05, the null hypothesis is not accepted at 5% level of significance in the nature of institution. Hence it is concluded that there is significant difference in the mathematical intelligence of postgraduate mathematics students with regard to nature of administration.

TABLE 5

MEAN DIFFERENCES OF POSTGRADUATE MATHEMATICS STUDENTS IN THEIR LEARNING STYLES

Variable	Learning Styles Dimension	Group						't'-value	'p'- value
		Male			Female				
		N	M	SD	N	M	SD		
Gender	VS		25.51	6.06		26.38	5.97	1.179	0.240**
	AS	88	22.67	6.86	298	21.80	6.93	1.049	0.296**
	KS		19.38	6.46		16.96	6.36	3.112	0.002*
		Rural			Urban				
		N	M	SD	N	M	SD		
Locality of Residence	VS		25.81	6.12		26.87	5.74	1.676	0.095**
	AS	252	21.87	6.77	134	22.24	7.19	0.505	0.614**
	KS		17.38	6.45		17.76	6.47	0.550	0.583**
		Rural			Urban				
		N	M	SD	N	M	SD		
Locality of Institution	VS		26.28	6.05		26.07	5.95	0.347	0.729**
	AS	199	22.31	6.867	187	21.66	6.97	0.928	0.354**
	KS		17.81	6.46		17.19	6.45	0.945	0.345**

** Not Significant (Hypothesis is accepted); * Significant (Hypothesis is not accepted)

From the above table-5, since p values are greater than 0.05, the null hypothesis is accepted at 5% level of significance in the dimensions visual style, and auditory style and kinesthetic learning style. Hence it is concluded that there is no significant difference in visual style, and auditory style and kinesthetic learning style of postgraduate mathematics students with regard to gender, locale of the residence, and locale of institution. But p value is less than 0.05, the null hypothesis is not accepted at 5% level of significance in the dimension kinaesthetic style with regard to gender. It shows that male students [19.38] have more kinaesthetic learning style than female students [16.96].

TABLE 6

'F' VALUES OF POSTGRADUATE

MATHEMATICS STUDENTS IN THEIR LEARNING STYLES

Variable	Learning Styles Dimension	Sub Group	Sum of Square	df	Mean Square	F	p- value
Nature of Administration	VS	Between Groups	92.299	2	46.149	1.286	0.278**
		Within Groups	13746.367	383	35.891		
	AS	Between Groups	538.347	2	269.174	5.767	0.003*
		Within Groups	17875.642	383	46.673		
	KS	Between Groups	60.335	2	30.168	0.722	0.486**
		Within Groups	16002.100	383	41.781		

** Not Significant (Hypothesis is accepted); * Significant (Hypothesis is not accepted)

It is inferred from the above table, since p values are greater than 0.05, the null hypothesis is accepted at 5% level of significance in the dimensions visual style, and kinaesthetic style. Hence it is concluded that there is no significant difference in visual style, and kinesthetic style of postgraduate mathematics students with regard to nature of administration. But the p value is less than 0.05, the null hypothesis is not accepted at 5% level of significance in the dimension viz; auditory style. Hence it is concluded that there is significant difference in auditory style based on nature of administration. It shows that postgraduate mathematics students of different types of nature of administration delivering the subject content with outside exposure to gain the knowledge and postgraduate mathematics students do not differ in their visual and kinaesthetic learning styles. But different types of nature of administration of postgraduate mathematics students differ in their auditory learning styles.

TABLE 7

REGRESSION VALUES OF POSTGRADUATE

MATHEMATICS STUDENTS IN THEIR LEARNING STYLES

Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.131	0.017	0.010	4.312

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	124.952	3	41.651		
Residual	7103.537	382	18.596	2.240	0.083
Total	7228.490	385			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	16.230	1.152	-	14.083	0.000
VL	.087	.038	0.120	2.300	0.022
AL	-.006	.034	-0.010	-0.192	0.848
KL	-.049	.036	-0.073	-1.379	0.169

Table-7, R refers to multiple correlation coefficients which is found to be 0.131. The adjusted R square indicates that 01% of the variance can be predicted from the independent variable such as auditory, visual and kinaesthetic styles. The multiple correlation coefficients 0.131 show that there is a low correlation among the independent variables. From the table-7 the value of the significance (0.083) indicates that the combinations of these independent variables do not significantly predict the mathematical intelligence. From the table of coefficients it can be inferred that visual learning styles significantly contribute to mathematical intelligence of postgraduate mathematics students. It shows that postgraduate students less preferred auditory and kinesthetic learning styles doing their postgraduate programme whole stage.

INTERPRETATION AND DISCUSSION

The 't' test result reveals that there is significant difference in mathematical intelligence and kinaesthetic style of postgraduate mathematics students with regard to gender. Moreover, male students have more mathematical intelligence and preferred kinaesthetic learning style than female students.

The ANOVA result reveals that postgraduate students differed significantly in mathematical intelligence and auditory style of learning of postgraduate students with regard to nature of administration. Students studying in self financing colleges have differed auditory style of learning than the postgraduate students studying in government and aided colleges.

RECOMMENDATIONS

On the basis of findings, a few recommendations are given below:

♦ Mathematics teachers should be aware of the learning styles of the learners.
♦ Teachers should use a variety of teaching techniques to accommodate different learning styles.
♦ Classroom teachers need to be aware of their students' mathematics learning styles and should tailor their instruction according to the needs of their learners whenever needed.

CONCLUSION

The finding of this study reveals that 42% of postgraduate mathematics students have moderate level of mathematical intelligence and postgraduate mathematics students mostly preferred visual learning style and followed by auditory and kinesthetic learning styles. Regression analysis showed that visual learning styles significantly contributed to mathematical intelligence of postgraduate mathematics students for their whole learning process.

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A STUDY ON ENVIRONMENTAL AWARENESS WITH SPECIAL FOCUS ON CONSERVATION BIOLOGY AMONG SECONDARY SCHOOL STUDENTS

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ABSTRACT

Conservation of resources at present is a universal problem and a felt necessity. Brutal utilization of nature by man to meet his ever increasing needs and greed has brought about the ecological balance of our planet earth to the edge of collapse. It is now man's turn to pay the debt by keeping the earth lush and forests green so that we all live together and life sustains in a balanced environment. But, this concern and respect for nature is until now limited to a very small segment of the society. For tackling global environmental crisis, there is no other option, except the humanity must live within carrying capacity of the earth and must adopt life styles and developmental paths that respect and work within nature's limits. The main aim of the present study was to find out the environmental awareness focused on conservation biology among secondary school students. Survey method is used in this study. An environmental awareness test was prepared for the collection of data. One hundred secondary school students were taken as sample for the study. Statistical techniques used in this study are percentage analysis and t-test to find out the significant differences between boys and girls. In the present study the investigator tried to find out the awareness level of secondary school students based on conservation biology. The results of the study show that most of the students possess average level of awareness about conservation biology. There is no significant difference in the level of awareness of boys and girls. Students having awareness on conservation biology help to make our earth or world a better place to live in for themselves and future generations.

INTRODUCTION

Conservation biology is an integrated, multidisciplinary scientific field that has developed in response to the challenge of preserving species and ecosystems (Robinson 2006). Conservation biology has three goals, first to document the full range of the biological diversity on earth; second to investigate human impact on species, communities and ecosystem; and the third, to develop practical approach to prevent the extinction of species, to maintain genetic variation within the species, and to protect and restore biological communities and their associated ecosystem functions. The protection of biological diversity is central to conservation biology. A healthy environment has great economic, aesthetic and ethical value. Maintaining a healthy environment means preserving all of its components-ecosystem, communities, species and genetic variation in populations in good conditions. Environment protection and conservation of resources at present

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is a universal concern. Human activity has already driven many species to extinction. The major threats to biological diversity that result from human activity are habitat destruction, habitat fragmentation, habitat degradation, global climatic changes, the overexploitation of species for human use, the invasion of exotic species and the increased spread and synergism among these factors. Brutal utilization of nature by man to meet his ever increasing needs and greed has brought about the ecological balance of our planet earth on the edge of collapse. It is now man's turn to pay the debt by keeping the earth lush and forests green so that we all live together and life sustains in a balanced environment. The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

The process of creating awareness among the general public about the local environmental issues is known as environmental education. Environmental awareness helps the students to gain a variety of experiences in and acquire a basic understanding of environment and its associated problems. It helps to take decisions for the effective use of resources, to recognise the special significance of natural resources and initiate or support community efforts for the purpose. Pupil begins to form positive feelings and attitudes of environmental conservation. He may utilize this awareness, skills attitudes in his actions as personal habits. Personal habits can contribute in improving the quality of the environment.

NEED AND SIGNIFICANCE OF THE STUDY

Environmental awareness enlightens the significance of protection and conservation of the environment. It improves the quality of environment. It provides the understanding and competence to recognize environmental resources and interdependence between biological and physical components of the environment for the growth and development. Conservation of biodiversity can be done by conservation of species and ecosystem.

Thus it is necessary to develop and reinforce new patterns of environmentally sensitive behavior among individuals, groups and society as a whole for a sustainable environment. In this context, it becomes utmost urgent that people need to be made aware of the natural resources and the ways by which they can be conserved. This study tried to identify the extent of awareness on environment with special reference to conservation biology among secondary school students.

OBJECTIVES

1. To find out the levels of environmental awareness with special focus on conservation biology among secondary school students.
2. To find out whether there exists any significant difference between the mean score of environmental awareness on gender with special focus on conservation biology.
3. To find out whether there exists any significant difference between the mean score of environmental awareness on localie with special focus on conservation biology.

METHODOLOGY IN BRIEF
METHOD

Normative survey method was used in the study.

SAMPLE

In this study 100 secondary school students were selected as sample for survey.

TOOL USED

Tool used in the present study was an awareness test to find out the level of environmental awareness with special focus on conservation biology among secondary school students .The test consists of 50 multiple choice questions.

STATISTICAL TECHNIQUES USED

Data collected was analyzed using statistical techniques like percentage analysis, mean and standard deviation and test of significance of difference between means.

RESULT AND DISCUSSION

Required data were collected using environmental awareness test. The details of analysis are given below.

TABLE 1

COMPUTATION OF PERCENTAGE-WISE DISTRIBUTION OF THE SAMPLE BASED ON ENVIRONMENT AWARENESS WITH SPECIAL FOCUS ON CONSERVATION BIOLOGY AMONG SECONDARY SCHOOL STUDENTS (TOTAL SAMPLE)

LEVEL OF AWARENESS ON ENVIRONMENT	N	PERCENTAGE
low	12	12%
average	70	70%
high	18	18%
total	100	

From the analysis of the data it is clear that the number of students possessing low, average and high levels of awareness on environment with special focused on conservation biology is 12, 70, 18 and the corresponding percentages are 12%, 70%,18% respectively. This indicates that most of the secondary school students are at average level. The t-value was calculated to find out the influence of gender on awareness on environment with special focus on conservation biology .The girls have mean value 31.16 and boys have mean value 31.12. Standard deviation obtained for girls and boys were 7.85 and 7.34 respectively. The obtained t-value (0.0263) is not significant. The results indicate that there is no significant difference between boys and girls of secondary school students in their level of awareness on environment with special focus on conservation biology. So it can be concluded that gender has no influence on awareness of environment.

TABLE 2

TEST OF SIGNIFICANT DIFFERENCE BETWEEN THE ENVIRONMENTAL AWARENESS WITH SPECIAL FOCUS ON CONSERVATION BIOLOGY AMONG SECONDARY SCHOOL STUDENTS (BASED ON SUB SAMPLE : GENDER (BOYS, GIRLS)

Variable	Sample size	Mean	S.D	t
Boys	50	31.12	7.34	0.0263
Girls	50	31.16	7.85	Not significant

The t-value was calculated to find out the influence of gender on awareness on environment with special focus on conservation biology .The girls have mean value 31.16 and boys have mean value 31.12. Standard deviation obtained for girls and boys were 7.85 and 7.34 respectively. The obtained t-value (0.0263) is not significant. The results indicate that there is no significant difference between boys and girls of secondary school students in their level of awareness on environment with special focus on conservation biology .So it can be concluded that gender has no influence on awareness of environment.

TABLE 3

TEST OF SIGNIFICANT DIFFERENCE BETWEEN THE ENVIRONMENTAL AWARENESS WITH SPECIAL FOCUS ON CONSERVATION BIOLOGY AMONG SECONDARY SCHOOL STUDENTS (BASED ON SUB SAMPLE: LOCALE- URBAN, RURAL)

Variable	Sample size	Mean	S.D	t
Urban	50	26.5	7.6	3.07
Rural	50	31.4	7.9	Significant at 0.01 level

The t-value was calculated to find out the significance difference between mean score based on locale .The urban area secondary school students have mean value 26.5 and rural area secondary school students have mean value 31.4 standard deviation obtained for urban area and rural area were 7.6 and 7.9 respectively. The mean value indicate that rural area students have more awareness on environment compare to the urban area. The obtained t-value (3.07) is significant. The results indicate that there is a significant difference between the mean score of urban and rural area secondary school students in their level of environmental awareness with special focus on conservation biology.

FINDINGS OF THE STUDY

The major findings of the present study are:

- In the present study the investigator tried to find out the level of environmental awareness with special focus on conservation biology among secondary school. The results of the study show that most of the students possess average level of awareness on environment.

- It is also found that there is no significant difference in the mean awareness score on environment with respect to gender. That is the students possess almost equal awareness level on environment irrespective of gender.

- In the present study the investigator found that there is significant difference between the mean score of awareness on environment with special focus on conservation biology among secondary school students based on locale. Urban area students have less opportunity for interacting with environment. Teachers must encourage students to interact with the environment. They should give much attention to outside activities and to develop awareness on environment and sensitivity to the environment and its problems.

CONCLUSION

Still environmental degradation is a big challenge to universe. Conservation biology must be judged by its ability to preserve biological diversity. There are numerous benefits of preserving biodiversity on our planet. What is urgently needed is that this awareness of creating a more livable environment becomes as universal as possible, and as far as environmental awareness is concerned, the whole population should become responsive. Conservation biology is concerned with the protection of genes and species and their number in population, ecosystem or habitats. It is important to conserve numerous varieties of plants and animals. Conservation biology refers to the efforts to maintain or enhance biodiversity involving protection, uplift and scientific management at its optimum level in

order to derive sustainable benefit for the present as well as future.

This study reveals that most of the students possess average level of awareness on environment. Environmental awareness may provide power and understanding to take decisions individually and collectively and initiate actions for social, cultural, and economic survival, growth and development and for conservation of nature and natural resources. The students possess almost equal awareness level on environment irrespective of gender. Gender difference has no influence on the awareness level of the environment. But urban area secondary school student have less environmental awareness than rural area students. So teachers should help the students to develop and enrich the ability of observation, for discovering the environment. Teachers should facilitate the students to acquiring knowledge and various types of experiences of the environmental problems. The pupils have to be educated about the fact that if they are degrading their environment they are actually harming themselves and their future generation.

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SELF-REGULATED LEARNING OF HIGHER SECONDARY STUDENTS

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ABSTRACT

Self-regulated learning is a cognitive, motivational and contextual element. Self-regulated learning is essential for the higher secondary students to plan, control and evaluate their cognitive, motivational, effective, behavioral or contextual process towards the academic achievement. In this study, the investigators made an attempt to study the self-regulated learning of higher secondary students in Kanniyakumari district. The objectives of the study were to find out the level of self-regulated learning of higher secondary students and to find out whether there is any significant difference in the self-regulated learning of higher secondary students with respect to their sex, locale of the school and the medium of instruction. Normative Survey method was adopted for the present study. The sample consisted of higher secondary students studying class XI of various higher secondary schools in Kanniyakumari district. Using random sample technique, the investigator selected a sample of 400 class XI students. The findings revealed that the majority of the higher secondary students had average level of self-regulated learning. It was also found that significant difference existed in the mean scores of self regulated learning of male and female, Tamil and English medium higher secondary students. But there is no significant difference between the urban and rural higher secondary students in their self-regulated learning.

INTRODUCTION

Self-regulated learning refers to the learning in which students are independent, self initiative and self monitor one's own learning. Self-regulated learning results in higher learning outcomes. Self-regulated learners are self motivated to achieve their set goals. It enables them to develop a set of constructive behaviors that can positively affect their learning.

Zimmerman (2001) defines self-regulated learning as the degree to which students are metacognitively, motivationally and behaviorally active in their own learning processes. Self-regulation is essential one to the learning processes (Jarvela & Jarvenoja, 2011; Zimmerman, 2008). It helps the students to create better learning habits and strengthen their study skills (Wolters, 2011). It applies various learning strategies to enhance academic outcomes and monitor their performance (Harris et al, 2005) and evaluate their academic progress (De Bruin, Thuide & Camp, 2011). Self-regulated learning is a cognitive, motivational and contextual element.

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Self-regulated learning is an essential aspect for the higher secondary students who have learned to plan, control and evaluate their cognitive, motivational, effective, behavioral or contextual process towards the academic achievement.

NEED AND SIGNIFICANCE OF THE STUDY

Self-regulated learning is an important aspect of students learning and academic achievement in the classroom context. Self-regulated learning includes student's metacognitive strategies of planning, monitoring and modifying their cognition. It is a process through which students activate and sustain cognition, behavior that would help a student to attain the goals. The importance of self-regulated learning lies in providing students with successful experience in order to enhance their intrinsic motivation and promote their self-regulation ability (Boekaerts, Pintrich & Zeidner, 2000).

OBJECTIVES

1. To study the level of self-regulated learning of higher secondary school students.
2. To study whether there exists any significant difference in the mean scores of self-regulated learning of higher secondary school students with respect to Gender, Locale of the school and Medium of Instruction.

HYPOTHESIS

There exists no significant difference in the mean scores of self-regulated learning of higher secondary students with respect to their Gender, Locale of the school and Medium of Instruction.

METHODOLOGY IN BRIEF

METHOD

Normative Survey Method was adopted for this study.

SAMPLE

The sample for the study consisted of higher secondary students studying in the class XI of various higher secondary schools in Kanniyakumari district following state board syllabus during the academic year 2015-2016. The sample size of the study is limited to 400 higher secondary school students. Simple random sampling technique is used for collecting the data.

TOOL USED

Self-regulated Learning Questionnaire (Sreedevi and Deepa, 2016)

STATISTICAL TECHNIQUES USED

For analyzing the data, the statistical techniques such as percentage, mean, standard deviation and t test were used.

RESULT AND DISCUSSION

TABLE 1

PERCENTAGE WISE DISTRIBUTION OF DIFFERENT LEVELS OF SELF-REGULATED LEARNING

Self-Regulated Learning	Count	Percent
Low	66	16.50
Medium	266	66.50
High	68	17.00
Total	400	100.00

From the table-1 it is clear that, 16.50 percent of higher secondary students show low level of self-regulated learning, 66.50 percent show medium level of self-regulated learning, and 17.00 percent show high level of self-regulated learning. This indicates that the most of the higher secondary students have medium level of self-regulated learning.

TABLE 2

COMPARISON OF SELF-REGULATED LEARNING OF MALE AND FEMALE

HIGHER SECONDARY STUDENTS

Gender	Mean	SD	N	t	p	Remark
Male	76.45	9.59	183	3.322	0.001	*Sig. at 0.01 level*
Female	79.46	8.31	217			

From the table-2 it is clear that the calculated 't' value (t=3.32, p< 0.01) is significant at 0.01 level of significance. The mean scores of female higher secondary students is found to be 79.46 which is higher than that of male higher secondary students whose mean score is 76.45. Therefore the null hypothesis is rejected. Hence it can be stated that female higher secondary students are higher in their self-regulated learning technique than the male higher secondary students.

TABLE 3

COMPARISON OF SELF-REGULATED LEARNING OF RURAL AND URBAN

HIGHER SECONDARY STUDENTS

Locality of school	Mean	SD	N	t	P	Remark
Rural	77.74	8.46	171	0.667	0.505	*NS*
Urban	78.34	9.45	229			

From the table-3 it is clear that the calculated 't' value (t=0.667, p>0.05) is not statistically significant. Therefore the null hypothesis is accepted. Hence it can be said that rural and urban higher secondary students do not differ significantly in their self-regulated learning.

TABLE 4

COMPARISON OF SELF-REGULATED LEARNING OF TAMIL AND ENGLISH

MEDIUM HIGHER SECONDARY STUDENTS

Medium of Instruction	Mean	SD	N	t	P	Remark
Tamil	76.46	8.17	85	2.005	0.05	*Sig. at 0.05 level*
English	78.52	9.22	315			

From the above table-4, the calculated t value is 2.005, p<0.05 and it is significant at 0.05 level. The mean scores of higher secondary students of English medium is found to be 78.52 which is higher than that of higher secondary students of Tamil medium which is 76.46.Therefore the null hypothesis is rejected. Hence it can be said that the English medium higher secondary students have high self-regulated learning than the Tamil medium higher secondary students.

FINDINGS

1. Majority of the higher secondary students possess moderate level of self-regulated learning.
2. Sex and Medium of Instruction have significant influence on self-regulated learning of higher secondary students.
3. Female higher secondary students possess more self-regulated learning than the male higher secondary students.
4. English medium higher secondary students possess more self-regulated learning than the Tamil medium higher secondary students**.**
5. There is no significant difference in the self-regulated learning of urban and rural higher secondary students.

IMPLICATIONS

The study revealed that the majority of the higher secondary students in KanniyaKumari district possess moderate level of self-regulated learning. Measures should be taken to improve the self-regulated learning of higher secondary students.

The teachers can design open-ended instructional activities and scaffold assistance for student inquiry. Teachers can make their students engage in self-regulated learning practices, real support and provision for opportunities for the implementation of their knowledge. To develop self-regulated learning among the students, the teachers should provide some strategies namely Self-Assessment, Wrapper Activity, Think Aloud, Questioning and Reciprocal Teaching.

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SCHOOL ENVIRONMENT OF HIGH SCHOOL STUDENTS

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ABSTRACT

In this study, the investigator made an attempt to investigate the school environment of high school students. The objectives were to study the level of school environment of high school students as perceived by them and to find out whether there is any significant difference in the mean scores of school environment of high school students with respect to the background variables like gender, locale of the school, religion and medium of instruction. Normative Survey method was adopted for the present study. The sample for the study consisted of 400 high school students. The study revealed that the high school students have moderate level of perception towards school environment. It was also found that gender, locale of the school and religion has influence on the School environment. Medium of instruction of the students did not have any influence on school environment of high school students As the role of school on students' academic performance is derived from a student's individual perception, positive perceptions about school environment can have a positive effect on the overall academic success of students.

INTRODUCTION

Education is a dynamic process in the life of an individual influencing his physical, mental, emotional and social development. Education depends on the environment one is exposed to. So the environment provides the network of forces and factors which make the individual learn new things.

School provides important experiences in the process of child's growth and development. School environment refers to those forces in the environment of a learner which have the potentiality to contribute to academic achievement of the learner. School can be regarded as the most significant and comprehensive formal agency of education.

School is considered as a happy place for students as they get involved in many wholesome educational experiences. In order to maintain this type of environment, each individual must act in a responsible manner. If the school environment is conducive then there will be effective learning. The conditions of school facilities have an important impact on student performance by developing the ability to meet challenges. Learning is dependent on experience and largely determined by the nature of the learner's environment.

NEED AND SIGNIFICANCE OF THE STUDY

School environment by way of large classes and emphasis on memorization may restrict the movement of the child towards creative activities.

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Scholastic achievement and intellectual growth depends to a large extent on school environment. A healthy school environment can directly improve students health, learning outcome, skilled and productive activities. The environment of school supports learning and also focuses on the behavior of students. Feeling safe socially, intellectually and physically is a fundamental need. Feeling safe in school powerfully promotes student learning and healthy development.

School environment implies a measure of the quality and quantity of the cognitive, creative and social support that has been available to the subjects during their school life in terms of teacher pupil interaction.

As student perceptions of school events, teacher expectations, and student-teacher interactions impact their academic achievement, the investigator has selected the problem due to its relevance and need in the present global scenario.

Environmental factors have a desirable impact on the physical, social, emotional, intellectual, moral and aesthetic development of an individual. The present study is an attempt to investigate the level of perception of school environment and to compare the school environment with regard to certain selected back ground variables.

OBJECTIVES

1. To study the school environment of higher secondary students.
2. To find out whether there is any significant difference in the mean scores of school environment of high school students with respect to the background variables - gender, locale of the school, religion, and medium of instruction.

HYPOTHESES

1. There exists no significant difference in the mean scores of school environment of male and female high school students.
2. There exists no significant difference in the mean scores of school environment of urban and rural high school students.
3. There exists no significant difference in the mean scores of school environment of Hindu, Christian and Muslim high school students.
4. There exists no significant difference in the mean scores of school environment of Tamil and English medium high school students.

METHODOLOGY IN BRIEF

METHOD

Normative survey method was adopted for this study.

SAMPLE

The present study was conducted on a sample of 400 high school students studying in different schools of Kanniyakumari district.

TOOL USED

School environment scale constructed and validated by the investigator.

STATISTICAL TECHNIQUES USED

Arithmetic mean, Standard Deviation, t test and ANOVA were used for the analysis of data.

RESULTS AND DISCUSSION

TABLE 1

SCHOOL ENVIRONMENT SCORES OF HIGH SCHOOL STUDENTS

N	Mean	S.D
400	153.07	19.63

From the above table-1, the arithmetic mean was found to be 153.07 out of a total of 400. This shows that the high school students have moderate level of perception towards their school environment.

TABLE 2

COMPARISON OF SCHOOL ENVIRONMENT OF MALE AND FEMALE HIGH

SCHOOL STUDENTS

Sex	Mean	S.D	N	t-value	P-value	Level of Significance
Male	146.46	18.81	245	9.668	0.000	Significant at 0.01 level
Female	163.51	16.07	155			

The calculated 't' value (t-9.668 p<0.001) is significant at 0.01 level of significance. Therefore the null hypothesis is rejected. There is significant difference in the mean scores of school environment of high school students based on gender. This study shows girls have a better perception of school environment than boys.

TABLE 3

COMPARISON OF SCHOOL ENVIRONMENT OF RURAL AND URBAN HIGH

SCHOOL STUDENTS

Locale	Mean	S.D	N	t-value	P-value	Level of Significance
Rural	158.42	16.12	171	5.031	0.000	Significant at 0.01 level
Urban	149.07	21.05	229			

The calculated value (t-5.031 p<0.001) is significant at 0.01 level of significance. Therefore the null hypothesis is rejected. Hence there is a significant difference in the mean scores of school environment of high school students based on locale of the school.

TABLE 4

COMPARISON OF SCHOOL ENVIRONMENT OF HIGH SCHOOL STUDENTS

BASED ON RELIGION

Religion	Mean	SD	Source	Sum of Squares	df	Mean Square	F	p	Remark
Hindu	149.86	20.46	Between Gp	4545.25	2	2272.62	6.048	0.003	Sig. at 0.01 level
Christian	156.84	18.51	Within Gp	149179.06	397	375.77			
Muslim	155.55	16.56	Total	153724.31	399				

The obtained F value (F-6.048) is significant at 0.01 level. This indicates that there is significant difference in the school environment of high school students belonging to different religions. So it can be concluded that religion has significant influence on the perception of School environment of high school students.

TABLE 5

COMPARISON OF SCHOOL ENVIRONMENT SCORES OF HIGH SCHOOL

STUDENTS BASED ON MEDIUM OF INSTRUCTION

Medium of instruction	Mean	SD	N	t	p	Remark
Tamil	154.88	19.54	98	1.055	0.29	NS
English	152.48	19.65	302			

The calculated value (t-1.005, p>0.005) is not significant at any level. This result indicates that there is no significant difference in the school environment of high school students belonging to Tamil and English medium schools. The school environment of high school students is not influenced by the medium of instruction.

MAJOR FINDINGS

1. The high school students have moderate level of perception towards their school environment.
2. Gender, locale of the school and religion have significant influence on the School environment of high school students.
3. Medium of instruction has no influence on the school environment of high school students.

CONCLUSION

The study revealed that the high school students have moderate level of perception towards their school environment. Gender, locale of the school and religion has influence on the School environment of high school students. Medium of instruction has no influence on the school environment of high school students. There are a number of practices that can improve the school environment to achieve the development of the students namely; group discussions in the classroom, self-learning practices in the educational process and specific scientific practices. Teacher can also give freedom to the students by encouraging them to ask questions, providing them the opportunity to exercise constructive criticism, rewarding responses and giving due attention to the doubts of the students. Students who experience a caring atmosphere consistently become more motivated, ambitious, and show eagerness to learning. Their positive feelings with teachers and their perceptions that teachers take care of them stimulate greatly for their success.

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ARABIC EDUCATION IN KERALA: HISTORY AND FUTURE

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ABSTRACT

Arabic is an important language in the modern era with a classical heritage. Its lineage in the Indian peninsula, especially in Kerala started very early in the history as a result of commercial relationship between India and Arabia. This led to the spread of Arabian language among the Muslims in Kerala which in turn acted as a catalyst for taking interest in Arabic education. This paper probes into the historical development of Arabic Education in Kerala as well as its relevance in future. Starting from 'Dharses' to Madrassas and then to the public education system, Arabic Language Teaching and Instruction has an exponential growth in its reach and acceptance. The progress of Arabic Education in Kerala cannot be described without mentioning the contributions of Moulana Chalilakath Kunhahmmed Haji, Vakkam Abdul QaderMoulavi, King Shree MoolamThirunal and C.H. MuhammedKoya at different times in the history. At present Arabic language can be studied from primary level to the doctoral level in Kerala. Arabic language teaching has also attracted many people into the teaching profession. And the Arabic teachers' organizations in Kerala relentlessly work towards promoting the language. Both pre-service and in-service teacher training programmes for Arabic language teachers are also offered in Kerala. Monitoring bodies are functioning systematically for the qualitative development of Arabic Education in the state. Since Arabic education incorporates the modern trends in the Information and Communication Technologies, it helps in getting career opportunities for many in the Gulf countries irrespective of their religion, caste or nationality.

Further arabic is a popular modern living language with a great classical heritage. It is the language spoken by 150 million people and is one of the working languages of the world body - United Nations and the official language of 24 nations.

INDO-ARAB RELATIONS

The extensive cost and availability of spices attracted foreign merchants to the coast of Kerala from very early times. Historians are unanimous that Kerala had maritime relation with the Arabs since very early times. The famous Indian Historian Sardar K.M Paniker says that 'from very early times Kerala had been in contact with the Arabian coast and those traders especially from Mascot and other centers of the Arabian Peninsula used to visit frequently the Malabar ports'.

Arab thus had an ancient relation with Kerala coast and through this relation Arabic language reached our country. Dr. Thara Chand opined that in 636 AD the first Arabian ship had voyaged in the

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Indian Ocean. There is historical record for the Arabs in Kerala, during the time of king Solomon himself, and it was there even before the time of Prophet Mohammed.

OBJECTIVE

To study the development of Arabic Education in Kerala.

METHODOLOGY

The study was conducted on the basis of qualitative analysis of data. The purpose of research was to know the development of Arabic Education in Kerala in the present scenario. Arabic Education in Colleges and Universities, Role of Arabic Teachers Organizations and the importance of Teacher Education Institutions in this regard was analysed.

TOOLS AND TECHNIQUES USED

Document analysis, informal discussion with Arabic teachers and administraters and unstructured interview schedule for the teachers were the tools and techniques used for the research.

The documents kept in various institutions were used to analyse information related to the study. Informal discussion with Arabic teachers and administrators and interview with teachers were also conducted to supplement the information collected through various means. The data collected were consolidated, and presented under various heads.

THE DEVELOPMENT OF ARABIC EDUCATION IN KERALA

In no other state of India, Arabic is studied and taught widely as in Kerala. It is a well known historical fact that the Arabs had commercial relations with Kerala coast. Through this relation Keralites learned Arabic language. In early times there were no schools and colleges for teaching Arabic in Kerala. Mosques were the only centers where Arabic was taught. The religious classes inside the mosque were called "Dhars"-Dhars system is a unique feature of Kerala, the most prominent and renowned of all the 'Dharses' in Kerala was that of the big Juma Masjid at Ponnani in Malabar. Later 'Madrasa movement' in Kerala was founded by Moulana Chalilakath Kunhahmmed Haji who is rightly called the 'father of Modern Arabic Madrasas'. ThanmiyathulUloomMadrasa, was the first institution established in 1871 in this field. During this period hundreds of 'Madrasas' and 'Dhars' were formed for teaching Arabic.

In the beginning Arabic language learning started in Kerala to attract the Muslim communities, who had been left behind due to historical reasons, to the public education sector. As a result of the representation made by the great scholar and freedom fighter Vakkam Abdul Qader Moulavi the renaissance of Arabic and Islamic education started. King Shree MoolamThirunal permitted to commence Arabic language Education in Govt. school in 1912. The government started to appoint Quran teachers and Arabic teachers in the primary and High school level in 1918. A 'Mohammadan Inspector' was appointed to supervise the Arabic education in schools. By 1935 this post was renamed as Inspector for Muslim Education (IME).

In 1904 some Othupally teachers of Malabar were appointed as Arabic language teachers. In 1920, as a result of the representation made by 'Cochin Muslim VidhyabhyasaSangham' to the then Divan Mr. VijayaRaghavachari, Government appointed the trained teachers in some of the schools of Cochin. When in Malabar Arabic education was given in high school, in Thiruvidhamkoor prominence to Arabic education was given at primary level. Since 1958, primary school Arabic language learning was started in Malabar. Thus 1970 witnessed 07 regional/ district wise Inspectors for Muslim Education and 03 Women Inspectors for Muslim Girls Education (WIMGE) for handling Muslim Girls Education. Govenment of Thiruvidhamkoor started a qualifying examination, "Arabic Munshees Examination"for the

selection and appointment of Arabic Teachers. Wide spread teacher appoinments were done in Kerala by 1970s in Government and Aided sectors. In 1975 "Arabic Special Officer" (ASO) post was created for monitoring the activities of IME and WIMGE.

Thus Arabic language learning originated through Quran teachers and Othupally teachers reached its sublimes. With more than 6000 schools and 09 thousands of teachers, with all the facilities, and 12 lakhs of learners, in and out are qualifying through Public Education system.

ARABIC EDUCATION - PRESENT SCENARIO

In 1967 the education minister of Kerala, C.H. MuhammedKoya approved an order for equalizing Specialist Arabic Teachers of Kerala as language teachers of the schools. By that, Arabic language attained a sound recognition and status in society.

The state government is providing all facilities for Arabic teaching in schools up to University/ Doctoral levels. Arabic is taught in regular high schools as an alternative language under Part A of the language group for the SSLC Public Examination. There are few Arabic Oriental High Schools which give more emphasis on Arabic by teaching in both part A and B of the language group. Lakhs of students are learning Arabic now in primary, secondary and at university level.

ARABIC EDUCATION IN COLLEGES AND UNIVERSITIES

Before independence Arabic was introduced in a few colleges of Kerala affiliated to Madras University. Arabic education is taught at graduate and post graduate level in different affiliated Arts & Science colleges of Kerala.

After the formation of Kerala state great progress and development was achieved in the field of Arabic education. Arabic language is taught in High school, Higher secondary, College and University level. Apart from that, it is offered as one of the optional subjects in Plus Two, Degree and Post Graduate Courses. At present there are more than 45 Colleges in Kerala which provide for Arabic education in various courses. AfsalulUlama and Post AfsalulUlama of Universities of Kerala are promoting Arabic Education in their affiliated Institutions. Above all, Arabic is taught as a second language and main language for graduate courses of different universities. In the university level, M.A., M.Phil., Ph.D. courses and some of the professional courses like B.Ed, M.Ed, D.EL.Ed etc have also included Arabic language in their courses.

There are a number of teachers training colleges both Govenrment and private sector under Kannur, Calicut, Mahatma Gandhi, Sri Sankaracharya and Kerala universities that also offer B.Ed, BLEd, M.Ed in Arabic. In addition to this, there are many Teacher Education Centres of the different Universities of Kerala also have Arabic for their B.Ed and M.Ed Courses.

In addition to these, M.A, M.Phil and Ph.D programmes in Arabic language and Literature, these departments are offering a lot of Certificate, Diploma and Post Graduate Diploma Courses promoting job opportunities in India and abroad. The knowledge of practical and functional use of Arabic language enable them achieve or secure high level jobs outside the country.

1) Diploma in Commercial Arabic (with Arabic type writing)
2) Diploma in Functional Arabic
3) Postgraduate Diploma in Translation and SecretarialPractice in Arabic.
4) Certificate Course in Spoken Arabic.
   Now the university of Calicut has introduced the computer application in their syllabus of M.A. Arabic Course. More than that, "Arabic teacher examination" a certificate course is also conducted by Kerala government.

ROLE OF ARABIC TEACHERS ORGANIZATION

The role of Arabic Teachers Organization is promotive and facilitative in the development, growth, and spread of Arabic teaching and learning, throughout the state. The first Arabic teachers organization was Travancore Cochin Arabic Munshies Association (TCAMA) founded in 1952, and renamed as Kerala Arabic Munshies Association in 1980 recognized by the government of Kerala in 1954. Another Organization of Arabic teachers was Arabic Pundit Union established in 1957, renamed as Kerala Arabic Teacher Federation (KATF) in 1959. It was recognized by the Kerala Government in1953. The Kerala Arabic Literary Academy (KALA) was established in 2004 to promote Arabic language and literature among the well wishers of Arabic language and literature. Both these teachers organizations are actively functioning not only for the development of Arabic language and language education but also for the welfare of Arabic teachers. These organizations, aimed to promote Arabic language and literary developments, conduct various activities like conferences, literary publications, training programmes, literary competitions, language acquisition programmes and language seminars. These teachers' organizations have brought out a lot of noticeable activities towards public education sector during the last decade. For giving guidelines and developing strategies to academicians and teachers, these organizations conduct many academic complexes and academic councils. As a part of uplifting the research skills of Arabic teachers of Kerala "Academic Reference Journals" are published and distributed to the whole of Kerala periodically.

IMPORTANCE OF TEACHER EDUCATION INSTITUTIONS

Training Programmes are essential for effective utilization of human resource in a particular area/ field. In the field of teaching, a perfect training is essential for improving the teaching skills in a meaningful manner. Frame work of Teacher Training Course is well designed with high quality. Generally there are two types of training programmes. They are; Pre-Service Training Courses/ Programmes and In-Service Training Courses/Programmes.

PRE-SERVICE TRAINING COURSES / PROGRAMMES

Arabic has been included in the B.Ed course also. There are a number of Teacher Training Colleges both in Govt., Aided and Self Financing Sector under different Universities which offer B.Ed Programmes in Arabic. In addition to this there are many Teachers Training Institutes (TTI) in which Arabic is included in the D.EL.Ed.

IN-SERVICE TRAINING COURSES/ PROGRAMMES

Training is given in various fields. In the field of education it is to familiarize the text books, various methods of teaching, different types of learner activities such as project, seminars, debate, evaluation techniques, grading system so as to improve the skills and the professional competencies of the facilitators or teachers. These orientations are on the basis of requirements and are given by the Department of Education on a regular basis.

There are several types of in-service programmes based on course duration and objectivity. Training is given by various organizations such as

1. State Level Training given by QIP / Arabic Unit of DPI
2. State Level Training given by the State Council for Educational Research and Training (SCERT)
3. District Level Training given by the District Institute for Education and Training (DIET)
4. Training given by District Primary Education Program (DPEP)
5. Training given by SarvaSikshaAbhiyan (SSA)
6. Block / Sub District Level Training by Block Project Officer (BPO)
7. Panchayath Level Training given by Cluster Resource Centre (CRC)

8. One Day Training of "Arabic Teachers Academic Complex" and "Academic Council sponsored by DPI (ASO/IME).

SUPERVISION, INSPECTION AND MONITORING SYSTEM

At present, the following posts have been created by DPI and are functioning systematically for the qualitative development of Arabic Education in the state.

1. Arabic Special Officer (ASO)
2. Inspector for Muslim Education (IME)
3. Women Inspector For Muslim Girls Education (WIMGE)

CURRICULAR INPUT THROUGH VARIOUS COURSES

All educational plans are mainly based on four pillars of Education . A clear philosophy related to educational objectives, syllabi fulfilling these objectives, and learning experience suitable to these objectives and philosophy, are these four factors. All creative educational systems are co-related to these four factors with each other.

Various education commissions put forward their own opinions and suggestions about aims and objectives of education. In 1964-66 Kothari in this report put forward many suggestions to the overall development of educational field. "Education for Liberation" is the most popular dictum and the schools, being social institutions, should reflect on it. Educational process, must be helpful for understanding the social problem and should be able to remedy this liberation, through awareness.

In the modern era, personality development, being cardinal can uplift the values, thereby the aim of education can be achieved. Also by finding out the inherent potentialities of individuals and they can be utilized well for the welfare of the society. To fulfill these objectives, parents and the surroundings are to be linked along with the activities of the school. Our curriculum also has a great role in promoting moral and ethical values. Reformation in education is visible by providing such value-based education.

In the present educational field emphasis is on scientific, economic and philosophical principles. Thus moral and ethical values are neglected and education is influenced greatly by economy. Truly our education envisages a society with integrity and moral and ethical values with due respect to all categories of people.

FUTURE PLANS/ STRATEGIES

Arabic language has a good future in Kerala. Job opportunities in gulf countries greatly attract many to learn Arabic language. As a career wonderful opportunities are awaiting the Arabic language learners. Therefore attraction towards Arabic education is increasing day by day. Even the universities of Europe, America, Japan, China and Chorea have started Arabic language education by understanding the great opportunities in the present economic context.

Due to globalization active and fresh economic and commercial marketings of Arabs created a lot of job opportunities. In the field of Arabic English-Translation, many opportunities are arising. In gulf countries, for those who are efficient both in Arabic and English language along with Information Technology can easily acquire high salaried jobs in reputed companies. Therefore our state government should give proper attention to the emigrants of gulf countries, as 75% of them belong to Kerala State. If the job seekers of Kerala in gulf countries have a good knowledge in spoken Arabic language, our state would have received a huge amount of foreign currency.

This being a main source of income that is foreign currency, our government should take necessary actions for empowering the migrants. By establishing Arabic universities and academics in Kerala, we can find a solution to minimize the ignorance of Arabic language among the migrants of Kerala. If we can provide some short courses

like "Spoken Functional and Commercial Arabic Courses" along with the existing university courses, it will be an asset to emigrants and thereby the percapita income of our country can also be increased. It is high time that the whole of Keralites must think of opening an "Arabic University" in Kerala and thereby we can change the shape of our state. It will also be a milestone in the history of Indian emigrants, and in the history of Indian Universities.

CONCLUSION

1. Arabic teachers attained the status of language teachers as against the prior practice which categorized them as special teachers.
2. At present 6 universities and more than 40 colleges in Kerala are providing Arabic education.
3. For high school assistants (Arabic) there are two types of pre-service training programmes:
   a. B.Ed (Bachelor of Education) and
   b. D.L.Ed (Diploma in language education)
4. In Kerala there are 24 Institutions for imparting teacher education in Arabic. Among them 05 are in Govt. sector, 01 is in aided sector, 12 are in unaided sector and 06 University centers.

To sum up the study, Arabic education now occupies a prominent place in the General Education setup of Kerala. Teachers, students and lovers of Arabic language are proud of this achievement. Government Colleges of Teacher Education has taken active role in imparting and familiarizing new innovations in classroom interaction, pedagogy and various processes involved in teaching and learning. The government colleges can be treated as a nodal agency and centre of excellence in equipping all Arabic teachers in Kerala. Opportunities can be given to teachers for participating in workshops, seminars, conferences, so that they are enabled to take part in various academic deliberations at higher level and implement the curricular and co-curricular components in an effective manner in their institutions.

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