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Dr.C. Thanavathi is working as an Assistant Professor in History at V.O.C. College of Education, Thoothukudi, Tamilnadu since 2008. She has guided 3 M.Phil. scholars and 10 M.Ed. scholars. She has completed ICSSR, New Delhi major project in 2014 doing a Major Research Project of NCERT-ERIC, New Delhi and has applied for so many research projects. She has written 27 research articles at state, national, international level peer reviewed and impact journals. She has presented 76 papers in state, national and international seminars, workshops and conferences. She wrote 3 B.Ed., and 8 M.Ed., subject books. Her chapters were published in 7 different edited books. She was received 4 national and 7 international awards for her outstanding achievements. She is having 13 Life Time Membership, Review Membership and Editorial Board Membership in various research journals. She organized NET/SET and TET Coaching class. She is working as Statistical Packages of Social Sciences (SPSS) Tutor. Participate in B.Ed., and M.Ed., Theory and Practical Examiner of TNTEU, Chennai. She acted as a Resource Person of various Competitions and Camp Programmes in Schools and Colleges. She is one of the in charge of Placement Officer and she is one of the members of Research Advisory Committee. She is one of the in charges of Website Committee and Technical committee member of a Research Journal 'EDUREACH' of V.O.C.College of Education. She is a Faculty member of IQAC, NAAC Committee of V.O.C.College of Education from June 2019. She has more technical skills and using social media in her teaching and learning. The students of our college have got more placements in various institutions by her guidance and counseling. She has a very good knowledge about research and computer. She has rendered her service as the counselor and resource person in different platforms for various services. Her contributions to research are very remarkable and valuable one. She is trust worthy and can be shouldered any responsibility. She is an asset to the institution in which he is working.

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ADVANCED EDUCATIONAL RESEARCH AND STATISTICS

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This Edited book is intended to explore the [illegible] generation. This book is edited according to base on the online learning platform for future. This edited book contains many relevant issues in learning situation in digital era and new strategies for learning and problem solving. Therefore, differs in a very qualitative way from many other books available on the same content. All suggestions and reports of findings from Professors, Researchers, teacher educators and the student teachers will be acknowledged in this edited book.

I am also grateful for the help and encouragement of Krishna Publication House, Gujarat.

Editor
Chetan J. Bhal

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Chapter – 17

DIGITAL LEARNING STYLES AND SELF-EFFICACY OF PRE-SERVICE TEACHERS

Dr. R. Selvamathi sugirtha & Mrs.S.Gomathi
Sri sarada college of education for women,salem.

Abstract

Digital learning style is take vital role in the teaching and learning process of all level. Learning is very easy with digital learning. It will increase the memory level also. The learning style of visual, auditory, kinesthetic also very useful in the self-learning process.vak learning styles in MOOC shows the clear idea of learning styles. The knowledge of digital learning style will be increase the individuals self-efficacy .Because now a days, digital world knowledge give and feel digital India, digital world. we are eligible in the current world. The teaching of smart class in the classroom, and COVID-19 pandemic Mobile app learning also need the knowledge of digital learning. The aspects of the digital learning knowledge directly or indirectly increase the self-efficacy of individual in all levels. This present research is an attempt to investigate the fruitful relationship between the digital learning and self-efficacy upon the Pre-service teachers. The data for this study will be gathered from a sample of 500 Pre-service teachers from different colleges in Salem District. The researcher planned to adapt normative survey method.

****

Introduction

During the past few years, world has witnessed a phenomenal growth in online technology. Technology is ubiquitous, touching almost every part of our lives, and education system also. Properly used technology will help the learners acquire the skills they need to survive in a complex, highly technological knowledge-based economy. Online integrating into digital learning will give more benefits to all the ways. In particular, it must support three key components of learning styles: visual, auditory, kinesthetic. Effective technology integration is achieved when the use of technology is routine and transparent and when technology supports integrating

digital learning goals. Self-efficacy is an individual's judgments about his or her ability to execute particular behaviours (Bandura 1978) ,Self-efficacy theory is an important component of Banduras (1986) general social cognitive theory which suggests that an individual behavioural, environmental and cognitive factors (i.e., outcome expectations and self-efficacy are highly inter-related. vicarious experience which is gained by observing others perform successfully. This can generate expectations in observers so that they improve their performance bylearning from what they have observed (Bandura 1978;Giss and Mitchell 1992).Pre-service teaching is a period of guided, supervised teaching. The student teacher is gradually introduced into the teaching role by a or cooperating teacher. The student teacher begins as an observer and finishes the pre-service teaching experience as a component of professional.

Need and Significance of the Study

Present students are the future citizen,aswell as present pre-service teachers are the future teachers. So the pre-service teachers digital learning styles and self-efficacy are more important for the pre-service teachers.

Scope of the Study

All the level of students are like digital learning styles. Teaching and learning process is very easy in the learning styles, at the same time ability of pre-service teachers are increased in all aspects.

Statement of the Problem

The present problem for the investigation is stated as follows "digital learning styles and self-efficacy of Pre-Service Teachers".

Operational Definitions

1.digital learning styles:Learning with electronic device is called digital learning. Individual difference of learning process is learning style like visual, auditory, kinesthetic, etc.,

2.self-efficacy: Self-efficacy is an individual's judgments about his or her ability to execute particular behaviours (Bandura 1978) .

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significant difference between the mean scores of different groups of variables.

Major Findings of the Study

The level of digital learning styles among Pre-service Teachers are Moderate.The level of self-efficacy among Pre-service Teachers are Moderate.

There is no association between gender differences and the digital learning styles of pre-service teachers. There is association between marital status differences and the digital learning styles of pre-service teachers. There is association between the educational qualification differences and the digital learning styles of pre-service teachers. There is association between the family differences digital learning styles of pre-service teachers. There is association between the locality differences and the digital learning styles of pre-service teacher. There is association between the type of religion, the digital learning styles of pre-service teacher. There is no association between the type of management differences and the digital learning styles of pre-service teachers.

The mean difference in self-efficacy scores of pre-service teachers based on gender was significant at 0.05 level. The mean score obtained for female teachers were found to be higher than male pre-service teachers. It shows that female teachers exhibit better self-efficacy than male teachers. The mean difference in self-efficacy scores of pre-service teachers in urban were found to be higher than those in rural schools. It shows that pre-service teachers in urban exhibit better self-efficacy than pre-service teachers rural. The mean difference in management was significant at 0.05level.self-finance pre-service teachers were found to posses better self-efficacy.

There is no correlation between digital learning styles and self-efficacy of Pre-service Teachers.

Correlation for Digital Learning Styles and Self-Efficacy of Pre-Service Teachers

VARIABLES	Digital learningstyles	Self-efficacy
Digital learning styles	1	
Self-efficacy	-0.02	1

NS- Not Significant

"Table value of r for df at 1% level is 0.105.

From the table it is noticed that the variables of digital learning styles and self-efficacy of pre-service teachers. There is Not significant negative correlation between digital learning styles and self-efficacy of pre-service teachers.

Discussions of the Study

Kolekar, S. V., Pai, R. M., & MM, M. P. (2018) made study on Adaptive user interface for Moodle based e-Learning system using learning styles Education is the process of facilitating learning, or the acquisition of skills, knowledge, values, beliefs, and habits. With the development of technology, educators and learners are moving towards E-Learning applications. These E-Learning applications are open source applications that have their own advantages and disadvantages. By modifying these applications as per their needs educational institutions can adopt them such that the students are guided constantly even outside their classrooms. The paper presents the approach to identify the learning styles for adaptation as pe Felder Silverman Learning Style Model (FSLSM). An e-learning application developed using Moodle framework with the functionality to capture the usage data of learners. The usage data is used to cluster the learners as per learning categories of FSLSM. The customization is provided on the portal by generating the adaptive user interface for each learner based on learning style of FSLSM. The adaptation of system is validated using statistical analysis and the impact of adaptation on the learning has been identified.

Direito, I., Pereira, A., & de Oliveira Duarte, A. M. (2012) conducted a study on Engineering undergraduates' perceptions of soft skills: Relations with self-efficacy and learning styles Engineering education literature shares a consensual vision of the importance of soft skills for every workplace. However, undergraduates may not be aware of soft skills importance for their future employment and professional development. This research examines how undergraduates rate their current proficiency in a range of soft skills, and how do they perceive its importance for future employment. It also explores relations between proficiency in soft skills and self-efficacy, a variable strongly associated with competent performance,

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and learning styles, in order to identify practical implications for the design of more effective skills development programs.

Educational Implications of the Study

From VI to X making a exhibition for album of historical places,with the help of digital learning styles it will increase the innovative ability. Home works and test evaluation all are maintain by the digital works. Mobile app decrease the book weights. Conduct the seminar in college level increase the digital usage.

Suggestions of the Study

The present study was carried out in Salem district only. It can be extended all over the Tamil Nadu state. The present study was confined to pre-service teachers. It may be extended to the teachers working at all level, and try to get the data from students level also. The present study use the survey method but after that do it observation method also.

Conclusion

Now a day's technology usage is increased. So individual self-learning knowledge also increased. But self-efficacy based education with learning styles increase only by the support of digital usage. So everyone should respect our own knowledge of digital learning. Because it wil increase your self-efficacy.

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LEARNING STYLES OF PRE-SERVICE TEACHERS IN SALEM DISTRICT

Mrs.S.GOMATHI,
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Sri Sarada College of Education for Women,
Salem-16.

INTRODUCTION

Learning is a continuous process, never to end this process, but the style of process differs from one to another person. In particular visual, auditory, kinesthetic these are directly linked to sense organs and improve the learning interest and memory power also. Pre-service teachers learning style is more important because through the trial gain the knowledge to teaching –learning process.

NEED AND SIGNIFICANCE OF THE STUDY

Pre-service teachers learning styles are good at that time a good future teacher is ready to give a way of learning and save the time of learning, improve the understanding power also. They know very well new method of teaching in future generation.

STATEMENT OF THE PROBLEM

The present study is titled "**LEARNING STYLES OF PRE-SERVICE TEACHERS IN SALEM DISTRICT**".

DEFINITIONS OF KEY TERMS

Definitions of key terms in the title of the study are given below:

Learning styles

The concept of learning styles is grounded in the idea that individuals differ in the ways they learn- how they absorb and retain new information (see Dunn, 1983).

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pre-service teachers

Pre-service teaching is a period of guided, supervised teaching. The student teacher is gradually introduced in to the teaching role by a or co-operating teacher. The student teacher begins as an observer and finishes the pre-service teaching experience as a competent of professional.

VARIABLES OF THE STUDY

The investigator has chosen the gender, locality, type of management and year of the study independent variables and learning style as the dependent variable.

OBJECTIVES OF THE STUDY

1. To understand the learning style of the pre-service teachers.

2. To find out whether there is any significant difference in the learning style scores of pre-service teachers with respect to gender, locality, teaching experience and type of management.

HYPOTHESES OF THE STUDY

Keeping in view the objectives of the study the following null hypothesis have been framed:

1.There is no significant difference in the mean scores of learning style of pre-service teachers based on their gender.

2.There is no significant difference in the mean scores of learning style of pre-service teachers based on locality.

3.There is no significant difference in the mean scores of learning style of pre-service teachers based on their year of study.

4. There is no significant difference in the mean scores of learning style of pre-service teachers based on the type of management of the school.

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METHOD OF THE STUDY

As the present study deals with the learning style of pre-service teachers, the investigator adopted the survey method which was found suitable to gather the essential and relevant data.

STATISTICAL TECHNIQUES USED

The investigator used descriptive analysis for the preliminary analysis of the data. The t-test and ANOVA was used to find out the significant difference between the mean scores of different groups of variables.

DELIMITATIONS OF THE STUDY

Research studies in general will have limitations due to many factors. It is the responsibilities of the researcher to see that study is conducted with maximum care in order to be reliable. However, the following limitations were unavoidable in the present study.

1. The study was confined to only pre-service teachers of salem educational District, Tamil Nadu.

2.The study is delimited to Salem District of Tamil Nadu.

In spite of the above cited limitations, sufficient care has been taken in selecting the sample, gathering reliable data, and applying appropriate data and statistical analysis etc.

SAMPLE

The investigator selected fourt colleges in Salem Educational District. For this present study 351 pre-service teachers were selected as the sample from four colleges randomly. This sample includes male and female, years of study, rural and urban, government, aided and private college pre-service teachers.

TOOL USED FOR COLLECTING DATA

The investigator adopted the VARK learning style self-assessment scale for the present study for collecting data. This questionnaire is designed to help us to gain a better understanding of kinds of things

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that create difficulties for pre-service teachers in their learning activities.

FINDINGS OF THE STUDY

The collected data were statically analyzed to realize the objectives of the study. In that process the following findings have been observed.

The mean difference in learning styles of scores of pre-service teachers based on gender was significant at 0.05 level. The mean score obtained for female pre-service teachers were found to be higher than male teachers. It shows that female pre-service teachers exhibit better learning styles than male pre-service teachers.

The mean difference in learning styles of scores of pre-service teachers based on locality was significant at 0.01 level. The mean score obtained for pre-service teachers in urban schools were found to be higher than those in rural schools. It shows that pre-service teachers in urban college exhibit better learning styles than pre-service teachers in rural college. The mean difference in learning style of scores of pre-service teachers based on year of study was significant at 0.01 level. The mean difference in learning styles scores of pre-service teachers based on the type ofmanagement was significant at 0.05 level. Pre-service teachers studied in aided college were found to possess better learning styles than pre-service teachers studied in government college. Also, pre-service teachers studied in private college were found to possess better learning styles than pre-service teachers studied in government college.

IMPLICATION OF THE STUDY

The findings of the study will be of immense use in understanding the learning style patterns of pre-service teachers classified on the basis of gender, locality, year of study and type of management.

SUGGESSIONS FOR FURTHER RESEARCH

1. The present study was carried out in Salem district only. It can be extended all over the Tamil Nadu state.

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2. The present study was confined to pre-service teachers. It may be extended to the teachers working at all levels.

CONCLUSION

Learning styles give the interest of learning. Learners gain the learning knowledge quickly with our personal interest. The academic and co-curricular activities performance are well in the own interested learning styles. Stimulate the learners easily. Learning styles control and motivate all level of students in the class room and outer side of the social behavior of individual.

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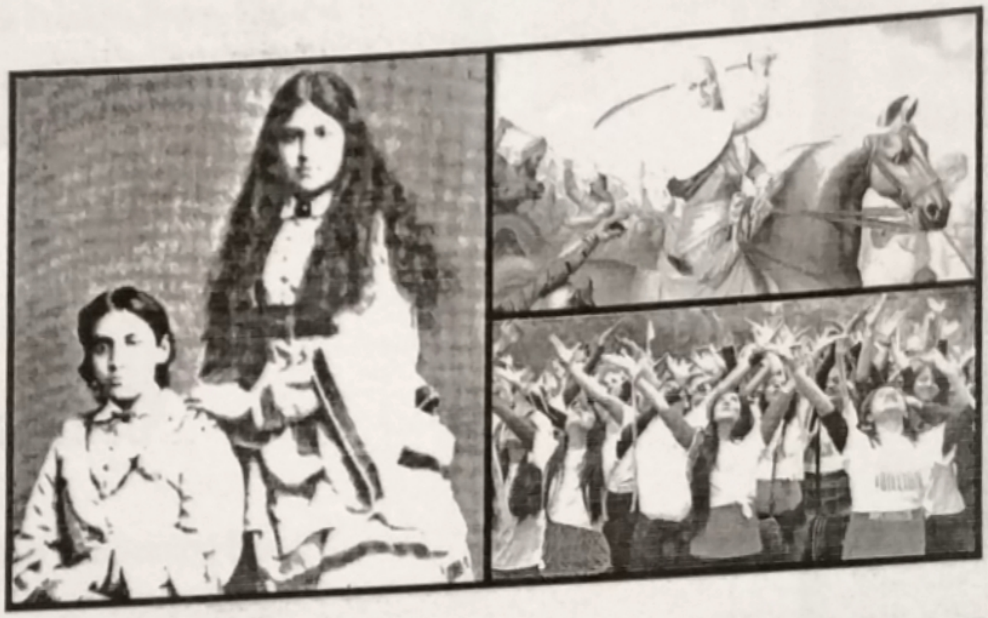
INDIAN FEMINISM THEORY AND PRACTICE



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Chapter – 3

INDIAN FEMINISM

Mrs. S. Gomathi

Introduction

Educated women take correct decision in critical situation of life. Women have more tolerance and adjustable characters in the day today life. An example of simple story to explain the theme of "Family Conflicts And Issues".

Family Conflicts and Issues

Ram, Geetha are loveable couple. They have two children Sneha(13years) and Hari(8). Both the children played in neighbor friend of Aruna(13) and Abi(8). One day the COVID-19 issues, so the Geetha loss her job of private school teacher. So the economic burden of the family maintained by Ram auto driver only. Neighbour family both the parent are government employee earn 1,00,000 per month. The mother of Aruna advice don't play to others avoid the friendship of poor family. But the Geetha talk to all children and advice to follow the rules of government and explain how to behave in COVID-19 period. But Aruna was not interested to hear. Avoid the family of Sneha in many unwanted behaviours. So Sneha was very sad and hate the family of neighbor, at that time geetha advice don't hate others. Love to all, the girl mind will be change one day so you maintain good habit and positive thinking only, take it easy my dear. Suddenly one day Aruna's father was affected by COVID-19, so the house owner of Aruna's family not allow to stay the house. At the critical time Geetha go and talk to the mother of aruna don't worry, we are all come and stay in my house another portion is free, but aruna's mother said, I am also feel the symtem of COVID-19. Oh! Don't worry, I shall take care of your children in my house. Both of the patients are admitted in the hospital. At the day of night Ram asked to Geetha in personal how to maintain the family economic problem, she told believe god will help and

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change the critical situation. The next day call to Geetha from new private school job, online class for children. Ramu and Geetha help the neighborhood, 14 days after the affected family recover and rejoin the family life. Aruna asked sorry to Sneha for the unwanted behavior. Change the attitude of poor people, and understand the life style of good and bad. Good habits and behaviors not related economic level.

Conclusion

Educated women not only change the critical situation to easy, change the attitude and behavior also. Future good citizen's of India are developed by well educated parents in particular educated mother.

Reference

1. It's my own thought only.

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GOOGLE ERA LIBRARIANSHIP :

TOOLS, TECHNOLOGIES AND SKILLS

Edited by

Dr.K.RAMASAMY

Dr.M.MANI

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GOOGLE ERA LIBRARIANSHIP:
TOOLS, TECHNOLOGIES AND SKILLS

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GOOGLE ERA LIBRARIANSHIP: TOOLS, TECHNOLOGIES AND SKILLS

Editors: Dr. K. RAMASAMY, Dr .M. MANI

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Application of Blogs in Library Information Services

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Introduction

Weblogs or blogs are the sites that capture particular views, ideas, or opinions over time. Blogs are the web applications, which contain periodic posts on a common web page. Each blog tells a story, be it about a person, an organization, an event or any other subject such as the environment, healthcare, human rights, religion, psychology, disasters, language, literature, etc. Those people who maintains a blog is called a blogger.

In a blog, the entries are read and discussed by an even larger community, often fostering active debate.

A blog is variously defined as under:

Blog is "a web application that contains periodic, reverse chronologically ordered posts on a common web page" (Wikipedia, 2008).

According to Clyde (2004), a blog is a web site with content arranged as entries of text and hyperlinks, posted in reverse chronological order, a timestamp for each entry so that the reader knows when it was posted, and an archive of previously posted content that can be easily accessed by visitors.

Types of Blogs

Blogs can be personal or professional. They may be private to use internally in an organisation or they may be publicly available – this is controlled by the settings on your blog site.

It can be individual, group or subject blogs. An individual blog is a personal blog reflecting the thoughts of one person and group blog is a collective effort written by a team or

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Challenges and Opportunities to Libraries and LIS Professionals in the Changing Global Scenario

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SCIENTOMETRIC ANALYSIS OF RESEARCH OUTPUT ON BLENDED LEARNING

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Abstract

This paper presents a scientometric analysis of research output on 'Blended Learning' publications published between 2018 and 2020 in Web of Science database. The analysis covers mainly the number of articles, forms of publications, growth of publications, authorship pattern, language-wise distribution of articles, and source of publications. The result showed that 1276 articles were published during the study period, and the highest numbers of publications were (490, 38.40%) in 2020 and the lowest was (361, 28.29%) in 2018. Three authored publications were the highest (19.2%). 98.2 % of the articles were published in English. 'Computers & Education' is the most prolific journal in the field with 33 publications.

Keywords: *Scientometric, Authorship Pattern, Bibliographic Forms, Prolific Sources*

Introduction

Scientometric is a type of research method used in the Library and Information Sciences. Nalimov and Mulchenko (1969) defined "Scientometrics as the application of those quantitative methods which deal with the analysis of science viewed as an information". Scientometrics is the measurement of science communication and bibliometrics deals with more general information processes. It is a quantitative study aspect of literature on a topic and used to identify the pattern of publication, authorship, year-wise, document wise and language-wise contribution of articles to get an insight into the dynamics of growth of knowledge in the areas under consideration.

Review of Literature

Indrani and Murugan (2018) analyzed the mapping of authorship pattern and collaborative research on fossil fuels publications indexed in A & HCI and SCI-Expanded. It was observed from their result that the majority of h-index in terms of authors as well as research output, was higher in the year 2010 and lower in 1991.

Narzary and Murugan (2017) reviewed the authorship and collaborative research in the ETRI journal using scientometric indicators with 939 research papers. The findings of their study indicated that a good number of publications were found in 2013 and the authorship pattern showed that multi-authored publications were predominant among the publications.

Murugan and Balasubramani (2012) conducted a study on the scientometric mapping of remote sensing literature at the global level published from 1975 to 2010. They selected the top fifteen countries out of 59 countries for research analysis and found that the USA had the highest (39.8%) publications and ranked first in the globe, UK (10.8%) was ranked second and India was in the third rank (7.8%). Further, they reported that a total of 3735 authors had published papers out of which single-authored publications were 17% of the total articles, two authors and three authors publications

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were 18.94% and 21.04% respectively. They interpreted that joint authors had contributed more than a single author.

Need for the Study

The periodicals are the indicators of literature growth in a field and emerged as the main channel for transmitting knowledge. Due to the escalating cost of the periodicals and lack of adequate library budget, the selection of any particular journal for a library should be done.

Here, the library authorities are forced to reduce the number of journal subscriptions. Scientometric analysis has many applications in the Library and Information Science in identifying the research trends in the subject, core journals, etc. and there by framing a new subscription policy for the future. These studies will be helpful for librarians to plan for better development.

Objectives of the Study

- To analyze research output on 'blended learning' in terms of forms of publications
- To find out the growth of publications
- To study the authorship pattern of publications
- To get to know the language-wise distribution
- To identify the source title of publications

Methodology

The data for this paper were retrieved from Web of Science (Clarivate Analytics). Clarivate Analytics is the world's leading citation analysis platform. The data on 'Blended Learning' were collected from the Web of Science for the period from 2018 to 2020 on 29/10/2020. The collected data was analyzed by using Bibexcel software and the results were tabulated for observations.

Data Analysis and Interpretation

Table 1: Forms of Publications

S.No.	Forms of Publications	No. of Publications	Percentage
1.	Article	1015	79.55
2.	Article; Early Access	108	8.46
3.	Review	71	5.56
4.	Meeting Abstract	33	2.59
5.	Article; Proceedings Paper	18	1.41
6.	Editorial Material	13	1.02
7.	Article; Book Chapter	3	0.24
8.	Letter	2	0.16
9.	News Item	2	0.16
10.	Correction	2	0.16
11.	Review; Early Access	2	0.16
12.	Review; Book Chapter	2	0.16
13.	Retraction	1	0.08
14.	Book Review	1	0.08
15.	Correction; Early Access	1	0.08
16.	Article; Retracted Publication	1	0.08
17.	Editorial Material; Early Access	1	0.08
	Total	**1276**	**100.02**

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Table 1 shows the forms of publications. Out of 1276 publications, the highest publications were 1015 (79.55%) articles, the lowest percentage of contribution was book review, retraction, correction; early access, article; retracted publication and editorial material early access 1 (0.08%).

Table 2: Growth of Publications

S.No.	Year	No. of Publications	Percentage
1.	2020	490	38.40
2.	2019	425	33.31
3.	2018	361	28.29
	Total	**1276**	**100.00**

Table 2 shows that the growth of publications. Out of 1276 publications, the highest number of 490 (38.40%) articles was published in 2020 followed by 425 in 2019 and the lowest percentage of publications (361, 28.29%) was published in 2018.

Table 3: Authorship pattern of Publications

S. No.	No. of Authors	No. of Publications	Percentage
1.	Single authors	170	13.32
2.	Two authors	233	18.26
3.	Three authors	245	19.20
4.	Four authors	189	14.81
5.	Five authors	136	10.66
6.	Six authors	126	9.87
7.	Seven authors	67	5.25
8.	Eight authors	31	2.43
9.	Nine authors	23	1.80
10.	Ten authors	19	1.49
11.	More than ten authors	37	2.90
	Total	**1276**	**100.00**

The authorship pattern of publications is presented in Table 3. It is observed from the table that out of 1276 publications, 170 (13.32%), 233 (18.26%), 245 (19.20%), 189 (14.81%) and 136 (10.66%) were published by single author, two authors, three authors, four authors and five authors respectively. The result shows that three authorship patterns were the highest and ten authorship patterns was lowest. However, more than ten authors contributed 2.9 % of total output.

Table 4: Language-wise Distribution

Sl. No.	Language	No. of Publications	Percentage
1.	English	1253	98.20
2.	German	13	1.02
3.	Spanish	3	0.24
4.	Portuguese	2	0.16
5.	Turkish	2	0.16
6.	French	1	0.08

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7.	Chinese	1	0.08
8.	Hungarian	1	0.08
	Total	**1276**	**100.00**

Table 4 shows that the language-wise distribution of the publication. Out of 1276 publications, the highest publication was (1253, 98.20%) in English, the lowest percentage of publications (1, 0.08%) were found to be in French, Chinese and Hungarian.

Table 5: Most Prolific Sources of Publications

Rank	Source title	No. of Publications	Percentage
1.	Computers & Education	33	5.05
2.	IEEE Access	25	3.82
3.	Interactive Learning Environments	22	3.36
4.	BMC Medical Education	21	3.21
5.	Computer Applications in Engineering Education	19	2.91
6.	International Journal of Educational Technology in Higher Education	19	2.91
7.	Nurse Education Today	19	2.91
8.	Journal of Medical Internet Research	17	2.60
9.	British Journal of Educational Technology	17	2.60
10.	ETR&D Educational Technology Research and Development	16	2.45

Table 5 shows the most prolific sources of publications. It reveals that the journal 'Computers & Education' is the most prolific source with 33 (5.05%) publications, followed by 'IEEE Access' with 25 (3.82%) publications and 'Interactive Learning Environments' with 22 (3.36%) publications.

Conclusion

This study has highlighted various factors such as year wise growth of articles, authorship pattern, language-wise contribution and most prolific sources. The research output on scholarly communication was largely published as articles followed by review and short surveys. The study would pave the way to conduct similar research studies in the other subject fields of interest towards organizational development and improvement of research activities. The scientometric analysis proves the strength and aim of the journal to encourage publications from outside institutions and maintain the quality by publishing their articles.

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INTEGRATING DIGITAL TECHNOLOGIES IN TEACHING-LEARNING PROCESS

Dr. R. Saraswathy

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INTEGRATING DIGITAL TECHNOLOGIES IN TEACHING-LEARNING PROCESS

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PREFACE

This book covers the various digital technologies integrating the teaching-learning process. Starting with the integrating Technology in the Classroom, it deals with Meaning of Digital Technology, Benefits of Digital Technologies in the Classroom, Importance of Technology Integration, Goals of Technology and Advantages of digital Technology integration in Teaching and Learning; Continuing with the Virtual Learning Environmental Tools, it notices with Learning Management System(LMS), Remote Access Tools, Teaching & Learning Tools; following by the Digital Technology Tools, it observes with Bring Your Own Devices(BYOD), E-Portfolio, Interactive White Boards(IWB), Web 2.0, Brain Storming, Kahoot, Padlet, Web Quest, Story Telling, Web-based Learning, Mobile Learning, E-Learning, Inquiry-Based Learning, Blended Learning and Flipped Learning.

Meanwhile, with the Social Media Network Tools, it detects with YouTube, Twitter, Slide Share, FaceBook, Instagram, LinkedIn, Pinterest, Podcasting, Blogs and Research Gate; including with the Google Tools for Teaching and Learning, it deals with the Google classroom, Google Contacts, Google Groups, Google Hangouts, Google Scholar, Google Talk, Google Calendar, Google Docs and Google E-Mail. The book ends with a comprehensive bibliography for those who are interested in further reading.

-The Author

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UNIT – I

INTEGRATING TECHNOLOLGY IN THE CLASSROOM

1.0 Introduction

Education has played a vital role in building society. Quality education helps to contribute thoughts which empower nation in all aspects by providing new innovative ideas using various technologies and so many pedagogies. Now a day, ample number of efficient teaching and learning methodologies are in exercise all over the world. Technology is the most valuable medium through which the student's knowledge can be increased. Technologies are also used in the process of learning, and in effective maintenance of organization and administration of educational institutions.

"Technology is generally perceived among educators as a vital tool for effective instruction in secondary mathematics classrooms." - Franz & Hopper, (2007)

In Higher Education technology plays an important role. Technology supports teachers to change their conventional method of teaching and provides lots of opportunities to prepare lessons with enhanced educational content and more effective teaching and learning methods. It improves the learning process through the provision of more interactive educational materials which in turn enhance learner's motivation and facilitate easy acquirement of basic skills. At Primary and Secondary level, using variety of multimedia devices such as computer application, OHP, videos, television etc., teachers offer more challenging and engaging learning environment for students.

Technology is an important key factor to success. User-friendly interaction between the student and technology in the society is a great milestone of the fresh generation development. The field of mathematics has benefited from technology throughout its description. The demands of the 21st-Century require that all people should be mathematically, scientifically and technologically literate.

The National Council of Teachers of Mathematics (NCTM, 2000) places great emphasis on the use of technology in mathematics education.

Technology is promoting recent approaches to effective and mathematics learning and new ways of literacy. Technology also changes the nature of motivation to mathematics learning. It creates awareness about the use of Technology in Education and acquires knowledge languages and software packages for mathematics education.

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Dr. R. Saraswathy, has obtained M.Sc (Mathematics), M.A (Sociology), M.Sc (Psychology), M.Ed (Edu.), M.Phil (Edu.) and Ph.D (Edu.) from various colleges and Universities. She is currently the Assistant Professor of Mathematics in Sri Sarada College of Education (Autonomous), Salem. She had published 21 articles in National and International Journals. She has Participated 55Seminar, Workshop and Conference in National and International Level. Guided 4 M.Ed. Scholars. Her research interests include Pedagogy of Mathematics Teaching, Educational Innovation, Perspective in Education, Disaster Management and School Management.

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DIGITAL DOCTRINA
A SWIFT FROM CONVENTIONAL LEARNING TO VIRTUAL LEARNING

Editor

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Thiagarajar College of Preceptors, Madurai.

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Chapter - 23

COLLABORATIVE LEARNING

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Abstract

'Collaborative Learning' is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually students are working in groups of two or more, mutually searching for understanding, solutions or meanings or creating a product. Collaborative learning activities vary widely, but most center on students' exploration or application of the course material, not simply the teacher's presentation or explanation of it. In collaborative classrooms where students are engaged in a thinking curriculum, everyone learns from everyone else and no student is deprived of this opportunity for making contributions and appreciating the contributions of others.

Key Words: Collaborative Learning, Students, Teachers

****

Introduction

"Learning is an active, constructive process"

Collaborative learning is an educational approach to teaching and learning that involves groups of students working together to solve a problem, complete a task, or create a product. According to Gerlach, "Collaborative learning is based on the idea that learning is a naturally social act in which the participants talk among themselves (Gerlach, 1994). It is through the talk that learning occurs."

Collaborative learning (CL) is a personal philosophy, not just a classroom technique. In all situations where people come together in groups, it suggests a way of dealing with people which respects and highlights group member's abilities and contributions. There is a sharing of authority and acceptance of responsibility among group members for the groups actions. The underlying premise of collaborative learning is based upon consensus building through

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cooperation by group members, in contrast to competition in which individuals best other group members. CL practitioners apply this philosophy in the classroom, at committee meetings, with community groups, within their families and generally as a way of living with and dealing with other people.

Principles of Collaborative Learning

Johnson, Johnson & Smith (1991) have summarized these principles in their definition of a new paradigm of teaching:

- Knowledge is constructed, discovered and transformed by students. Lecturers create the conditions within which students can construct meaning from the material studied by processing it through existing cognitive structures and then retaining it in long-term memory where it remains open to further processing and possible reconstruction.
- Students actively construct their knowledge. Learning is conceived of as something a learner does, not something that is done to the learner. Students do not passively accept knowledge from the teacher or curriculum. Students activate their existing cognitive structures or construct new ones to subsume the new input.
- Teaching effort is aimed at developing student's competencies and talents.
- Teaching is assumed to be a complex application of theory and research that requires considerable teacher training and continuous refinement of skills and procedures.

Characteristics of a Collaborative Classroom

Collaborative classrooms seem to have four general characteristics. The first two capture changing relationship between teachers and students. The third characterizes teacher's new approaches to instruction. The fourth addresses the composition of a collaborative classroom.

Shared knowledge among teachers and students

In traditional classrooms, the dominant metaphor for teaching is the teacher as information giver; knowledge flows only one way from teacher to student. In contrast, the metaphor for collaborative classrooms is shared knowledge. The teacher has vital knowledge about content, skills, and instruction and still provides that

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TECHNOLOGY LEARNING FOR NEXT GENERATION

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This Edited book is intended to explore the [illegible] generation. This book is edited according to base on the online learning platform for future. This edited book contains many relevant issues in learning situation in digital era and new strategies for learning and problem solving. Therefore, differs in a very qualitative way from many other books available on the same content. All suggestions and reports of findings from Professors, Researchers, teacher educators and the student teachers will be acknowledged in this edited book.

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Chetan J. Bhal

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Chapter - 14

BLENDED LEARNING

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Abstract

Blended learning is a term increasingly used to describe the way e-learning is being combined with traditional classroom methods and independent study to create a new, hybrid teaching methodology. It represents a much greater change in basic technique than simply adding computers to classrooms; it represents, in many cases, a fundamental change in the way teachers and students approach the learning experience. Blended learning needs rigorous efforts, right attitude, handsome budget and highly motivated teachers and students for its successful implementation. As it incorporates diverse modes so it is complex and organizing it is a difficult task. The present paper discusses the concept of blended learning, its elements and characteristics of its models.

Key Words : Blended learning, Classroom, Teaching, Models, Teachers, Students

****

Introduction

Blended learning has become a buzzword and has grown increasingly in demand and the popularity incorporate as well as academic settings. It has been mostly researched across the globe in the educational circle over the past couples of years. Many educationist define it as a combination of two pedagogical approaches, in our view, with their focus merely on the superficial level while few have had it defined like Singh& Reed to as optimising achievement of learning objectives by applying the right learning technologies to match the right personal learning style to transfer the right skills to the right person at the right time.

As blended learning has been practiced across various disciplines at various levels of educational institutions and in various

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INNOVATIONS IN DIGITAL LEARNING

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Chapter – 2

FLIPPED LEARNING

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Abstract

Now in the age of digitalization, when technology is in the hands of every person, teachers and learners can take benefits to this new style of pedagogical innovation.Flipped classroom learning is an instructional technique. In fact, it is also a form of blended learning. It is opposite to the customary class learning environment. In flipped learning model, interactive and technology enriched classroom instructional material are delivered through internet access. During Flipped classroom learning, there are various class room activities like laboratory experiments, document analysis, discussion, presentation, current event discussions, project -based learning along with practical orientations. This passes into the classroom activities, including those usually called homework. Students watch online lectures in a flipped classroom; participate on online discussions at home while engaging in classroom concepts under teacher's guidance.

****

Introduction

Flipped learning is an approach that allows teachers to implement a methodology, or various methodologies in their classrooms.The governing board and key leaders of the Flipped Learning Network(FLN), all experienced Flipped Educator's, have composeda formal definition of "Flipped Learning." Explicitly defining the term may dispel some of the myths repeatedly promulgated by teachers, the media, and the researches.

This is an intentional activity in which instructions are delivered via learner centered model. In this approach, topic is introduced outside the classroom to learners, classroom time is utilized to generate meaningful learning opportunities to explore the given topic in depth understanding. In this process, content delivery'

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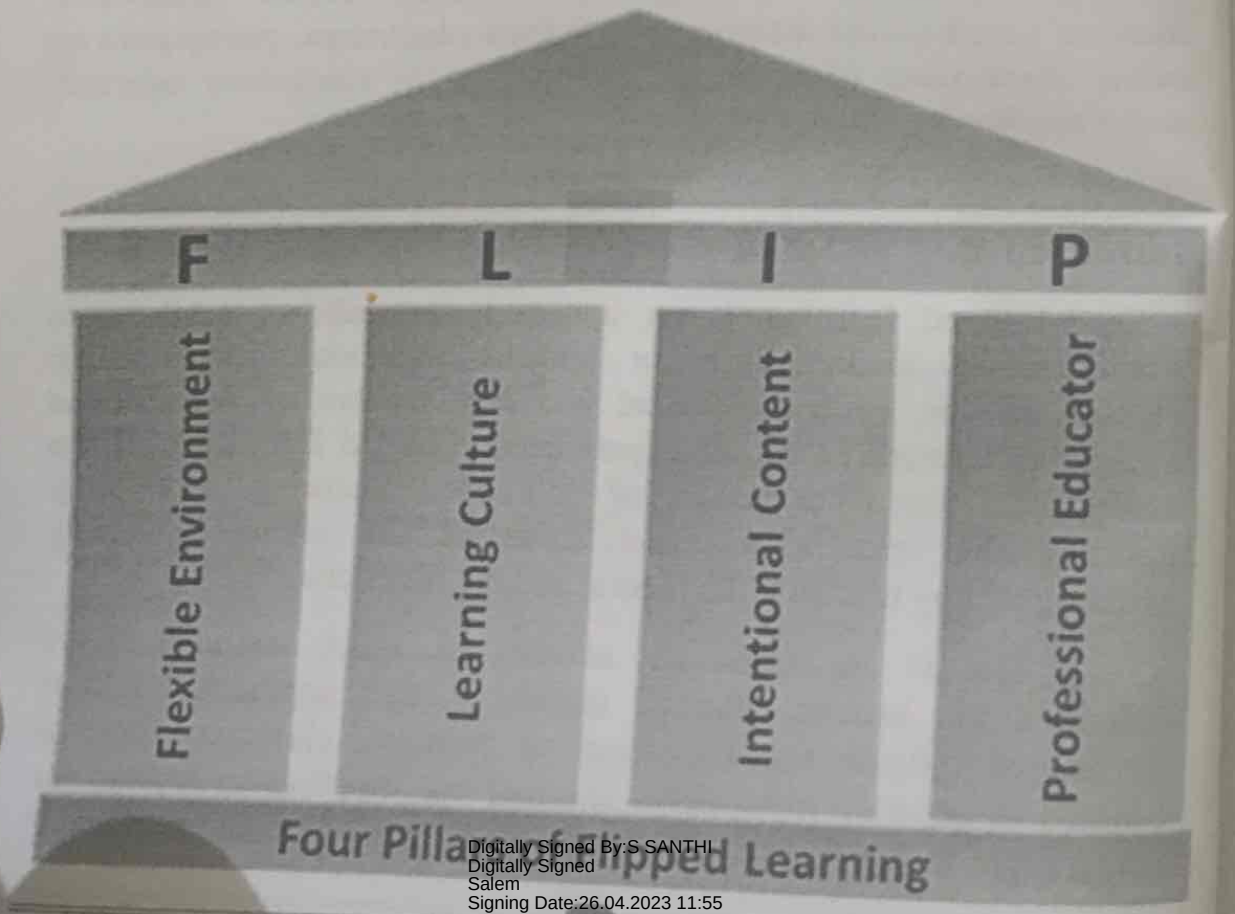
can take a variety of forms in a flipped classroom as online group conversations, e content in form of text, video or animated lessons prepared by the educator or through open educational resources with licensing issues.

The perfect or ideal duration of the video lesson is supposed to be 420 minutes maximum. In the Flipped classroom, lessons would be followed by activity based learning with traditional homework concerns to engage learners within learning context. The main characteristics of flipped classroom approach is diverse types of active learning i.e. Differentiated teaching, Higher-order thinking skills. Problem -finding, teamwork, Design and Problem-solving are good example of these activities. Through these activities, teacher or mentor can spend more time in the classroom as learners solve difficult problems, work in teams, study, and develop knowledge with the help of their teachers and peers. There is individualized Interaction between a teacher and students in a flipped classroom. As they engage in and assess their learning, students are actively involved in the development and creation of information.

FOUR PILLARS OF FLIPPED LEARNING



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The following are the four pillars of flipped the learning are

- Flexible environment
- Learning culture
- Intentional content
- Professional educator

Flexible Environment

Flipped learning allows for a variety of learning modes, educator's often physically rearrange their learning spaces to accommodate a lesson or unit, to support either group for independent study.The create flexible spaces in which students choose when and where they learn.Furthermore, educator's who flip their classes are flexible in their expectations of student timelines for learning and in their assessment of student learning.

Learning Culture

Flipped Learning Educator's continually think about how they can use the Flipped learning model to help students develop conceptual understanding, as well as a procedural fluency.They determine what they need to teach and what material students should explore on their own.Educator's use Intentional Content to maximize classroom time in order to adapt methods of student centre,active learning strategies, depending on Grade level and subject matter.

Intentional content

In the traditional teacher centred model, the teacher is the primary source of information. By contrast, the Flipped Learning model deliberately shifts instruction to a learner centred approach where in class time is dedicated to exploring topics in greater depth and creating rich learning opportunities. As a result, students are actively involved in knowledge construction as they participate in and evaluate their learning in a manner that is personally meaningful.

Professional Educator

The role of professional educator is even more important, and often more demanding, in a Flipped Classroom than a traditional one. During class time, they continually observe their students, providing them with feedback relevant in the moment, and assessing their work. Profession Educator'sare reflexive in their practice, connect with each other to improve their instruction,accept constructive criticism, and tolerate controlled chaos in their classrooms. While Professional Educator's take on less visibly prominent roles in a flipped classroom,

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they remained the essential ingredient that enables flipped learning to occur.

Working On The Flipped Classroom

- Learners watch one or several pre-recorded lecture with animated text
- They watch these videos at their own speed because everyone has its own learning style.
- After watching videos and studying the text, now learner have a grasp on the study material before they come to class.

The flipped classroom is not

- Just Online Videos
- About replacing teacher with video
- An Online class students working without structure

The flipped classroom can be

- Pre made tutorials and Programmes
- Interactive Web Sites
- Primary source Image or Documents
- Simulations and Animations
- Slide Share
- Hyper linked Images
- WebQuest
- Forms, Poll, Questionnaire

Teachers Flipping for the Flipped Classroom

Twenty first century Pedagogy insists teachers to adopt Flipped Classroom approach for improving, enhancing and making educational experiences more vibrant, dynamic and unique.There are number of reasons why flipping the classroom is significant for teachers and learners.

Consumption of Lecture Notes at learners Pace : In flipped class room, there is opportunity for students to study lecture notes at their own pace. Learners in Traditional class rooms are bound and dependent on teachers pace. But in flipped classroom, learner can rewind and replay the video at any time in order to grasp the complex concepts.

Quick and fast Feedback: In flipped class room approach, teachers are recognized as a resource, because learners usually

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apply new knowledge at their own through homework. When they have access of resources and get immediate help from teachers.

Flipping the classroom works : Flipping the classroom requires technology to deliver course contents to their learners. Videos, text, animation play vast role in flipping the classroom. It is the responsibility of institutions to provide a platform to teachers and learners for recording and streaming this type of content material.

Better way for Flip Classrooms : It is not impossible but challenging task for teachers to adopt flipped classroom approach. By following certain step a teacher can flip his classroom in better way.

Adopt Technology : This is first step for Flipped classroom that teachers must adopt technology. Because flipped class learning depend deeply on technology. Teacher of flipped class room learning will create and share e content in form of text, videos etc. For this process, teacher has to pick a technology and decide how students will access all content . An LMS will help you keep everything streamlined in one place as you launch your program.

Videos and Content : For flipping classroom, there is dire need to keep the content interesting, attractive and short. It is amazing that a lecture which is supposed to take one hour to finish can be covered into fifteen or twenty minute's video. Teachers may take help to explore videos and other interactive content from quality open educational resource (OER). Be clear with Students and Parents: It is better to explain what is flipped learning and which type of activities would be covered before launching. Because flipping the mindset is not an easy task.

Make Your Students Accountable : Flipped learning model is largely depend upon learner engagement and participation. It is essential that teachers must have a devise system that track and hold students accountable for watching your videos. Teacher must have LMS from which he ensures that students are working and progress is going on.

Carry on : For flipped classroom approach, this is mandatory requirement that there should be proper schedule and system so that planning, recording or shooting, assessment can become scheduled.

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Flipped Classroom Activities

Flipped classroom approach is new paradigm of 21st century where teacher centered classroom have been shifted to learner centered classroom. This is need of the hour that teachers would design their lessons according to Flipped classroom. There are some examples of flipped classroom activities which can be undertaken by teachers.

Assessment : Assessment is core pillar of Flipped Classroom approach. Assessment an beformative, summative or introductory type. In flipped classroom model, there is to make sure that learner must have background information about the concept which is going to be delivered. After the lecture, there must be provision of feedback. MCQs, short answers may be taken as assessment devices as flipped classroom activities.

Question Generation : In flipped classroom, students are given opportunity to clear their confusion or misperception with an active question answer session. In this process, questions are generated by learners or teacher and via feedback responses are collected.

Brainstorming Sessions : Brainstorming sessions are instrumental to flipped classroom learning. In this session, learners try to solve the problem, participate in discussion or perform targeted task.

Stay Active : Active learning is main constituent of flipped classroom to engage learners engaged with new material during class time or after the class.

Advantages of the Flipped Classroom

There are many advantages of utilizing flipped classroom approach, some including:

Self-paced learning : Students can be benefitted from flipped classroom approach because it provides opportunity to them for self-paced leaning i.e.as and when they want to learn, it gives autonomy to them for flexible learning times.

Depth Understanding : This is the biggest advantage of Flipped classroom approach that this gives the learner autonomy for depth learning. Form basic foundation on a certain topic, learner can go to deeper learning material.

Better preparation : In flipped classroom, there is more and more assignments for mastery and good understanding of the concept. So there is opportunity for students to have better preparation.

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Reuse Lectures : Lecture notes can be further reused.

Create transparency : Teachers and learners can easily keep track of performance and have good access to learning resources.

Conclusion

The effective classroom, the teacher should possess adequate knowledge, skills to use the new technologies for promoting innovative teaching strategies that are student centerd and based on the development of higher order thinking skills.The flipped classroom inspires teacher to offer a versatile and engaging way to share learning content, while putting more control in two students' hands regarding their own learning process. It also envisages modification of learning environment.

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Teachers are the real architects of society. They are the promoters of Social change. The holistic development of teachers is essential for facing the challenges and demands of their personal and professional life. So this book paves the way for the teachers to identify and intensify their interpersonal, emotional, and evaluation skills for achieving success in their both personal and professional life. It helps the teachers to monitor their own and others' transactional styles and their teaching strategies through self-evaluation so as to develop their emotional strength.

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Shanmuga Vadivu K.P.

Self Evaluation, Transactional Styles and Emotional Intelligence

A Guide to Teachers

LAP LAMBERT Academic Publishing

K.P.

தமிழ்நாடு ஆசிரியர் கல்வியியல் பல்கலைக்கழகம்
TAMIL NADU TEACHERS EDUCATION UNIVERSITY

3rd International Conference on
EMERGING CHALLENGES IN PHYSICAL EDUCATION

Azadi Ka Amrit Mahotsav

Organised by
DEPARTMENT OF VALUE EDUCATION
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Chennai - 600 097

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ENVIRONMENTAL FACTORS THAT AFFECT HEALTH

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Abstract

This study is mainly focusing of the educational process to ensure the all-round development of the human beings. Environment is all that surrounds us. It tends to be a living or a non-living thing. It incorporates many forces that are physical, chemical and other natural forces. These things living in their circumstance. There are various interactions between the animals, plants, water, soil and other living and many non-living things present in nature. Since everything is a part of this environment of something else, we utilize the term environment discussing different things. Many environmental factors affect human health both directly and indirectly. Mainly the environmental changes cause an increase in temperature, which results in the rise of fatal illnesses such as air pollution, deforestation, storms, floods, heatwaves, drought, and particulate matter are some environmental factors that affect human health.

Keywords*: Environment, Health, Living, Non-Living, Pollution*

Introduction

The environment is the physical surroundings in which we live. It can either consist of living factors or non-living factors. The environment provides us with conditions that facilitate growth and development and also with a risk of damage and danger. It consists of everything real around us such as sunlight, soil, air, water, rains, mountains etc. The surroundings we dwell in is subjected to constant change, these factors are majorly contributed by human activity. For instance, climate change is a constant balance needs to be maintained as all the components of the environment are correlated where a change in one component has a certain impact on other components eventually, if not immediately depending upon the severity.

Importance of Health

Health is a state in which wellness of all three aspects i.e., mental, physical and social are considered. To stay healthy one needs to have a sound mind too along with the physical perspectives. To maintain a healthy lifestyle, one is required to adopt a healthy diet and an active lifestyle. Humans are one of the most important components in an ecosystem that significantly contribute to the well-being of other environmental components as well, that can either be living or non-living such as plants, animals, climate etc.

One's health is majorly controlled and influenced by its immediate surroundings. Healthy individuals are usually free from almost all the health disorders and are least susceptible to diseases hence increasing the life span thereby decreasing greatly the chances of suffering from pain, discomfort, uneasiness which can not only affect one physically but can have an impact on the mental ability too. Normalcy and excellence at work are attributes that make for a favourable and valuable asset in society. Physical fitness can boost one's confidence as it makes one feel better about themselves. It can also keep you on your toes to perform daily activities without any ado or discomfort. Overall, wellness and health bring about radical growth in the quality of life.

Environment and Human Health

Living substances, straightforwardly or by implication rely on their current circumstance for energy prerequisites and to support life. A portion of these prerequisites are unadulterated water, clean air, pure and nutritious food, illness free local area to live and so on as these variables are known to add to the life span in mankind's set of experiences. It is likewise a well-established truth that sterilization, horticulture, treated water, individual and local area cleanliness noticeably affect human wellbeing.

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However, one can't ignore the way that separated from supporting and sustaining human existence, it can likewise incur infections. One of the most well-known reasons for death rate is the absence of basic necessities. The environmental risks can pump up the possibilities contracting heart infections, malignant growths and different diseases. Untreated drinking water, unfortunate cleanliness, ill-advised sterilization are seen to cause irresistible infections, for example, cholera, diarrhoea, dengue etc.

Impacts of Environment on Human Health

The environment is a natural characteristics world in which we all are living today. It connects with every one of the living and non-living things (biotic and abiotic parts) encompassing us. There are different types of environments, which significantly affect human wellbeing. Consistently, we as a whole communicate with the climate. In this way, it is a lot of fundamental for keep our current circumstance sound to shield our lives from various ecological risks. The natural effects on human wellbeing incorporate physical, substance and organic perils. Air, water, soil, sound and land contamination are the significant reason for disease in all people.

Physical hazards include

- airborne particles,
- humidity,
- equipment design and
- radiations, etc.

Biological hazards include

- viruses,
- microbial agents,
- insects,
- rodents,
- animals and
- plants, etc.

Chemical hazards include

- pesticides,
- insecticides,
- herbicides,
- lead,
- Acids,
- Chlorine and other caustic substances.

There are an exact moment measure of synthetic substances and poisons in the day to day food we eat, in the breathing air and in our drinking water. The impacts of these natural risks incorporate malignant growths, respiratory framework issues including asthma, sensitivities, and different sicknesses. There are many infectious diseases in this environment that are all carried by pathogens.

Environmental Factors

The environmental factors can be defined as the identifiable element within the environment that affects an organic entity's endurance, activities, and development. Environmental factors involve everything that changes the natural environment. A few components are noticeable, while others shouldn't be visible. Air, water, environment, soil, regular vegetation and landforms are environmental factors.

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By the definition, the environmental factors affect everyday living, and play a key role in bringing health differences across the geographic areas. The connection among human and environmental factors altogether influences human wellbeing, either directly or indirectly.

Major Five Environmental Factors Affect the Health

Environmental factors are the total of biotic and abiotic factors (living and non-living factors) that influences living in any environment. This also includes cultural, technological, demographic, and economic factors because they exert a certain level of impact on health.The primary five environmental factors which affect the health and well-being of human life are:

Pollution

Pollution is defined as introducing pollutants, organic molecules, or other unsafe materials into the Earth's atmosphere. This can either be caused by natural events (like forest fires) or by man-made activities (like emissions from automobiles, factories, nuclear wastes, etc.)

The different types of pollution include:

- Air pollution
- Soil pollution
- Noise pollution
- Water pollution
- Radioactive pollution

Deforestation

Deforestation is defined as the spread of desert – like conditions in arid or semi-arid area due to man's influence or climatic changes. Examples of deforestation include conversation of forestland to farms, ranches, or urban use. The growing global concern for the world's natural resources has resulted in the formulation of long-term perspective plans for conserving forests.

Solid Waste Pollution

Solid waste substance are those materials which become useless and hence after short period of their use, such as newspapers, bottles, plastic bags, polythene, packing materials and garbages. The solid wastes are discarded after their uses. The environmental pollution caused by these solid wastes which are increasing with rapid rate of urbanization and industrial development.

Global Warming

It is the rise in the average temperature ofEarth's atmosphere and oceans since the 19 th century and its projected continuation. It is dramatically urgent and serious problem. There is a worldwide consensus the global warming is a real, rapidly advancing, and widespread threat facing humanity this century. The presented evidence confirms that manmade factors such as deforestation, agriculture, industries, automobiles and the burning of fossil fuels are contributing to Greenhouse Gas (GHG) emission.

Change in Climatic Conditions

There are a few reasons for environmental change. The fundamental impact on the environment is the rising pattern in the grouping of ozone harming substances and a worldwide temperature alteration in the air. It is an adverse effect on the climate. It incorporates the physical, synthetic and organic attributes of biological systems. Other than natural disasters, people are additionally reasonable for environmental change. The consuming of petroleum products, outflows from vehicles, and ventures are a couple of them.

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An adjustment of the worldwide environment incorporates:

- Typhoons
- Rising temperature
- An average to more rainfall
- Melting of global ocean currents and lots more.

Conclusion

The environment is important for every living human being. No one can survive without the environment. It substances a lot because planet earth is the only home for human beings. It gives food, air, water and millions of other things. Lately there has been a developing consciousness of the health problems related with natural elements. It transformations have beneficial and harmful effects on human health. Mainly the environmental changes cause an increase in temperature, which results in the rise of fatal illnesses such as storms, floods,heatwaves, drought and particulate matter are some environmental factors that affect human health.

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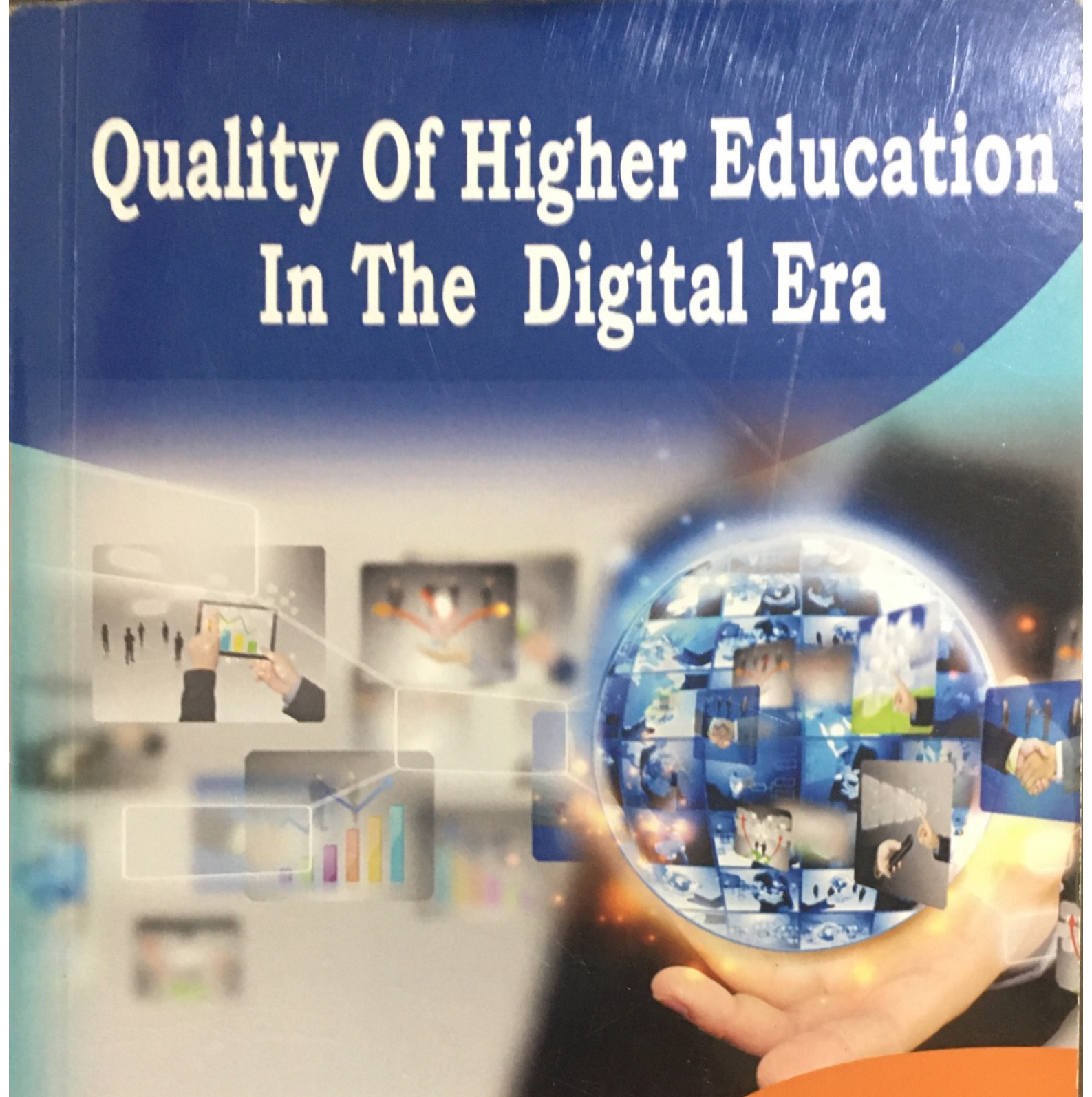
Quality Of Higher Education In The Digital Era



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MATHEMATICAL LEARNING STRATEGIES AMONG GOVERNMENT AIDED COLLEGE STUDENTS

R.Saraswathy*

Introduction

Weinstein et al. (2010) maintains that learning strategies include emotional, motivational, meta-cognitive, cognitive, and behavioural activities and processes that facilitate significant understanding, learning and processing as the integration of the new knowledge in mind. Based on the level of learning control and its importance in performing duties, learning strategies are divided into cognitive and meta-cognitive ones. Cognitive strategies refer to any kind of behaviour, thought, or action that learners employ when they are trying to learn and the goal of which is to help learning, organizing and developing sciences and skills as well as facilitating their use in the future.

Review of literature

Fuziana Ali and Melor Md Yunus., (2013) investigated the memory and cognitive strategies of high ability students in a rural secondary school. Findings revealed that the high ability students used cognitive strategies more frequently than the memory strategies.

Statement of the problem

The statement of the problem is **"MATHEMATICAL LEARNING STRATEGIES AMONG GOVERNMENT AIDED COLLEGE STUDENTS"**

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Operational definitions of the terms

Mathematical learning strategies

Learning strategies give students a way to think through and plan the solution to a problem. Students use learning strategies to become more effective and independent learners. In this study learning strategies in mathematics refer four strategies viz. cognitive, meta cognitive, non–informational resources management and informational resources management.

Objectives of the study

- To assess the level of learning strategies in mathematics among government aided college students
- To study the skill of learning strategies in mathematics among government aided college students

Hypotheses

- The level of mathematical learning strategies among government aided college students
  is high
- There is no difference in the mathematical learning strategies among government aided college students based on the select sub samples gender, locality and medium of instruction.

Research method

Normative survey method was adopted for the study and stratified random sampling technique was employed, a total number of 102 students from 4 colleges were taken in Salem district have been selected for the study.

Tool of the present study

The standardized 68 item learning strategies in mathematics scale was used and it was developed by Pintrich et.al (1991). Its reliability value was 0.8 under the four strategies viz. cognitive, meta

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cognitive, non informational resources management and informational resources management.

Data analysis

The collected data were analysed by using statistical techniques like percentage analysis, mean, standard deviation and t-test.

Table - 1

Number of students in each strategy of learning mathematics

Learning Strategies	Number of students	%
Cognitive	22	21.57
Meta Cognitive	30	29.42
Non – Informational resource management	22	21.57
Informational resource management	53	51.96
No strategy	42	41.18

From the above table it is found that 22 (21.57%) students follow cognitive and non-informational resource management, 30 (29.42%) students adopt meta cognitive, 53 (51.96%) students are of informational resource management while 42 (41.18%) students were no strategy.

Hypothesis

There is no difference in the mathematics learning strategies of government aided college students based on the select sub samples gender, locality and medium of instruction.

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Table 2

Table Showing the 't'- Value of Mathematical Learning Strategies

Variables	Learning strategies	Groups				t value	S / NS
		Male (70)		Female (32)			
		M	SD	M	SD		
Gender	Cognitive	72.27	10.78	60.63	12.42	4.58	S
	Meta cognitive	47.86	7.91	41.47	8.33	3.65	S
	Non – Informational resource management	92.33	20.07	82.47	8.33	2.5	S
	Informational resource management	49.66	11.70	44.16	9.67	2.49	S
	Total	262.11	43.04	228.72	37.46	3.99	S
Locality		Rural (56)		Urban (46)			
	Cognitive	67.00	12.82	70.59	11.93	1.46	NS
	Meta cognitive	46.29	8.39	45.33	8.78	0.56	NS
	Non – Informational resource management	89.43	19.24	89.00	20.70	0.11	NS
	Informational resource management	48.05	10.69	47.78	12.23	0.12	NS
	Total	250.77	42.25	252.70	46.55	0.22	NS
Medium of instruction		Tamil (32)		English (70)			
	Cognitive	63.97	12.89	70.74	11.81	2.53	S
	Meta cognitive	43.16	7.99	47.09	8.56	2.25	S
	Non – Informational resource management	85.16	16.51	91.10	21.00	1.54	NS
	Informational resource management	44.06	10.24	49.70	11.46	2.48	S
	Total	236.34	37.53	258.63	45.24	2.61	S

(The table value is 1.96 at 5% level of significance)

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From the above table, it is noticed that significant differences are not noted, it is concluded that the hypothesis is accepted in six cases. As there is significant difference in nine cases, it is concluded that the hypothesis is not accepted in these case.

- Male and female government aided college students differ in all the strategies and in the total scores of mathematical learning strategies.
- Government aided college students of different locality do not differ in all the strategies in the total scores of mathematical learning strategies.
- Tamil and English medium government aided college students do not differ in the strategy non – informational resource management but they differ in cognitive, meta cognitive and informational resource management and in the total of mathematical learning strategies.

Discussion on the findings

Fuziana Ali and Melor Md Yunus.,(2013) revealed students used cognitive strategies more frequently. This finding did not support the findings of current study because the present study has found that the most preferred learning strategy is informational resource management.

Suggestion for further study

- A similar study may be attempted on a sample of student's designation and caste.
- The present study has been done in colleges in Salem District. Similar study can be done in Polytechnic College, College of Education and Comparing with different Districts.

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Conclusion

The finding of this study reveals that male college students are used learning strategies better than female students. So the researcher suggests that the teachers should actively care about the students' study and provide their encouragement to the students.

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AMELIORATIVE ASPECTS OF TEACHER EDUCATION

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EMERGING TRENDS IN ICT AND ITS EDUCATIONAL APPLICATIONS

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Introduction

Issues and trends in educational technology are not static. They are dynamic and changes with time. The rate of development in educational technology continues to increase as new devices and equipment emerge and new applications employed. The presence of potential devices in teaching and learning continues to enhance learning and the ways in which teachers can teach students better. Since the means of acquiring knowledge is dynamic, education today cannot be fixed or do without technology as evidenced in computer application in education.

Definitions

Information Technology(IT) or Information and Communication Technology(ICT) is the technology required for information processing. In particular, the use of electronic computers to convert,store, protect, process, transmit and retrieve information from anywhere, anytime.

-Web Source (anonymous)

It is a scientific, technological and engineering discipline and management technique used in handling the information, its application and association with social, economic and cultural matters.

-UNESCO

Ways of Using ICT in Education

ICT education

The most common type. It refers to the creation of human resources to meet the IT needs of the knowledge economy. An ICT in Education policy of government describes steps by which computers will be placed in schools, providing basic computer programming skills for teacher and student-cater to the growing job market.

ICT Supported/Multimedia Education

Multiple medias are used to support learning. eg:radio, television, video tapes.

ICT Enabled Education

Any educational program that is purely delivered through ICTs. Here, ICT delivered content is the backbone of the teaching learning process. Eg: online courses through webs (Mooc,Nptel).

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Emerging Trends in ICT and its Educational Applications

There are enormous emerging trends in ICT today. Some of them are as follows.

Mobile learning

New advances in hardware and software are making mobile "smart phones" indispensible tools. Mobile devices with internet access and computer capabilities will overtake PCs in the classrooms. Students prefer spending on digital course materials rather than textbooks and assignments too might have gone digital hereafter.

Applications

It gives flexibility to learners i.e. learning anywhere at any time. It provides interesting design formats, so that, students would have a better retention and recalling using interactive videos, animated videos etc.

Cloud computing

Applications are increasingly moving off of the standalone desk top computer and increasingly onto server farms accessible through the Internet. They will make cheaper information appliances available which do not require the processing power of pc. One can get ubiquitous connectivity to access information sitting in the 'cloud'.A cloud can be private or public. A public cloud sells services to anyone on the internet.

A private cloud is a proprietary network or a data center that supplies hosted services to a limited number of people, with certain access and permissions settings. Private or public, the goal of cloud computing is to provide easy, scalable access to computing resources and IT services. Cloud infrastructure involves the hardware and software components required for proper implementation of a cloud computing model. Cloud computing can also be thought of as utility computing or on-demand computing.

Applications

Cloud based textbooks are less expensive and even free services for cloud-based storage are available. These materials are up-to-date enabling students to gain constant access to the latest learning resources. This cloud computing need not to be carry around, we can access anywhere at anytime. Cloud also provides good data security.

Personalized /One-to-one learning

Transforms a classroom from one that teaches to the onethat adjusts content and pedagogy based on individual student needs.The concept of One Laptop Per Child(OLPC),smart phone, tablets are hiking. Screen casting is one such trend which provides interactive environment for peer to peer, self-paced deeper learning.

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Applications

Increase students engagement and helping them to retain content longer and gain a deeper understanding of the curriculum than traditional classrooms. It provides choices to students to explore the subjects which interest them.

Gaming/Gamification

Making the learning process lot more fun and engaging as massive multiplayer and other online game experience are getting popular among youth. There are many educational apps available. some of them are spell wizards, edmodo, nearpod, kahoot, popplet, quizlet.

Applications

It facilitates higher motivation and engagement among students to eagerly participate and compete with others. Here, learners can practice and hone up their skills in a safer environment which can be applied to real life situations thereby, leads to their behavioural change.

Smart portfolio assessment

It is an online portfolio helpful for students to gather their work together. Whenever a person add a tweet, blog post or photo to any online service, it will appear in their personal portfolio which can be assessed by both peers and teachers.

Applications

It is more effective for evaluating students learning progress and achievement. It helps teachers to monitor the students whether they are applying the concepts learned and encourage students to take more ownership and responsibility in their process of learning. It increases the rapport between teachers and students.

Blogs

A blog is used for learning, teaching, research, marketing, news, and business development. Technically, it is a way to communicate digitally in detail and explanations. While it can be used and modified as per the owner/users' creativity, knowledge, intentions and goals.It is a webpage made up of short, frequently updated posts that are arranged chronologically. Blogs may be of personal as well as official and classroom webpages are one such popular teaching tool.

Applications

Teachers can use blogs to publish assignments, learning resources and keep the students and parents up-to-date about the syllabus. Students too can use blogs to publish their writings and educate others on a particular topic which interest them.

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Artificial intelligence

It is one of the major trends in educational technology which is sure to grow by more than 45% by 2021.USA is one of the world's largest market for AI. The role of AI are speech recognition, problem solving and planning, automation of administrative tasks like students grading and inclusion of smart content in curriculum.

Applications

It can automate basic activities in education like grading and educational software can be adapted to student needs too. It can point out places where courses need to be improve. AI tutors act as an additional support for students in future.

Stem (Science, Technology, Engineering & Mathematics)

It is used as an integral approach of learning and this can be applied in subjects like Science, Education, Engineering, Technology, Arts and Mathematics to in still critical thinking among students. STEM-based learning programs are intended to increase students' interest in pursuing higher education and careers in those fields. STEM education typically uses a newer model of blended learning that combines traditional classroom teaching with online learning and hands-on activities. This model aims to give students the opportunity to experience different ways of learning and problem-solving.

Applications

It expose students to the creative thinking processes like raising thoughtful questions, discovering answers using inductive method and problem solving. By offering meaningful collaboration, students can learn valuable traits like how to divide up responsibilities, compromise, listen to others and encourage each other.

Conclusion

ICT creates an opportunity to teach and learn with new vigour and rigour. As education is the effective tool of moulding society, emerging tech trends can also be used as an teaching-learning aid alike the developed countries. Thus, it is evident that ICT creates a deeper impact on improving learning by providing enormous opportunities for the active participation of more learners.

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Dr. P. Jeyalakshmi

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QUALITY ENRICHMENT IN TEACHER EDUCATION

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Introduction

Etymologically, the word 'Innovation' is derived from the Latin word in 'Innovare' which means to change something into somethingnew. It is a promotion of new ideas and practices in education and training. There has been seen tremendous shift in the ways and means of education service over the year. Research and innovation play an important role in the improving the quality of teachers and training imparted them for all levels of teaching. The demand to introduce the new ideas and practices in a classroom transaction and other curricular the co-curricular activities.

A teacher's task are many - motivating students, managing the classroom, assessing prior knowledge, communicating ideas effectively, taking into account the characteristics of the learners, assessing learning outcomes, and reviewing information (Slavin 2009). All the tasks, involved in teaching, are carried out through many activities. The teacher tells, explains a concept/theory, instructs what is to be done and how it is to be done, illustrates a phenomenon with an act, shows the steps to be followed, models the act, guides to be cleared about a concept, discusses the limitation of an approach, scaffolds the thinking process, etc, to mention a few. These are the activities involved in the real practice of teaching.

In addition to these teaching-specific activities, there are other activities for planning necessary acts and preparing necessary materials. They are meant to make the practice of teaching effective and they may be known as activities for teaching. These activities are not less important as compared to the teaching - specific activities. One such activity is seeking to know the learners, their nature, their problems, their talents and weaknesses, their learning, their needs, their differences, etc.

This knowledge will help to plan and carry out effective lessons, discussions, projects, and other learning experiences. Knowing about how learning, problem-solving skills, and creativity are acquired will help to plan the act to promote their acquisition. Seeking to know how to motivate children and how to deal with individual differences among students is an important activity for a teacher.

Some Innovative Practices in Teacher Education

Following are some of the innovative ideas that needed to be focused

Team Teaching Cooperative or Collaborative Learning Process

When teachers and students have to work under so many constraints, then the practice of team teaching our cooperative or collaborative teaching is always a good option. Team teaching or cooperative learning process is a teamwork where the members support and

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rely on each other to achieve and agreed upon goal, cooperative learning is a successful strategy in which small teams, each student each with student of different levels of ability, use a variety of learning activities to improve their understanding of subjects. Each member of a team is responsible not only for learning what is thought but also for helping teams learn, thus creating and an atmosphere of achievement. Students works through the assignment until all group members successfully understand and complete it.

Reflecting Teaching and Refractive Teacher Education

Reflection on once own work is a key compartment of being a professional and is essential to teacher education. Teacher must examine the before leaf assumption and bases regarding teaching and learning and determine how those believe influence classroom practices. reflections is an natural process that facilitates the development of future action from the contemplation of past and current behaviour. Reflection refers to the on-going process of critically examine examination and refining practices, taking into a careful consideration the personal pedagogical and ethical contexts associated with the schools classrooms and multiple rules of teachers.

Constructivism and Teacher Education

The concept of constructivism has involved from cognitive psychology. Constructivism paradigm is based on the contributions of Piaget, Vygotsky, gardener, dewey, Tolmen and many others. Thus it is synthesis of many domain perspective on learning. It is believed that the key element of constructivist is theory is that people that learn by innovative practices in teacher education and all overview. Actively constructing their own knowledge comparing a new knowledge with their previous understanding and using all these to come to new understanding.

Role of Teachers in Quality Enrichment

"Education is the manifestation of perfection already in man"- Swami Vivekan and Teachers play crucial role in improving the quality of higher education in following ways

Dedication and Commitment

Dedication and commitment of teachers plays a crucial role in improving the quality of education and shaping the future of nation.

Motivation

A teacher should act as a motivational force and should be able to create a learning environment in which students are encouraged to think carefully, rationally and express their thoughts and decide on the situations and difficulties. It is the responsibility of teacher to create a context in which the students' desire and ability to learn can work most effectively. A teacher should act as the role model for the students.

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Skill Development

Skill development is crucial to the success of students in the job market. Skill development of students, on par with their counterparts elsewhere is an important aspect of enhancement of quality of higher education. With liberalization and globalization of economic activities, the need to develop skilled human resources of a high caliber is imperative. Consequently, the demand for internationally acceptable standards in higher education is evident.

Therefore, preparing the students to achieve core competencies, to face the global requirements successfully is very important. This requires that the teachers should be innovative, creative and entrepreneurial in their approach, to ensure skill development amongst the students. By various means such as establishment of collaborations with industries, social organizations, networking with the neighborhood agencies/bodies and fostering a closer relationship between the "world of skilled work" and the "world of competent-learning", it is possible to develop required skills.

Imparting Value Based Education

It is said that skills are of less importance in the absence of appropriate value systems. Hence, teachers should shoulder the responsibility of inculcating the desirable value systems amongst the students. In a country like India, with cultural pluralities and diversities, it is essential that students imbibe the appropriate values commensurate with social, cultural, economic and environmental realities, at the local, national and universal levels. Whatever be the pluralities and diversities that exist in the country, there is ample scope for inculcating the core universal values like truth and righteousness.

The seeds of values sown in the early stages of education, mostly aimed at cooperation and mutual understanding, have to be reiterated and re-emphasized at the higher educational institutions, through appropriate learning experiences and opportunities. Values are the guiding principles of life, which are conducive to all round development. They give direction to life and bring joy, satisfaction and peace to life.

In ancient India, more importance was given to morality, honesty, duty, truth, friendship, brotherhood, etc and these were considered to be the themes of Indian culture and society. Imparting value based education was the only aim of the teachers of ancient age. But in the present scenario, due to large number of changes, there is a considerable decrease in the quality of value based education. Wisdom knows what to do next, skill knows how to do it and virtue is doing it.

Conclusion

In today's Era information and knowledge stand out as a very important and Critical input for growth and survival. Rather than looking at education simply as a means of achieving a social uplift, the society must view education also an engine of advancement in aninformation era propelled by its wheels of knowledge and research leading to development. Innovation is the path to progress for any nation and the future of the nation is in its classroom. It is not necessary that each innovations structured and invented, it

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could be even a crude, unstructured, informal method adopted by the teachers for the sake of meaningful learning of students. Hence we need to respect such innovations as well and promote the innovative methods and ideas practice teaching in our schools, college, universities and other institutions.

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DIGITAL LEARNING STYLES AND SELF-EFFICACY OF PRE-SERVICE TEACHERS

Dr. R. Selvamathi sugirtha & Mrs.S.Gomathi
Sri sarada college of education for women,salem.

Abstract

Digital learning style is take vital role in the teaching learning process of all level. Learning is very easy with digital learning. It will increase the memory level also. The learning style visual, auditory, kinesthetic also very useful in the self-learning process.vak learning styles in MOOC shows the clear idea of learning styles. The knowledge of digital learning style will be increase individuals self-efficacy .Because now a days, digital knowledge give and feel digital India, digital world. we are eligible the current world. The teaching of smart class in the classroom COVID-19 pandemic Mobile app learning also need the knowledge digital learning. The aspects of the digital learning knowledge directly or indirectly increase the self-efficacy of individual in all levels present research is an attempt to investigate the fruitful relationship between the digital learning and self-efficacy upon the Pre-service teachers. The data for this study will be gathered from a sample 500 Pre-service teachers from different colleges in Salem District researcher planned to adapt normative survey method.

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AESTHETIC ENJOYMENT IN MATHEMATICS

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R. SARASWATHY

ANIMALIA

AESTHETIC ENJOYMENT IN MATHEMATICS

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2021

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PREFACE

Aesthetic covers both natural and artificial source of aesthetic experience and judgments in mathematics. It considers what happens in our minds when we engage with aesthetic objects or environments such as expressing a play. Aesthetic considers why people like some works of art and not others as well as how art can affect moods or even our belief. This book is intended for students of teacher education institutions, practising teachers and teacher educators. Contents include number patterns, puzzles, magic squares, paradox, different type of multiplication, rapid and test of divisibility. The book starts with the beauty and history of the number patterns. It includes different types of number patterns. We can understand it with the observations; continuing with paradoxes, it plays a vital role in mathematics. It contains some proofs like Russell's paradox and elevator paradox etc.

Following with puzzles which give more work to the brain. Here are some crazy and logical puzzles which keep our brain more attention. It contains Sudoku, math riddles etc.; succeeding with the magic square which is also referred to as trivial. It comprises construction, classification and enumeration. It was found in the ancient period and appeared in Japan, China and India; continuing with multiplication, which is one of the four basic operations of arithmetic and an essential skill to learn. It mainly includes lattice multiplication, long multiplication, binary multiplication etc.; following with rapid multiplication, a rapid mental calculation which develops our mind. It contains Trachtenberg system and some Vedic mathematics tricks.

This book ends with the divisibility rule which is the process of divisibility without performing actual division. There are some divisibility rules and test. The part division problem includes quotient, remainder and divisor. The main aim of the book is to enrich and enhance the brain of each reader. This book has provided a great opportunity for educators and students to think creative along with enjoyment to this present learner.

R. SARASWATHY

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ABOUT THE AUTHOR

Dr. R. Saraswathy is currently working as Assistant Professor of Mathematics in Sri Sarada College of Education (Autonomous), Salem. She has completed her degree M.Ed. (Education), in 2013 at Kasthooribha Gandhi college of Education and her M.Phil. Degree in Education is completed in 2014 at Sri Sarada College of Education (Autonomous). These colleges are affiliated to Tamil Nadu Teachers Education University, Chennai. She completed her M.A (Sociology) in 2019 at Periyar University, Salem. She obtained her Ph.D. in Education, in 2020 at Tamil Nadu Teachers Education University, Chennai. She is also studying in another degree of M.Sc. (Psychology) at Alagappa University, Karikudi. She has published more than 25 research articles in preferred National and International journals and chapters in books. The author has attended more than 65 conferences, seminars and workshops at national and international level. Four M.Ed. scholars have completed research and many more are pursuing the same under her supervision. Her areas of interests include Pedagogy of Mathematics, Educational Innovations, Perspectives in Education, Disaster Management, Value Education and School Management.

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Unit – 1

NUMBER PATTERNS

1.0 Introduction

Mathematics is all about numbers. Numbers have fascinated humans since ages, be it the mathematicians or statisticians. There is so much numbers that one can do with them and yet to be discovered. Patterns are repetitive sequences and can be found in nature, shapes, events, sets of numbers. There are different types of patterns, such as number patterns, image patterns, logic patterns, word patterns etc. Number patterns are very common in Mathematics. These are quite familiar to the students who study mathematics frequently. Especially, number patterns are everywhere in Mathematics. In earlier grades, we saw patterns in the form of pictures and numbers. In this chapter, we learn more about the patterns of mathematics.

1.1 Definition of Number Pattern

Number pattern is a pattern or sequence of numbers in a series. This pattern generally establishes a common relationship between all numbers.

For example: 0, 5, 10, 15, 20, 25, ...

1.2 What are Number Patterns?

In Mathematics, number patterns are the patterns in which a list of numbers that follows a certain sequence. Generally, the patterns establish the relationship between two numbers. It is also known as the sequences of numbers in series. In order to solve the problems on the number pattern, first, we have to understand the rule being followed in the pattern.

When numbers in a pattern get larger as the sequence continues, they are in an ascending pattern. Ascending patterns often involve multiplication or addition. When numbers in a pattern get smaller as the sequence continues, they are in a descending pattern. Descending patterns often involve division or subtraction. Let us take a simple example to understand the principle behind a number pattern.

Example

Consider an example given here. The given sequence of numbers is 11, 17, 23, 29, 35, 41, 47, and 53. The following figure helps to understand the relationship between the numbers.

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ABOUT THE AUTHOR

Dr. R. Saraswathy is currently working as Assistant Professor of Mathematics in Sri Sarada College of Education (Autonomous), Salem. She has completed her degree M.Ed. (Education), in 2013 at Kasthooribha Gandhi college of Education and her M.Phil. Degree in Education is completed in 2014 at Sri Sarada College of Education (Autonomous). These colleges are affiliated to Tamil Nadu Teachers Education University, Chennai. She completed her M.A (Sociology) in 2019 at Periyar University, Salem. She obtained her Ph.D. in Education, in 2020 at Tamil Nadu Teachers Education University, Chennai. She is also studying in another degree of M.Sc. (Psychology) at Alagappa University, Karikudi. She has published more than 25 research articles in preferred National and International journals and chapters in books. The author has attended more than 65 conferences, seminars and workshops at national and international level. Four M.Ed. scholars have completed research and many more are pursuing the same under her supervision. Her areas of interests include Pedagogy of Mathematics, Educational Innovations, Perspectives in Education, Disaster Management, Value Education and School Management.

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Learning Style Theories for Teaching and Learning

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PREFACE

Learning is a humanistic process. It plays a very important role in determining the behavior of an individual. It is a comprehensive term which leaves a permanent effect or impression on the individuals. Learning is said to be equivalent to change, modification, development, improvement and adjustment. It occupies a very important place in human life. It is a permanent change in behavior that occurs as a result of experience in the environment. It is a lifelong process. It is goal directed. When the purpose of learning is clear, vivid and explicit, the learning becomes meaningful and effective.

Individuals learn in different ways. 'Learning styles' is a term used to express individual differences in the processes of learning. In accepting individual differences, we should consider the concept 'learning styles'. Knowledge about the concept of learning styles is of particular significance in promoting learning and learning experiences.

Knowledge of learning styles will help the teacher in delivering effective presentations to diverse learners in the class. Thus a teacher can determine what is best for the students. The teacher can also take care of the mismatch that may happen while handling the classes. The learning styles of students can be determined using various learning style inventories. This will help the teacher to get an idea about the learning styles of the students in the class and to prepare accordingly.

A learning theory can be considered as an explanation that describes how information is absorbed, processed and retained during learning. There are different learning theories that give a better idea of the purpose behind teaching and learning.

The aim of education is to promote learning. To make learning successful, the educators should incorporate diversity in to their styles of teaching to satisfy different learners. Teaching cannot be successful without knowledge of learning styles. An understanding of learning styles helps the educators and also the learners to become successful in the endeavour of teaching learning process.

This book on learning styles is presented in three sections. The first section gives an introduction about learning styles, section two discusses the different theories of learning styles and the third section gives the educational implications of learning styles. Figures are also incorporated for more clarity. The authors hope that the book will be very helpful for teachers, students and also to the researchers in the field of education.

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FOREWORD

Dr. R. Saraswathy is graduated in Mathematics and working as an Assistant Professor of Mathematics at Sri Sarada College of Education, Salem. She has completed her degree M.Ed. (Education) in 2013 and M.Phil., degree (Education) in 2014 under Tamil Nadu Teachers Education University. She has completed M.A (Sociology) in 2019 at Periyar University, also has obtained Ph.D. in Education, in the year 2020 at Tamil Nadu Teachers Education University, Chennai. Currently she is pursuing M.Sc., (Psychology) at Alagappa University, Karikudi.

She has published more than 22 research articles in preferred National and International journals and chapters in books. The author has keen interest in updating her knowledge by attending more than 65 conferences, seminars and workshops at national and international level and also attended more than 200 online conferences, seminars and workshops. During the COVID-19 Pandemic situation 2020-2021, she has assisted in organizing national and state level webinars and quizzes on various areas of Education with complete dedication.

She has guided many M.Ed. research scholars and guiding more number of scholars under her supervision. Her areas of interests include Pedagogy of Mathematics, Educational innovations, Perspectives in education, Disaster management, Value education and School management

About this book, the author has covered the latest scientific developments in the field of learning style with respect to teaching and learning and intersperse them with her insights. The contents of the books have been sequentially organised, abridged and well presented. Recently she has published a book on "Aesthetic Enjoyment in Mathematics" to help potential readers, target audience and students with her tireless efforts. I wish her great success in all her future endeavors.

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