

EFFECTIVENESS OF FLIPPED LEARNING IN ENHANCING LIFE ORIENTED SKILLS AMONG PRE-SERVICE TEACHERS

V.MAHILNAN

Research Scholar,
Department of Educational Technology,
Bharathiar University,
Coimbatore.

Dr.M.PARTHASARATHY

Assistant Professor,
Department of Educational Technology,
Bharathiar University,
Coimbatore.

Introduction

Flipped Learning – A Modern Trend

Flipped learning is a modern trend and also known as a student-centered approach to learning where the students are more active than the instructor in the classroom activity. In this case, the instructor acts as a facilitator to motivate, guide, and give feedback on students' performance. The flipped classroom allows students to watch the video according to their preferred time and need; they can study at their own pace; this type of activity also increases students' collaborative learning in education outside the class. Thus, by flipping the class, the students will not spend so much time listening to long lectures in the classroom, but will have more time to solve problems individually or collaboratively through flipped learning with peers.

Life Oriented Skills - An Overview

Life Oriented Skills have been defined as “the abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life” (WHO). ‘**Adaptive**’ means that a person is flexible in approach and is able to adjust in different circumstances. ‘**Positive behavior**’ implies that a person is forward looking and even in difficult situations, can find a ray of hope and opportunities to find solutions.

These Life Oriented Skills are related to 4H’s called **Head, Heart, Hand and Health**. This study consists with the theoretical underpinnings of the four pillars of education mentioned in UNESCO’s report i.e. **Learning to know, Learning to do, Learning to live and Learning to be**. Essentially, Four dimensions were taken related to 4H’s for this study are “Thinking and Social Ability”, Value Preferences, Road Safety Awareness and Healthy Habits.

Need and significance of the study

Modern society is characterized by rapid development especially in technology. Computer with multimedia technology have a vital roll to play in the education of our nation. We are living in digital age, every student can access learning resources using multimedia and they can use the contents everywhere and at their convenience. Even more, the use of the traditional learning approach which focuses on the instructor as the centre of knowledge is irrelevant in today's digital age. As a solution, traditional classroom activities such as lectures, labs, homework, and exams can be moved to the flipped learning. This positive impact of technology growth has influenced the development of instructional technology in education and replaced the use of the blackboard with flipping classrooms.

Therefore, living in a digital age demands the learners to work independently and collaboratively before coming to the classroom using various technology tools. New learning instructions that have emerged are now influencing education positively and producing students' independent learning. Indeed, technology in education is an ever-evolving process and demands the students and instructor always update the emerging technology in education.

Education suffers basically from the gap between its content and living experience of pupils. Our educational system is now relying more on examination that compares students to one another as the dominant assessment instrument. This tendency has forced teachers at all grade level to students to achieve learning objectives instead of internal mastery of goals. An unhealthy classroom scenario in which examination system or standardized tests provoke considerable anxiety among students. In order to do so the education needs to be intimately linked with different life oriented skills. So that they enable as individuals to deal effectively with the demands and challenges of everyday life.

Therefore, by this reason the investigator believe that it is very significant to examine the flipped learning for enhancing life oriented skills among pre service teachers. It was felt that a study under taken in this area will provide insight into the Life Oriented Skills of Pre-service teachers and its impact on their performances through the modern instructional method Flipped Learning.

Statement of the Problem

In normal class rooms the use of the traditional learning approach, which focuses on the instructors as the centre of knowledge is irrelevant in current digital age. Instructors find difficulties in teaching life skills by using traditional approaches. A suitable technique to be found and adopted like flipped learning method for enhancing life oriented skills. A realization of the significant of life oriented skills in the educational scenario prompted the investigator to take up the present investigation entitled “**Effectiveness of Flipped Learning in Enhancing Life Oriented Skills among Pre-Service Teachers**”. This investigation is an attempt to assess the life oriented skills and influences of flipped learning among pre-service teachers.

Objective of the study

The objectives of the study are stated as follows:

General objectives

- To develop flipped learning platform for enhancing life oriented skills among pre-service teachers.
- To find out the effectiveness of flipped learning activities in teaching-learning life oriented skills.
- To construct and adopt the research tool for analyzing the life oriented skills with different dimensions.

Specific objectives

- To study the level of life oriented skills among pre-service teachers.
- To evaluate the influence of flipped learning for enhancing life oriented skills.
- To assess the life oriented skills with respect to demographic variables in experimental group.
- To find the inter relationship between the dimensions of life oriented skills.
- To examine the relationship between life oriented skills and academic performance.

Hypothesis of the Study

The hypotheses of this study are,

1. There is no significant difference in the mean scores of life oriented skills in pre-test owing to gender, family type, residential location, stream of education, educational qualification, monthly family income, hostel experience, medium of instruction and marital status.
2. There is no significance difference between the mean scores of life oriented skills in pre-test and post-test of experimental and control group.
3. There is no significant difference between the post-test mean scores of life oriented skills in control and experimental group.
4. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to gender.
5. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to family type.
6. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to residential location.
7. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to stream of education.
8. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to educational qualifications.
9. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to monthly family income.

10. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to hostel experience.
11. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to medium of instruction.
12. There is no significance difference in post-test mean scores of life oriented skills among experimental group with respect to marital status.
13. There is no significant difference between control and experimental group in the post-test mean scores of 'thinking and social ability'.
14. There is no significant difference between control and experimental group in the post-test mean scores of value preferences.
15. There is no significant difference between control and experimental group in the post-test mean scores of road safety awareness.
16. There is no significant difference between control and experimental group in the post-test mean scores of healthy habits.
17. There is no significant interrelationship between the dimensions of life oriented skills in pre-test.
18. There is no significant interrelationship among the dimensions of life oriented skills in post-test.
19. There is no significant relationship between life oriented skills and academic performance among pre test and post test groups.
20. There is no significant difference in mean score of life oriented skills between the post-test and retention test of experimental group with respect to their dimensions.

Population of the Study

In Tamil Nadu, the Teacher training programmes are categorized into two types namely Primary level teacher trainees and Secondary level teacher trainees in the colleges of Education. The primary level programme is a diploma course and the secondary level is a degree course (B.Ed). In the present study, the investigator selected the secondary level student teachers in and around Coimbatore city as population of the study.

Sample for the Study

Well selected sample may reflect fairly and accurately the characteristics of the population. The sample selected for this study was non probability sampling. The convenience or accidental sampling method was used for survey. There were 800 pre-service teachers in and around Coimbatore district, Tamilnadu taken for survey analysis. The sample selected for the experiment was purposive or judgment sampling method. The low scores among 800 pre-service teachers were selected in that, 38 pre-service teachers of Dr.SNS College of Education, Coimbatore were treated as experimental group and 42 pre-service teachers of PPG College of Education, Coimbatore were treated as Control group.

Experimentation – Identifying control and experimental group

The samples for the study were selected from among the pre service teachers of ten College of Education situated in the city of Coimbatore, Tamil Nadu. An attitude scale was administered to all the participants of control and experimental groups before experimentation in order to study the demographical variables gender, family type, residential location, stream of education, educational qualification, monthly family income, hostel experience, medium of instruction and marital status exposure with regard to life oriented skills. The distribution profile of samples for the control and experimental groups is given in the following table.

S.No.	Group	Name of the College	No. of Samples
1	Control	PPG College of Education	42
2	Experimental	Dr.SNS College of Education	38

Pre-tests assessing the achievement in life oriented skills were administered to all the selected pre service teachers before experimentation. Normal traditional way of teaching was adopted in control group while flipped learning method was adopted for experimental group for enhancing life oriented skills.

A comparative study of the profiles of the control and experimental groups highlighted that all the samples are almost identical so far as the demographical variable gender, family type, residential location, stream of education, educational qualification, monthly family income, hostel experience, medium of instruction and marital status exposure to life oriented skills. Hence it is concluded that all the samples are almost homogeneous in terms of the above said variables.

Variables used in the Study

Three variable were identified by the investigator in the present study namely, Independent variable, Dependent variable and Demographic variable.

Independent Variable

The investigator considered that the ‘Flipped learning’ web site constructed for life oriented skills development as the independent variable of the present study.

Dependent Variable

The investigator considered that the life oriented skills with four dimensions namely ‘Thinking and Social Ability’, Value Preferences, Road Safety Awareness and Healthy Habits of selected pre-service teachers as the dependent variable of the present study.

Demographic Variables

The investigator considered the gender, family type, residential location, stream of education, educational qualification, monthly family income, hostel experience, medium of instruction and marital status of the selected Pre-service teachers as the Demographic variables of the present study.

Tools used in the Study

Three tools were designed and used in this study, they are

1. Personal data sheet (to collect Demographic Variables)
2. Flipped learning web site
3. life oriented skills test tool with four dimensions consists of 'Thinking and Social Ability', Value Preferences, Road Safety Awareness and Healthy Habits.

Design and development of Personal Data Sheet

The personal data sheet is meant to collect information regarding the personal variables like gender, family type, residential location, stream of education, educational qualification, monthly family income, hostel experience, medium of instruction, marital status, subject specialization and academic performance.

Development and validation of 'Flipped leaning' tool

The 'Flipped learning' web site was developed with the help of Google Sites. The web site was titled as 'Training in Life Skills'. Google Sites allows displaying a variety of information in one place including videos, slideshows, animations, presentations, attachments, and text and share with the world. The features of Google site were used to design the 'Flipped leaning' tool. And this study mainly aims at establishing the relative effectiveness of flipped learning.

i. Customization

Customization icons allowed adding and editing the text and images in the web site in an easy and effective way.

ii. Sub-pages

Sub pages are created with the help of hyper text markup language to keep the contents in a well organized manner.

iii. Types of web elements

The Google site allows choosing page types such as web page, announcement, file cabinet and various links.

iv. Private / Public

It is always advantageous to have a central location for the online and offline files. The public option allows online files to be accessed by any one and private option allows keeping off line files for web master usage.

v. Security and reliability

Google sites is designed for security and reliability with features like encrypted connections to Google's servers, real-time file save, simultaneous replicated storage for the sites, built-in disaster recovery and fine-grained sharing controls that let share the work with the right people.

Keeping all the above said principles in mind, the researcher designed and developed the 'Flipped leaning' tool with the media materials to study the life oriented skills; evaluate the effectiveness of flipped learning method; so as to access the quality as well as the suitability of the same.

As already stated, all the media materials text, image, audio, video and graphics were evaluated by experts, education technologists, professors, in-service and pre-service teachers of flipped learning tool for enhancing the life oriented skills. The media materials played were witnessed by the above said people. It is seen that most of the evaluators rated the different aspect of the media materials moderately or more. It is heartening to see only few evaluators are not satisfied with the quality of the different aspects of media materials. They were edited and modified for the need and requirements and showed good results. Hence it is evident that all the above said media materials are worthy of instruction.

Development and validation of 'Life Oriented Skills' tool

The present investigation on life oriented skills necessitated the need for constructing a valid and reliable life oriented skills scale to be used among pre service teachers. This is the major tool used in this study consistent with the theoretical underpinnings of the four pillars of education mentioned in Delor's report- UNESCO international commission on education for twenty first century (2006) i.e. learning to know, learning to do, learning to live and learning to be. On the basis of above report the conceptualization of the dimension, sub-dimension and items were derived, a careful study of literature on life oriented skills from various resources like books, journals, leading dailies and a discussion with a panel of experts in the field of education and psychology helped the investigator to develop the present tool.

A tool should never be lopsided. To avoid over representations or neglect of any specific area, advance planning is necessary. After thoroughly analyzing the different views on life oriented skills and referring literature from journals and books on life oriented skills and educational psychology, the items for the present tool were decided. The details of the dimensions selected for the study are described below:

1. Thinking and Social Ability (attitude scale)

Sub Dimensions: 'Interpersonal ability and intrapersonal ability', Emotional Adoptability, Stress management and general mood.

2. Value Preferences (attitude scale)

Sub Dimensions: Personal values, Social values and Ethical values.

3. Road Safety Awareness (criterion reference test)

Sub Dimensions: Mandatory signs or Regulatory signs, Cautionary or Warning or Precautionary signs and 'Informatory and Light signals'.

4. Healthy Habits (attitude scale)

Sub Dimensions: Food Habits, Environmental Cleanliness and Physical Fitness.

An attitude represents an individuals feeling for or against something. It is also found as the degree of acceptance given by an individual for something. An attitude is one's mental disposition or degree of acceptance directed towards an object which may either concrete or abstract.

Attitude questionnaires (also called opinionaries) and rating scales are generally used for measurement of attitudes. Scaling procedure is commonly used to assess attitude. In this study the investigator followed Likert's technique in developing the attitude scale towards life oriented skills. Likert method of attitude scale is popular and simple. This method is consisted of multiple choice type statements. Collecting a large set of items relating to the social or psychological object in question. The statements should be such that they represent different degrees of acceptance of the object. The statement can be collected from a wide variety of sources like authoritative books dealing with them, research literature, newspaper statements, etc. A very large pool of items will be adequate for developing a good attitude scale.

The preliminary pool of items is printed in the form of an attitude questionnaire with five point responses given against each statement. Each item in the scale as described. In scoring, we distinguish between positive and negative items. An opinion unfavorable to the purpose is taken as negative item and other is taken as positive item. The scoring is as shown below:

Item	Always எப்பொழுதும்	Often அடிக்கடி	Sometimes சில சமயங்களில்	Rarely அபூர்வமாக	Never ஒருபோதும் இல்லை
Positive	5	4	3	2	1
Negative	1	2	3	4	5

Estimation of reliability and validity of the tools

Reliability

The 'split-half' method was adopted for the calculation of reliability coefficient for the dimensions namely Thinking and Social Ability, Value Preferences, Road Safety Awareness and Healthy Habits. The items in the scale were split into two halves namely a list of odd numbered items and list of even numbered items.

This can be done only when the numbering itself has not involved with the systematic principle it is safer than comparing the first half against the second half since differential informant fatigue or cumulative item effect may lower or raise the true correlation. The correlation was obtained between the scores of these two halves. The reliability test was administered on individual categories as well as the entire scale as a

whole. The Spearman-Brown Prophecy formula was used to find out the reliability co-efficient and the values are as presented in the following table.

Dimensions	Reliability
Thinking and Social Abilities	0.73
Value Preferences	0.78
Road Safety Awareness	0.81
Healthy Habits	0.72
Complete Scale	0.76

The reliability of the Life Oriented Skills test tool has been found to be 0.76. Hence the tool was considered reliable.

Validity

The researcher considered verifying the content and constructing validity of the test selected to adopt. The tool was tried on small sample. The items of the tool have been analyzed and verified by some specialist on the basis of the Dimension and Sub Dimension considered by the researcher. The items showed that the test tool has the ability to measure the Life Oriented Skills of Pre-service teachers. Thus, the Content Validity of the tool was ensured.

On the basis of Psychological and Educational concepts of Life Oriented Skills and operational definition as constructed by researchers, all items have been verified and proved the Construct Validity.

The researcher ensured that the validity of the tool through systematic planning and procedure in constructing the said tool. In developing the scale the items were collected after exhaustive analysis of the content meant for different strategies, followed by consultation with experts in the area of Life Oriented Skills. As suggested by the experts the modifications were done to the structure and content of the items. A pilot study was also done taking a few samples in the study area. Thus a systemic methodology was undertaken in developing the tools. Hence it is evident that the scales have high content validity also.

Pilot Study

To prepare the pre-test, the investigator constructed a test tool termed as pilot study test tool. It consisted of 75 items based on the dimensions namely 'Thinking and Social Ability', Value Preferences and Healthy Habits. Each question constructed in five point scales with Always, Often, Sometimes, Rarely and Never. The Criterion Reference Test for Road Safety Awareness was also consisting of 60 items as one of the dimension for the study of Life Oriented Skills among Pre-service teachers. The subjects are request to express their views without any reservation.

The tool were prepared and issued to 153 pre-service teachers in the academic year 2015–16 with strata of gender, family type, residential location, stream of education, educational qualification, monthly family income, hostel experience, medium of instruction and marital status. The duration of the test was 90 minutes.

Their responses were collected and valued. Before giving a final shape to the Pre-test tool, the investigator consulted with subject experts for necessary modifications in the tool. Incorporating their valuable suggestions and Item analysis index, 15 items were discarded and only 60 items in each dimension were kept for the final study.

Final tool for the study

The selected items will be arranged in such a way that positive and negative items alternate. This arrangement will help us to cover the real intention of a measuring tool. The final scale is administered on a large sample. Almost all the above said principles were strictly followed in the development of attitude scale towards life oriented skills for three dimensions namely, 'thinking and social ability', value preferences and healthy habits. Sixty statements for each dimension representing different degrees of acceptance with regard to different aspects of life oriented skills. These attitudes collected from variety of sources. The criterion reference test for road safety awareness was also consisting of 60 items as one of the dimension in this tool. The subjects are request to express their views without any reservation. The collected statements were edited and modified. The final scale was administered to the control and experimental groups as pre, post and retention tests. The same test tools with exchanged item numbers were again administered to all the groups as retention test one month after the experimentation was over.

Procedure of Data Collection

During the period of two months, required data for the survey were collected from the pre-service teachers in Coimbatore district. After administered the pre-test the control group was kept under control condition by providing as usual traditional situation while the experimental group was provided with flipped learning website and activities. After 45 days the post-test was conducted for control and experimental group and finally one month after the experimentation the retention test were administered to all the groups.

The response sheets of the subjects of the control and experimental groups for all the tests via, pre, post and retention were scored and tabulated. The mean and standard deviation of the scores of the subjects of the control and experimental groups measured by pre, post and retention tests were also computed. The formulated hypotheses were tested using appropriate statistical techniques.

Statistical Analysis

The collected data studied from different angels in order to explore the new facts. The data organized, converted and analyzed using MS-Excel and SPSS software. The main statistical techniques used in the analysis of data were mean, standard deviation, t-test and correlation analysis for descriptive,

differential and relationship analysis. Percentile analysis also has been employed to the study for the realization of its objectives and for testing the hypothesis.

Hypothesis :

There is no significance difference between the life oriented skills mean scores of pre-test and post-test in experimental and control group.

Group	Test	N	Mean	SD	't' Value	Significance
Control Group	Pre-test	42	55.77	3.38	7.682	S
	Post-test	42	57.67	3.46		
Experimental Group	Pre-test	38	58.72	3.57	27.39	S
	Post-test	38	68.77	2.50		

Table 4.6 The mean scores Life Oriented Skills in Pre-test and Post-test

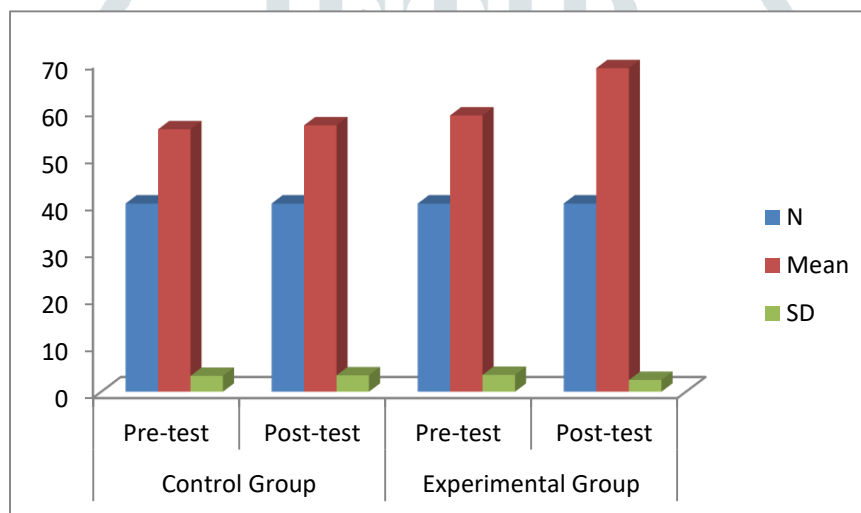


Fig 4.4 The mean scores Life Oriented Skills in Pre-test and Post-test

It is inferred from the above table that computed value of 't' (27.39 and 7.682) between the experimental group and control group with respect to their post test is higher than the critical value at 0.01 level of significance. Hence, it is significant consequently, the null hypothesis is to be rejected and it can be said that there is significant difference between the pre-test and post-test mean scores of the life oriented skills of experimental group and control group. It is also found that there is a very high significant t value (27.39) in Experimental group than the control group which has the lower t value (7.682).

Findings

- The present study showed that the level of life oriented skills of pre-service teachers is low.
- There is no significant difference in the mean scores life oriented skills in experimental group owing to gender, family type, residential location, stream of education, educational qualification, monthly family income, hostel experience, medium of instruction and marital status. It is revealed that the above demographic variables are not influence the life oriented skills.

- There is a significant difference in the mean scores of pre-test and post-test in experimental group. It is concluded that the flipped learning method is very effective for enhancing life oriented skills than the traditional methods among pre-service teachers.
- There is a positive correlation observed between the dimensions of life oriented skills and academic performance in experimental group.

Limitations of the Study

- The assessment of life oriented skills is based on self-report and data of the subjects.
- The influence of any other intervening variables is not considered in this study.
- Area from where the sample has been drawn is confined to Coimbatore city only.

Conclusion

Education is the passport to opportunity and prosperity for an individual and for stability and development of a nation. Educated individuals can become entrepreneurs, academics, professionals, or business leaders and contribute in the process of development of a nation. Education in 21st century is a blend of career skills and Life Oriented Skills which involves enabling today's students to be academically competitive in global situations; good citizens within their community, country, and the world. Life Oriented Skills may include emotional quotient, attitude towards life, interpersonal skills, self-awareness building skills, decision-making, prioritization, empathy, coping with stress, psychomotor skills and health habits. Present scenario in the Indian context, Life Oriented Skills would go a long way to achieve the objectives of Education in India. This study made a sincere attempt to probe into these areas and proposes to examine the possibility of developing a flipped learning model, which would be suitable to the Indian learners and teachers initially and become adaptable to other developing societies in due course.

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