OPEN ACCESS

Volume: 8

Issue: 1

Month: December

Year: 2019

P-ISSN: 2320-2653

E-ISSN: 2582-1334

Received: 15.09.2019

Accepted: 18.10.2019

Published: 01.12.2019

Citation:
Manoharan, C., and Birundha. "Attitude of Higher Secondary Students to Flipped Classroom." *Shanlax International Journal of Education*, vol. 8, no. 1, 2019, pp. 43–47.

DOI:
https://doi.org/10.34293/education.v8i1.1252

Attitude of Higher Secondary Students to Flipped Classroom

C.Manoharan

Professor, Department of Education, Bharathiar University, Coimbatore, Tamil Nadu, India

Birundha

Research Scholar, Bharathiar University, Coimbatore, Tamil Nadu, India

Abstract

Educational Technology is an applied study which aims at maximizing learning by making use of the scientific and technological method and concepts developed in other social service. "Educational technology is the application of scientific knowledge about learning and conditions learning to improve the effectiveness and efficiency of teaching and learning."Four Pillars of Flipped Learning Flipped Learning Consists Of Four Pillars: Flexible Environment, learning the culture, intentional content, and Professional educators. Flipped Learning F-L-I-PFlexible Environment Learning Culture Intentional Content Professional Educators. Flipping a classroom is one of the recent methods which requires teachers' recording the lesson and students' watching the recordings before coming to the classroom to spend the class time with the activities. As teachers do not deliver the lecture in the class, more time can be allocated to active learning activities. The flipped classroom is "a teaching method that delivers lecture content to students at home through electronic means and uses class time for practical application activities, may be useful for information literacy instruction." That means that there is much more use of technology for Flipped Learning. The objectives of the study were: to study the effectiveness of Flipped classroom instruction upon the teaching of Chemistry at the Higher secondary level. Findings: The means of pre-test scores and post-test scores of experimental groups differ significantly (0.01 level) with the post-test mean being higher than the pretest mean. The implication of that is that the level of acquiring of the basic skills in Chemistry has not increased due to the traditional method in the Control group and the Flipped classroomInstructional Method in Experimental group. The post-test scores of the control and experimental group differ significantly. The means score of the experimental group is greater than of the control group.

Keywords: Freedom, Honesty, Security, Pillors, Chemistry

Attitudes

Throughout the history of social psychology, the attitude has played a central role in the explanation of social behavior. It is usually defined as a disposition to respond favorably or unfavorably to an object, person, institution, or event. People can hold attitudes of varying degrees of favourability toward themselves and any discriminative aspect of their environment. Widely shared, positive attitudes toward relatively abstract goals (freedom, honesty, security) are known as values.

Attitude is considered a hypothetical construct; being unobservable, it must be inferred from measurable responses that reflect positive or negative evaluations of the attitude object. Three categories of responses are distinguished, following a classification that goes back at least to Plato: attitudes can be inferred from cognitive responses or beliefs (reflecting the individual's perception of, and information about, the attitude object); affective responses (evaluations of, and feelings toward, the object); and conative responses (behavioural intentions, tendencies, and actions with respect to the object).

For example, attitudes toward an ethnic group can be inferred from stereotyped beliefs (whether valid or biased) that attribute certain traits, abilities, manners, and life styles to members of the group in question; from such affective or evaluative responses as expressions of like or dislike for the ethnic group; and from intentions or over actions that reflect tendencies to approach or avoid members of the group under consideration.

Although attitudes are sometimes viewed as containing all three response classes or components, most social psychologists identify and define attitudes in terms of effect or evaluation. Beliefs, intentions, and behaviors are viewed as related to, but conceptually distinct from, attitudes. In the 1950s, social psychologists posited a basic need for people to maintain consistency among their beliefs, attitudes, and actions. Inconsistency (dissonance, imbalance, incongruity) was said to be psychologically aversive, motivating the individual to change beliefs, attitudes, or behavior in such a way as to establish consistency, or at least reduce the degree of inconsistency, among these forces.

Background of the Study

Rahma (2003). Studied Achievement in Mathematics of Eighth Grade Students of Different Ethnic Groups of Nepal. It was manifest that. There was a significant difference among the four ethnic groups about overall achievement in Chemistry. (1) Tamang students were found to be the best among the four groups in overall achievement in Chemistry. (2) The four ethnic group children differed significantly from each other concerning achievement in arithmetic. (3) Ethnic groups significantly differed from each other concerning achievement on Knowledge, Skill, Comprehension, and Application Levels. (4) No significant difference was found between Tamang and Magar students in Knowledge. (5) Sarki children were found to be the lowest achievers on Knowledge among all ethnic groups. The study cities two hundred nineteen references. Geetha. (2004 Carried out An Experiment with Scaffolding, Reciprocal Teaching The results indicated the following findings: (1) The pupils expressed eagerness to learn through the activity-oriented method. They could understand the concepts better concerning social context. They all agreed that they get tired when they read what they do not understand. (2) All the students enjoyed answering questions as pre-primary and primary levels. (3) It was observed that the students preferred to discuss among themselves and find a solution (traces of reciprocal teaching and shared learning). (4) It was observed that the primary children preferred to read the questions and discuss the answers loudly (shared learning). (5) They showed more enthusiasm than the elder children to answer questions (evidence of inquiry learning more in young learners whose ZPD could be tapped at an earlier phase as told by Vygotsky). (6) The children used their imaginative power to find answers to questions and rarely asked for support. The Scaffolding also evidently seeded only in analyzing the questions.

Ponnusamy and Sudarsan, (2001). Studied on Student Achievement and Cooperative Learning Method in Flipped classroom Upper Primary Level. And found that (1) Cooperative learning contributes a lot to improve the academic performance of students in VII and VIII standards in learning Chemistry. (2) The standard does not affect the performance of experimental group students, and so the effectiveness of cooperative learning can be generalized. (3) Gender does not affect the performance of experimental group students, and so the effectiveness of cooperative learning can be generalized. The study cites three references.

Statement of the Problem

The investigation was done to find out the answers to the following questions:

- What is meant by Attitude towards the Flipped classroom?
- What is the level of Achievement in the Flipped classroom of the students of XII standard?

Significance of the Study

"Flipped classroom is a way to settle in mind a habit of reasoning." In the Flipped classroom, the results are developed through a process of reasoning. The reasoning in a Flipped classroom is of a peculiar kind and possesses several characteristics such as simplicity, accuracy, the certainty of results, originality, similarity to the reasoning of life, and verification.

Objectives of the Study

The following intentions are built for the study:

1. To assess the degree of Attitude towards the Flipped classroom of students of XI standard.
2. To measure the degree of Achievement in the Flipped classroom of the students of XI standard.

Hypothesis

1. There is no significant difference in the mean attitude scores towards Flipped classroom among students in terms of the type of institutions.
2. There is no significant difference in the mean attitude scores towards Flipped classroom among students in terms of gender.
3. There is no significant difference in the mean attitude scores towards Flipped classroom among students in terms of locality.
4. There is no significant difference in the mean attitude scores towards Flipped classroom among students in terms of income.
5. There is no significant difference in the mean attitude scores towards Flipped classroom among students coming under the category of day scholars and hostellers.

Tools

Validity of the Tool

The accuracy of a test or any instrument of measurement depends on the precision with which it tests what it aims to measure. A test is valid when the performance is otherwise independently measured or objectively defined.

The degree of which a measure measures the characteristics or phenomenon it claims to measure is called validity. Several types of validity are relevant to different kinds of trials and testing situations.

Test validity is often investigated by calculating the correlation between subjects' test scores and their scores on an orientation measure. The resulting correlation coefficient indicates the magnitude of the relationship between the two sets of scores.

Item validity is defined by correlation subjects scores on an individual item with their scores on a criterion measure. Another approach to deciding item validity is to calculate the index of discrimination, which is based on an analysis of the dimension of persons in contrasting criterion groups who pass each item.

Based on the above literature, the investigator found the validity of the tool (entry behavior test and pre-test). Item validity was discovered by calculating the discrimination index. Content validity of the tests and the instructional materials were processed y a thorough and systematic examination of relevant objectives. Again its content validity was well established by a chosen examiners scrutiny and critical analysis done by experts in the field. Based on the modification suggested by the panel of experts, Instrumental materials, and items in the tests were improved and modified.

Reliability of the Tool

'Reliability may be defined as the level f internal consistency' or stability of the measuring device over-time. There are several methods of estimating reliability, most of which call for computing a correlation coefficient between two sets of similar measurements.

Scale of Attitude Towards Flipped Classroom

The details of the tools used in the study are presented below:

This is a tool constructed by Krishnan, K. and Meenakshi, A. in 1995, following the Likert method. This scale is intended to measure the degree of favorable attitude towards the Flipped classroom possessed by the Xi standard pupils. It contains 55 items. Each item is provided with three alternative responses, viz. Agree, undecided ad Disagree. Respondents are required to select one of these three responses for each item and record it on the response sheet given separately.

Development of the Scale

This scale consists of two parts. The first part consists of the guidelines given to the respondents. The second part consists of 55 items.

The scale consisting of refined 55 items was administered to 370 pupils. It included 43 positive items and 12 negative items. The negative items are 11, 12, 17, 21, 22, 31, 32, 38, 39, 45, 46 and 47. A score of 2/1/0 was given to the responses Agree / Undecided / Disagree, respectively, for the negative items. The scores for all the 55 items for a respondent were added. The 370 respondents were arranged in descending order based on the scores of the respondents. The top 100 respondents were

termed as High Attitude group, while the bottom 100 respondents were termed as Low Attitude Group. Item analysis was done by employing a 't' test for a significant difference between the means of High and Low Attitude Groups. All the 55 items were found to be significant at 0.05 level and hence included in the final scale. The final scale was administered to another sample of 100 pupils for the establishment of reliability and validity.

Reliability

The corrected reliability co-efficient of the scale by Split – half method (Odd Vs. Even) is calculated as 0.67.

Validity

Scheme of Analysis of Data

Mean, Standard Deviation; correlation co-efficient was to be found out for conducting the investigation. To find out the meaning of the difference, the teachers about attitude to teaching, aptitude, teacher professional perception, and role perception, 't' tests were done.

Hypotheses

In the mean ratings, there is no significant difference in Attitude towards Flipped classroom among students in terms of Type of institutions,. Gender. Locality., SES, Residence and Parental literacy.

Table Difference in Students due to Sub Variables

Institution	N	Mean	SD	"t" value	Significance
Government	60	93.07	7.71	0.29	NS
Management	60	95.05	8.84		
Gender	**N**	**Mean**	**SD**	**"t" value**	**Significance**
Boys	60	94.70	7.94	0.98	NS
Girls	60	94.28	7.87		
Locality	**N**	**Mean**	**SD**	**"t" value**	**Significance**
Urban	30	95.40	8.44	0.70	NS
Rural	90	94.19	7.70		
Sex	**N**	**Mean**	**SD**	**"t" value**	**Significance**
High	35	96.66	8.42	1.86	NS
Low	85	93.60	7.51		
Residence	**N**	**Mean**	**SD**	**"t" value**	**Significance**
Day scholars	42	98.29	8.54	3.68	S
Hostellers	78	92.45	7.81		
Parental Literacy	**N**	**Mean**	**SD**	**"t" value**	**Significance**
Low	85	93.60	7.51	1.86	NS
High	35	96.66	8.42		

Result

Findings

1. In the mean ratings, there is no significant difference in Attitude towards Flipped classroom among students in terms of Type of institutions.
2. In the mean ratings, there is no significant difference in Attitude towards Flipped classroom among students in terms of Gender.
3. In the mean ratings, there is no significant difference in Attitude towards Flipped classroom among students in terms of Locality.
4. In the mean ratings, there is no significant difference in Attitude towards Flipped classroom among students in terms of.SES
5. There is a substantial difference in mean scores in Attitude towards Flipped classroom among students coming under the category of Day scholars and Hostellers.
6. In the mean ratings, there is no significant difference in Attitude towards Flipped classroom among students in terms of parental literacy.
7. In the mean ratings, there is no significant

difference in Attitude towards Flipped classroom among students in terms of Family size

Limitation of the Study

The limitation of the study is as follows:

1. The study is limited to the learners studying in XI std in particular schools of COIMBATORE District.
2. The sample is available for sampling.
3. The period of study is short owing to the paucity of time on the part of the investigators

Suggestions for Further Study

The following titles are suggested for further study.

1. Impact of Classroom climate. Upon academic achievement in physics, chemistry, humanities and vocational subjects.
2. A survey of Classroom climate .. . and academic achievement of the learners at different levels.
3. A similar study may be undertaken with students of Matriculation Schools.
4. A study of aptitude of the .students at different school levels with special reference to fostering creativity.

Conclusion

The investigator could decipher that a favorable attitude may go a long way in enhancing the achievement of students in Chemistry, A good attitude. Plays a vital role in imparting education to students at an optimum level.

References

Covill, D., Patel, B. and Singh, G.D. "Flipping the Classroom to Support Learning: An View of Flipped Classes from Science, Engineering and Product Design." *The School Science Review*, vol. 95, no. 350, 2013, pp. 73-80.

McLaughlin, J.E. et al. "Pharmacy Student Engagement, Performance and Perception in a Flipped Satellite Classroom." *American Journal Pharmaceutical Education*, vol. 77, no. 9, 2013, p. 196.

O'Flaherty, J and Phillips, C. "The use of Flipped Classrooms in Higher Education: A Scoping Review." *The Internet and Higher Education,* vol. 25, 2015, pp. 85-95.

Seery, MK. "Flipped Learning in Higher Education Chemistry: Emerging Trends and Potential Directions." *Chemistry Education Research Practice*, vol. 16, no. 4, 2015, pp. 758-68.

Vogel, L. "Educators Propose "Flipping" Medical Training." *Canadian Medical Association Journal*, vol. 184, no. 12, 2012, pp. 625-626.

Author Details

C.Manoharan, *Professor, Department of Education, Barathiar University, Coimbatore, Tamil Nadu, India*

Birundha, *Research Scholar, Bharathiar University, Coimbatore, Tamil Nadu, India.*
Email ID: *sbirundha19@gmail.com*