



A Comparative Study of PL and CAL on Direct-Indirect Speech

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Abstract:

PL is a teaching technique in which a learner is presented with a small chunk of information, and is asked to answer a question after understanding it. If the answer is correct, the learner may proceed to the next chunk, otherwise go back to a previous piece of information and proceed from there. PL is based on the principles of small steps, self-pacing, and immediate feedback. In general, the use of computers in education through CAL has been sporadic a great deal of effort was expended with little general impact. Many of those academics that took part in that earlier crusade are now cynical about the effectiveness of computers in teaching. Via this study the researcher find out the effect of PL and CAL on Direct-Indirect Speech.

Keywords: CAL, Direct-Indirect Speech, Learning, PL

1. Introduction

New methods of learning like PL and CAL can contribute a lot in the field of education. The students can progress as his capacity by PL and in it the understanding of the subject matter given very minutely. In the same manner computer assisted-learning can develop the logical power of the students and satisfy their psychological need with the use of computer, different animation, colors, sound, etc. Students like to know something new and interesting and also to practice it. If we want to make them away from cramming we have to use some aids, which concentrate their mind, so both these methods inspire the students to learn any unit in very limited time. Both the methods are 'learner centered', not 'teacher centered' that is the demand of present time. By making an aim to know the mentioned new techniques increase the effectiveness in teaching work or not? The researcher will construct and try out PL material and CAL programme for standard 9th on Direct-Indirect speech.

2. Definition of Key Terms

2.1 Programmed Learning (PL)

According to Encarta dictionary:

"Learning method based on self-instructional materials that are designed to allow students to progress at their own pace, step by step, through structured sequences."

According to Patrica calendar, "PL is an attempt to systematic education and training, ' using some of the methods of modern industry. It is also an attempt to make the teacher a more efficient mediator between learning and the learner."

In concern of the present study researcher will make PL material on Direct-Indirect speech for the students of Standard-9 by the step given to prepare such material.

2.2 Computer Assisted Learning (CAL)

According to Encarta dictionary,

"Computer means electronic data processor: an electronic device that accepts processes, stores and outputs data at high speeds according to programmed instructions.

Assisted means,

“Act of helping- an act or series of actions helping another person”.

Learning means,

1. Acquiring knowledge: the acquisition of knowledge or skill.
2. Acquired knowledge: knowledge or skill gained through education. A man of great learning.
3. Change in knowledge (psychology): a relatively permanent change in or acquisition of knowledge, understanding, or behavior."

In concern of the present study to construct a programme with sound and presented by slide show by using power-point programme on topic of Direct- Indirect Speech for the students of Standard 9th with the help of computer.

3. Objectives of the Study

The Research objectives are defined as follows.

1. To construct PL for the students of Standard 9th on the topic of 'Direct-Indirect Speech' in Gujarati grammar.
2. To construct CAL for the students of Standard 9th on the topic of 'Direct-Indirect Speech' in Gujarati grammar.
3. To tryout PL for the students of Standard 9th on the topic of 'Direct-Indirect Speech' in Gujarati grammar.
4. To tryout CAL for the students of standard 9th on the topic of 'Direct-indirect Speech' in Gujarati grammar.
5. To compare learning by PL and CAL and conventional method.

4. Research Hypothesis

In order to achieve the aforesaid objectives of the study the following null hypothesis has been formulated.

1. There is no significant difference in the mean score of I.Q of students learning through PL, CAL and through conventional method of school 1. (D. J. Mehta Vidyalaya, Juna Deesa).
2. There is no significant difference in the mean score of I.Q of students learning through PL, CAL and conventional method of school 2. (Shree Nontan Bharati Vidyalaya, Zerda).
3. There is no significant difference in the mean score of I.Q of students learning through PL, CAL and through conventional method of school 3. (Adarsh Vidyalaya, Deesa).
4. There is no significant difference in the mean score of the post test of the students learning through PL, CAL and conventional method of school 1.

5. There is no significant difference in the mean score of the post-test of the students learning through PL, CAL and conventional method of school 2.
6. There is no significant difference in the mean score of the post-test of the students learning through PL, CAL and conventional method of school 3.
7. There is no significant difference in the mean score of post-test of the student of school 1, 2 & 3 learning through PL.
8. There is no significant difference in the mean score of post- test of the student of school 1, 2 & 3 learning through CAL.
9. There is no significant difference in the mean score of post- test of the student of school 1, 2 & 3 learning through conventional method.

5. Variables

Sr.	Types of Variables	Level of Variables
1	Dependent variable	Score of the Post test
2	Independent Variable	1. PL 2. CAL 3. Conventional Method
3	Controlled Variable	1. Standard of Students 2. Unit 3. Time

6. Importance of the Study

To meet the need of society and by keeping pace with time now we are in 21st century where time is constantly changed and there is no bondage for knowledge and information. In such age the traditional and textbook centered teaching i.e. cramming, will not work. The introduction and the implementation of new methods and techniques are necessary as far as the span of education is concerned. The aim of the present researcher to present new methods of teaching to the students. The new methods of teaching with live interaction in the classroom satisfy the curiosity, interest and creative aspect by keep in mind the individual differences. Present research has main aim to give knowledge of Direct-Indirect Speech in Standard 9th by these two methods. By these two methods teachers and students will concentrate and also their meaningful relationship will be remaining. Both these two methods keep individual differences. The student" will be active, his decision power and logical power will develop. These methods are about learning by doing'. So students will get the knowledge with enjoyment. Their interest will remain the same because of the feedback and these methods help them. Teachers will have the opportunity to use these methods in overcrowded classroom. So in present study the aim to help the teachers and the students in teaching- learning programme and also practicing it, the researcher has decided to construct PL and CAL for the students of standard 9th to teach them Direct-Indirect Speech.

7. Type of the Research

In the present study, researcher could investigate the secondary school student's achievement in self-learning through different self-study programme on Direct - Indirect Speech. And also, it is based more directly on its plans such as defining objectives & formulating hypothesis. Thus the present study is quantitative research. Researcher had selected experimental method for the purpose.

8. Population & sampling

The student of Standard-9 studying in Gujarati medium schools of Banaskantha district was the population for the present study.

9. Sample

To study the effectiveness of PL and computer-assisted learning on students of Standard 9th for the unit of Direct - Indirect Speech researcher had selected three Schools purposively of Banaskantha district and students of those school were selected via cluster sampling method. So, the researcher had selected research sample via purposive cluster sampling method. Thus from each school 90 students were selected as sample of the study. All the three groups from various schools were selected as they were in class. The students of standard-9 in all the schools were divided in three groups in which they were taught through three various learning methods. These three groups were assumed as non-equivalent groups. The schools selected in present study are 1.D.J.Mehta Vidyalaya, Juna Deesa. 2 Shree Nontan Bharati Vidyalaya, Zerda and 3.Adarsh Vidyalaya, Deesa. The number of students present during the experiment from beginning to end is only shown in table 1.

Table 1
The Sample selected for experiment

Experiment	PLM	CAL	Conventional Method	Total
School 1	30	30	30	90
School 2	30	30	30	90
School 3	30	30	30	90

10. Tool Selection & Construction

10.1 Tool selection: IQ test

For measuring I.Q. of the students selected in various group, researcher had selected Desai Verbal - non verbal Group Intelligence test. The test contains 88 items and reliability of the test was 0.88. The test was standardized on 5,654 students of standard 8 to 11 of Ahmedabad city.

The main objective of the study was to study the effectiveness of PLM & CAL for the students of standard 9th on Direct Indirect speech for that researcher had decided to prepare PLM, CAL & post-test for the effectiveness. The details of the tool construction are given in the following paragraphs.

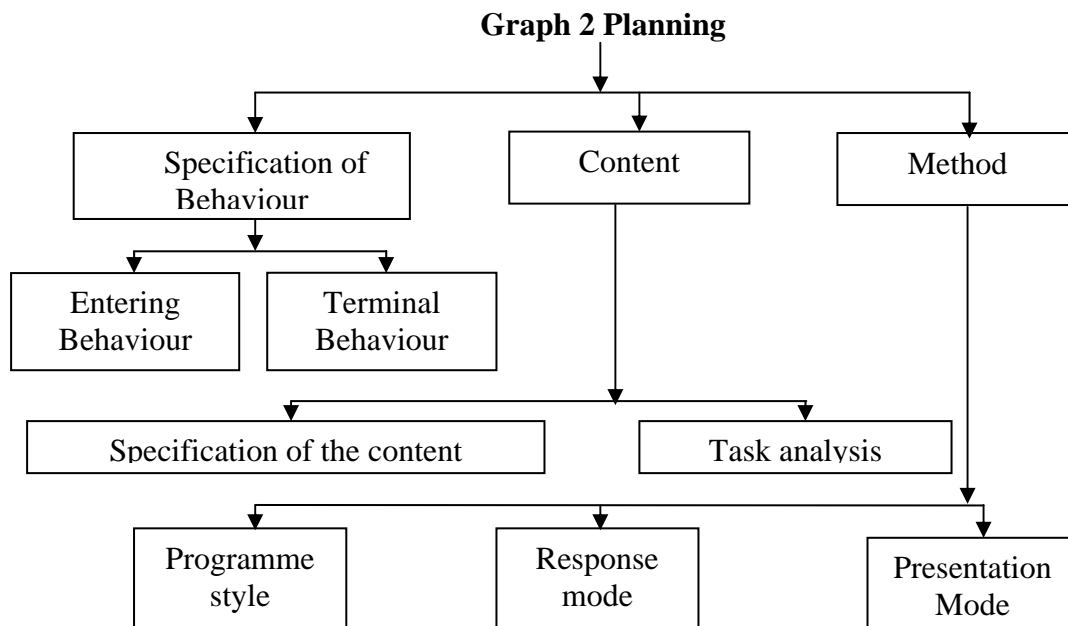
10.2 Tool Construction

A good programme requires hold over the subject and insight to present it before the learner. It follows the following steps:

1. Planning
2. Entering and Terminal Behavior
3. Frames

10.2.1 Planning

Planning is essential in any programmes to make it a model. Planning should be extensive and detailed. It gives a clear idea about each and every aspect of the programme. The different aspects of planning are as shown:



The aim of this study was to prepare a tool and to study the effectiveness of it through the test. For that the topic direct - indirect speech (three tenses affirmative sentences only) was selected and the content of "Direct-Indirect Speech" was analyzed and the final material was prepared by researcher with the help of four secondary teachers of Gujarati subject. Their information was mentioned in the

11. Design of the Study

The researcher had selected randomized group only post-test design for present study.

The Quasi-Experimental approach introduces considerably more threats to internal validity than the true experiment; since the researcher does not randomly assign participants two groups the potential.

Threats of maturation, selection, morality and the interaction to selection. With other threats are possibilities, individuals assigned to the two groups may have selection factors that go under controlled in the experiment. Because two groups are compared the treatment threats may also be present. While the Quasi - Experimental design has the advantage of utilizing existing groups in educational settings, it introduces many threats that need to be addressed in the design of the experiment mentioned in table 3.

Table 3
Randomized Groups only post-test Design

Group	IQ Test	Dependent variable	Post-test
PLM Group 1	IQ test score	PL	Post-test
CAL Group 2	IQ test score	CAL	Post-test
Conventional Method	IQ test Score	Conventional method	Post-test

12. Data Collection

For the purpose of the present study, data was collected from three major groups of school.

1. D. J. Mehta Vidyalaya Juna Deesa.
2. Shree Nootan Bharati Vidyalaya Zerda
3. Adarsh Vidyalaya Deesa.

To begin with, the researcher made telephone contact with those schools that were found to fit into the sampling technique having acquired an appointment with the forwarding letter. The researcher explained the topic and the purpose of the research. Some schools allowed coming on a particular day at fixed time.

13. Research Procedure and Data analysis

The study was conducted on 270 students of standard 9th. At first the I.Q. test were given to all the students of three groups. Then after the PL were given to the learning groups and CAL and conventional teaching chronologically. Then the post-test were given to the three groups. The significant difference between the achievements on the post-test was investigated through ANOVA which is mentioned in table 4.

Table 4
F-Value Table

Sr.	Hypothesis	F Value	Significance level	Accepted or Rejected
1	There is no significant difference in the mean score of I.Q of students learning through PL, CAL and through conventional method of school 1.	1.37	Not significant even at 0.05 level	Accepted
2	There is no significant difference in the mean score of I.Q of students learning through PL, CAL and conventional method of school 2.	2.78	Not significant even at 0.05 level	Accepted
3	There is no significant difference in the mean score of I.Q of students learning through PL, CAL and through conventional method of school 1.	2.95	Not significant even at 0.05 level	Accepted

Sr.	Hypothesis	F Value	Significance level	Accepted or Rejected
4	There is no significant difference in the mean score of the post -test of the students learning through PL, computer assisted learning and conventional method of school 1.	71.67	Significant at 0.01 level	Not accepted
5	There is no significant difference in the mean score of the post-test of the students learning through PL, CAL and conventional method of school 2.	16.94	Significant at 0.01 level	Not accepted
6	There is no significant difference in the mean score of the post-test of the students learning through PL, CAL and conventional method of school 3.	4.40	Significant at 0.05 level	Not Accepted
7	There is no significant difference in the mean score of post-test of the student of school 1, 2 & 3 learning through PL.	8.51	Significant at 0.01 level	Not accepted
8	There is no significant difference in the mean score of post-test of the student of school 1, 2 & 3 learning through CAL.	4.61	Significant at 0.05 level	Not Accepted
9	There is no significant difference in the mean score of post test of the student of school 1, 2 & 3 learning through conventional method.	6.99	Significant at 0.01 level	Not accepted

14. Findings of the Study

1. To interpret the hypothesis no 1, 2 & 3 there is no significant difference in the mean score of IQ of students learning through PL, through CAL and through conventional method of school 1, 2 & 3. So that the entire three group were equivalent in concern of the I.Q. in three schools.
2. To interpret the hypothesis 4, according the mean score of the post test of the students of all the three groups of (school 1), D. J. Mehta Vidyalaya Juna Deesa. Students learning through conventional method were showed higher achievement than the students learning through CAL and the students learning through CAL were showed higher achievement than the students learning through PL.
3. To interpret the hypothesis 5, according the mean score of post-test of all the students of all the three groups of (school 2), Shree Nontan Bharati Vidyalaya Zerda students learning through conventional method were showed higher achievement than the students learning through CAL and the students learning through CAL were showed higher achievement than the students learning through PL.
4. To interpret the hypothesis 6, according the mean score of the post test of all the students of all the three groups of (school 3), Adarsh Vidyalaya, Deesa students learning through conventional method were showed higher achievement then the students learning through

CAL and the students learning through CAL were showed higher achievement then the students learning though PLM.

5. To interpret the hypothesis 7 according the mean score of all the three schools the students learning through PL of Adarsh Vidyalaya, Deesa(School 3) was showed higher achievement than students of Shree Nontan Bharati Vidyalaya Zerda (School 2) and students of Shree Nontan Bharati Vidyalaya Zerda showed higher achievement than students of D. J. Mehta Vidyalaya Juna Deesa. (School 1).
6. To interpret the hypothesis 8 according the mean score of all the three schools the students learning through CAL of Adarsh Vidyalaya, Deesa (School 3) was showed higher achievement than students of Shree Nontan Bharati Vidyalaya Zerda (School 2) and students of Shree Nontan Bharati Vidyalaya Zerda showed higher achievement than students of D. J. Mehta Vidyalaya Juna Deesa. (School 1).
7. To interpret the hypothesis 9 according the mean score of all the three schools the groups learning through Conventional method of D. J. Mehta Vidyalaya Juna Deesa. (School 1) showed higher achievement than students of Shree Nontan Bharati Vidyalaya Zerda (School 2) and students of Shree Nontan Bharati Vidyalaya Zerda showed higher achievement than students of Adarsh Vidyalay, Deesa (School 3).
8. The result shows that the Conventional method was more effective than the CAL for the topic of direct- indirect speech of standard 9th.
9. It is also resulted that CAL was more effective than the PL for the topic of direct- indirect speech of standard 9th.
10. The result shows that the students of (School 3) Adarsh Vidyalaya, Deesa was showed higher achievement then the students of other schools whole learning through PLM& CAL.
11. It also concluded that the students of (school 1) D. J. Mehta Vidyalaya Juna Deesa was showed higher achievement then the students of other school while learning through conventional method.

15. Suggestions

1. In concern of the result of the present study it suggested that the self-learning material is not more effective for grammatical point such as 'direct-indirect speech' than the conventional method.
2. Teacher can utilize these types of self-learning modules for exercise, for drill work and also used as a supportive tool in routine classroom practice.
3. Only self-learning material was not so effective but it would be a helpful aid to teacher's classroom work.

16. Conclusion

Although every field of education is survive through science and technology. In concern of the present study, it was proved that any type of programme would be failure without teacher. Teachers place in the classroom activities is inevitable. Even today teachers' position is secured and nothing can be replaced it.

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