A Study of the Effectiveness of the R.O.C.A.M. and the S.O.C.A.M. for the Achievement of Linguistic Concepts

FALGUNI J. GAJJAR
Galaliyawad Primary School, Dahod.
Gujarat (India)

Abstract:

A model can come in many shapes, sizes, and styles. It is important to emphasize that a model is not the real world but merely a human construct to help us better understand real world systems. Teaching of Gujarati language, the mother tongue is a very important in school education. Many students, their parent and even some teachers consider the certain concepts very difficult. The reason of this problem is that those particular concepts are not taught through the relevant methods. The present study is about teaching of concepts of grammar of Gujarati language in the special model based classrooms. For developing the understanding of concepts among the students the concept achievement model developed by Bruner, Goodnow and Austin in 1967 is very important. The present study was carried out to investigate whether the Reception oriented method of Concept Attainment of teaching is more effective or the Selection oriented method of Concept Attainment is more effective for the students' academic achievement.

1. Introduction

The aim of education is all round development of all the people of the society. And this responsibility lies on the shoulder of all the teachers. In today's modern age of technology it is not fair and appropriate to go on teaching by the traditional methods. Just as education brings change in the society, changes have also come in the methods of teaching. With the advancement of technological development many schemes of education have been developed. Among all those, the main scheme is the model of teaching.

2. Objectives of the Study

- To construct the programmes of teaching through the readiness method of concept attainment and the Selection method of concept attainment on the selected topic of 'The Types of Noun' of Gujarati grammar of standard 8th.
- To investigate the effectiveness of the teaching done through the ***Reception oriented*** *Method* of Concept Attainment and the ***Selection oriented*** method of Concept Attainment on the academic achievement of the students.

3. Hypotheses of the Study

Ho_1 There will be no significant difference between the mean scores of the boys and the girls of the first experimental (teaching done through the Reception oriented concept attainment model) group in the post test.

Ho_2 There will be no significant difference between the mean scores of the boys and the girls of the second experimental (teaching done through the Selection oriented concept attainment model) group in the post test.

Ho₃ There will be no significant difference between the mean scores of the first experimental (teaching done through the Reception oriented concept attainment model) group and the second experimental (teaching done through the Selection oriented concept attainment model) group in the post test.

4. Variables of the Study

No.	Types of Variables	Details
1.	Independent variable	Teaching method
2.	Dependent variable	Academic achievement
3.	Controlled variable	Environment of school, Time of learning
		Number of periods, Standard of teaching
4.	Intervening variable	- Novelty of teaching method
		- Interaction between groups
		- Interpersonal differences like intelligence, Attitude, Personality
5.	Moderator variable	Sex - Boys, Girls
		Group - the group of the students for whom the teaching done through the readiness model of concept attainment & the group of the students for whom the teaching done through the Selection method of concept attainment

5. Population and Sample of the Study

In the present study the population was the students studying in standard 8th of Gujarati medium schools of Dahod district during the year of 2011-12. Keeping this population in mind for better and faultless administration of the experiment, the researcher selected the two groups (1) the first experimental (teaching done through the readiness model of concept attainment) group and (2) the second experimental (teaching done through the Selection method of concept attainment) group of Dahod district.

6. Tools

In the present study the researcher constructed the tool on the Gujarati grammar topic of 'The Types of Nouns' for the students of standard $8^{th.}$ The tool was based the two models of teaching - the Readiness model of Concept Attainment and the Selection method of Concept Attainment.

7. Data Analysis

The data obtained from the sample can be analyzed through different statistical formulas. In the present study the formula of 't' test was used for the purpose.

8. Data Analysis on the Basis of Testing of the Hypotheses

Ho₁ There will be no significant difference between the mean scores of the boys and the girls of the first experimental (teaching done through the Reception oriented concept attainment model) group in the post test.

For testing this null hypothesis t- test formula was used for analysis. The details are shown in table 1.

Table 1
Mean, Standard Deviation, Standard Error, t- value and the Level of Significance of the scores of the Boys and the Girls of the First Experimental Group (the Reception oriented concept attainment model) in the post test

Group	No. of Students	Mean	Standard Deviation	Standard Error	t- value	Level of Significance
Boys	16	19.62	2.50	0.96	0.13	0.05 & 0.01
Girls	16	19.50	2.96			

In the table 1 it can be seen that the mean of the scores of the boys of the first experimental group in the post test is 19.62, while the mean of the scores of girls of the first experimental group in the post test is 19.50. The t- value of the difference between the means of the two groups is 0.13 which is less than 1.96 at 0.05 level and 2.58 at 0.01 level, so it is not significant at 0.05 level and at 0.01 level. Therefore the null hypothesis is accepted.

Ho$_2$ There will be no significant difference between the mean scores of the boys and the girls of the second experimental (teaching done through the Selection oriented concept attainment model) group in the post test.

For testing this null hypothesis t- test formula was used for analysis. Its details are shown in table 2.

Table 2
Mean, Standard Deviation, Standard Error, t- value and the Level of Significance of the scores of the Boys and the Girls of the Second Experimental Group (the Selection oriented concept attainment model) in the post test

Group	No. of Students	Mean	Standard Deviation	Standard Error	t- value	Level of Significance
Boys	16	16.54	3.33	1.048	0.57	0.05 & 0.01
Girls	16	15.93	3.10			

In the table 2 it can be seen that the mean of the scores of the boys of the second experimental group in the post test is 16.54, while the mean of the scores of the girls of the second experimental group in the post test is 15.93. The t - value of the difference between the means of the two groups is 0.57 which is less than 1.96 at 0.05 level and 2.58 at 0.01 level, so it is not significant at 0.05 level and at 0.01 level. The null hypothesis is accepted.

Ho$_3$ There will be no significant difference between the mean scores of the first experimental (teaching done through the Reception oriented concept attainment model) group and the second experimental (teaching done through the Selection oriented concept attainment model) group in the post test.

For testing this null hypothesis t- test formula was used for analysis. The details are shown in table 1.

Table 3

Mean, Standard Deviation, Standard Error, t- value and the Level of Significance of the scores of the First Experimental (the Reception oriented concept attainment) Group and the Second Experimental (the Selection oriented concept attainment) Group in the Post Test

Group	No. of Students	Mean	Standard Deviation	Standard Error	t - value	Level of Significance
R.O.C.A.M.	32	19.86	2.73	0.76	4.32	Significant at 0.01 level
S.O.C.A.M.	32	16.23	3.21			

In the table 3 it can be seen that the mean of the scores of the students of the first experimental group in the post test is 19.86, while the mean of the scores of the students of the second experimental group in the post test is 16.23. The t - value of the difference between the means of the two groups is 4.32 which is higher than 1.96 at 0.05 level and 2.58 at 0.01 level, so it is significant at 0.05 level and at 0.01 level. The null hypothesis is rejected.

9. Findings

There was no significant difference between the mean scores of the boys and the girls of the first experimental (the Readiness model of Concept Attainment) group in the post test. There was no significant difference between the mean scores of the boys and the girls of the second experimental (the Selection method of Concept Attainment) group in the post test. There was a significant difference between the mean scores of the students of the first experimental (the Readiness model of Concept Attainment) and the second experimental (the Selection method of Concept Attainment) group in the post test. The mean of the first experimental (the Readiness model of Concept Attainment) group was higher. Therefore it can be said that the model of teaching (the Readiness model of Concept Attainment) is more effective than the second model of teaching (the Selection method of Concept Attainment) group.

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