



EFFECTIVENESS OF THE TEACHING THROUGH CONCEPT MAPPING IN ECONOMICS OF STD 11th

INTRODUCTION:

Today's era is an era of technology and innovation. With the enormous use of technology, other methods, techniques and devices are used for making teaching and learning process more effective and more interesting. Concept mapping is one of the technique and device of teaching. In 1960 Joseph D. Novak at Cornell University began to study the Concept Mapping technique. His work of concept mapping was based on the theories of David Ausubel, who stressed the importance of prior knowledge in being able to learn about new concepts. Concept mapping have been used from the last three decades in developed and developing countries. Concept mapping, primarily used for evaluation of teaching-learning processes, tactics and achievement of students. Nowadays, concept mapping is widely used in non-teaching fields also. By the use of concept mapping teacher makes the teaching process more effective and more interesting and students makes learning process more effective and interesting. The concept belong to any subject related to other concept of the same subject shows the concept mapping. Curriculum and syllabus of each subject consists so many concepts for learning. Some concepts are not easily understood by the students by only reading. Therefore, concept mapping is an effective tool for teacher to teach any concept and its related concept. To measure the effectiveness of concept mapping in teaching-learning, the present study was taken.

STATEMENT OF THE PROBLEM:

The statement of the problem is

“EFFECTIVENESS OF THE TEACHING THROUGH CONCEPT MAPPING IN ECONOMICS OF STD-11TH”

EXPLANATION AND OPERATIONALIZATION OF THE TERMS:

Key terms of the research are as under

EFFECTIVENESS

As per Oxford Dictionary

“An Effectiveness is the degree to which something is successful in producing a desired result; success.”

STUDY

As per Merriam-Webster Dictionary

“Study is the activity or process of learning about something by reading, memorizing facts, attending school, etc.”

CONCEPT MAPPING

“Concept Maps are geographical tools for organizing and representing knowledge. They include concepts, usually enclosed in circles or boxes of some types and relationships between concepts indicated by a connecting line linking two concepts.”

According to Joseph D. Novak

“A Concept Map is a graphical representation where nodes (points or vertices) represent concepts and links (arcs or lines) represent the relationship between concepts.”

ECONOMICS

According to **ADAM SMITH**

⌘ “An inquiry into the nature and causes of wealth of the Nations”

According to **LIONEL CHARLES BRONE ROBBINS**

⌘ “Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses”

OBJECTIVES OF THE STUDY:

The objectives of the present study are as under.

- ⌘ To construct the achievement test and concept map for the teaching of ‘Money and Banking’ chapter of Economics subject of Standard-11th.
- ⌘ To verify effectiveness of concept mapping of the teaching of ‘Money and Banking’ chapter of Economics subject of Standard-11th reference to educational achievement of experimental group and control group students.
- ⌘ To study the effectiveness of concept mapping strategies and traditional teaching method for teaching of ‘Money and Banking’ chapter of Economics subject of Standard-11th in relation to achievement.
- ⌘ To study the responses of students towards the concept mapping method of teaching for ‘Money and Banking’ chapter of Economics subject of Standard-11th.

HYPOTHESIS OF THE STUDY:

Hypothesis of the present study are as under.

- **H0₁:** There will be no significant difference between the mean score of post test of economics subject of entire experimental group and control group students.
- **H0₂:** There will be no significant difference between the mean score of post test of economics subject of entire experimental group male students and control group male students.
- **H0₃:** There will be no significant difference between the mean score of post test of economics subject of entire experimental group female students and control group female students.
- **H0₄:** There will be no significant difference between the mean score of post test of economics subject of experimental group male students and control group male students having high educational achievement score.
- **H0₅:** There will be no significant difference between the mean score of post test of economics subject of experimental group female students and control group female students having high educational achievement score.
- **H0₆:** There will be no significant difference between the mean score of post test of economics subject of experimental group male students and control group male students having low educational achievement score.
- **H0₇:** There will be no significant difference between the mean score of post test of economics subject of experimental group female students and control group female students having low educational achievement score.

VARIABLES OF THE STUDY:

Variable of the present study are as under.

Sr. No	Nature of Variable	Type of Variable	Level of Variable
1	Independent Variable	Teaching method	<ul style="list-style-type: none"> ▪ Concept mapping ▪ Traditional teaching Method
2	Sub Independent Variable	Gender	<ul style="list-style-type: none"> ▪ Male ▪ Female
3	Dependent variable	Educational achievement	<ul style="list-style-type: none"> ▪ High achievement ▪ Low achievement
4	Controlled Variable	<ul style="list-style-type: none"> ▪ Standard ▪ Subject ▪ Unit/chapter ▪ School/Medium 	<ul style="list-style-type: none"> ▪ 11th ▪ Economics ▪ Money and Banking ▪ Gujarati

IMPORTANCE OF THE STUDY:

The present study is somewhere totally different compare to past studies. In the present study researcher selects the concept mapping approach or teaching method for teaching economics subject and its effectiveness. Concept mapping is a new emerging method of teaching. Previous studies focused on traditional and day to day used methods of teaching. The present study focused on construction of concept mapping in economics subject as well as focused on teaching-learning package of concept mapping. Concept mapping gives the new way of teaching for pre service teachers.

DELIMITATIONS AND LIMITATION OF THE STUDY**LIMITATION:**

The present study has some limitation as under.

1. Students were ignored to give answers of some questions of the economics achievement test.
2. The achievement test and concept maps were constructed by researchers.

DELIMITATION:

The present study will be delimited as under

1. The study is delimited to the higher secondary school students of Mahatma Gandhi Vidyalaya, Mogari.
2. The present study delimited to Economic Awareness in the field of Awareness.
3. The present study is delimited to economics subject.
4. The present study is delimited to "Money and Banking" chapter of 11th Standard's Economics subject.
5. The present study is delimited to those students who were studying in the 11th standard of the year 2013-14 batches.
6. The present study is delimited to Gujarati medium school.

POPULATION:

Population of this research problem is students of Gujarati medium Higher Secondary School Commerce stream students of Anand District

SAMPLING METHOD:

Convenient Sampling was used for the present study.

SAMPLE:

Sample of the present study is as under.

Table No.1

Group	Std-11 th A	Std 11 th B	Total
Male	30	30	60
Females	30	30	60
Total	60	60	120

Research Plan:

For Experimental research there are two groups were formed. One is experimental group and control group. Table No.2 shows the allotment of students in different groups.

Table No.2

Selected sample from school

Group	Standard	Male	Female	Total
Experimental Group	11 th -A	30	30	60
Control Group	11 th - B	30	30	60
Total		60	60	120

Research Method:

The present study is experimental type of research. Therefore experimental method was used. Researcher selects 'Two Group Post Test' Plan.

Table No.3

Group	Pre Test	Independent Variable (Treatment)	Post Test
Experimental Group - E	-	X	T _{2E}
Control Group- C		-	T _{2E}

E = Experimental Group

C = Control Group

X =Teaching through Concept Mapping Method (Treatment – Independent Variable)

- = Lecture-Discussion Method (Traditional Method)

T₂ = Post Test

DATA ANALYSIS AND INTERPRETATION:

H₀₁: There will be no significant difference between the mean score of post test of economics subject of entire experimental group and control group students.

Table No.4

Group	N	Mean	S.D	SE _D	t-test	Acceptance / Rejection at (0.01 level)
Experimental Group students	60	37.28	4.66	0.81	16.48	Rejected
Controlled Group students	60	23.93	4.17			

Here, the calculated t-value = 16.48 which is higher than the $t_{0.01} = 2.62$ of table value. Therefore, null hypothesis is rejected. Thus, there will be significant difference between the mean score of post test of economics subject of entire experimental group and control group students.

Experimental group students having high mean, therefore, Experimental group students acquired high achievement on achievement test followed by teaching through concept mapping.

H₀₂: There will be no significant difference between the mean score of post test of economics subject of entire experimental group male students and control group male students.

Table No.5

Group	N	Mean	S.D	SE _D	t-test	Acceptance / Rejection at (0.01 level)
Experimental Group male students	30	37.50	4.63	1.15	12.26	Rejected
Controlled group male students	30	23.40	4.29			

Here, the calculated t-value = 12.26 which is higher than the $t_{0.01} = 2.66$ of table value. Therefore, null hypothesis is rejected. Thus, there will be significant difference between the mean score of post test of economics subject of entire experimental group male and control group male students.

Experimental group male students having high mean, therefore, Experimental group male students acquired high achievement on achievement test followed by teaching through concept mapping.

H0₃: There will be no significant difference between the mean score of post test of economics subject of entire experimental group female students and control group female students.

Table No.6

Group	N	Mean	S.D	SE _D	t-test	Acceptance / Rejection at (0.01 level)
Experimental Group female students	30	37.07	4.68	1.12	11.25	Rejected
Controlled group female students	30	24.47	3.99			

Here, the calculated t-value = 11.25 which is higher than the $t_{0.01} = 2.66$ of table value. Therefore, null hypothesis is rejected. Thus, there will be significant difference between the mean score of post test of economics subject of entire experimental group male and control group male students.

Experimental group female students having high mean, therefore, Experimental group female students acquired high achievement on achievement test followed by teaching through concept mapping.

H0₄: There will be no significant difference between the mean score of post test of economics subject of experimental group male students and control group male students having high educational achievement score.

Table No.7

Group	N	Mean	S.D	SE _D	t-test	Acceptance / Rejection at (0.01 level)
Experimental Group male students having high achievement score	16	41.47	2.33	1.20	12.78	Rejected
Controlled group male students having high achievement score	14	26.13	4.09			

Here, the calculated t-value = 12.78 which is higher than the $t_{0.01} = 2.76$ of table value. Therefore, null hypothesis is rejected. Thus, there will be significant difference between the mean score of post test of economics subject of experimental group male students and control group male students having high educational achievement score.

Experimental group male having high achievement having high mean, therefore, Experimental group male having high achievement students acquired high achievement on achievement test followed by teaching through concept mapping.

H0₅: There will be no significant difference between the mean score of post test of economics subject of experimental group female students and control group female students having high educational achievement score.

Table No.8

Group	N	Mean	S.D	SE _D	t-test	Acceptance / Rejection at (0.01 level)
Experimental Group female students having high achievement score	17	41.13	2.45	1.23	12.95	Rejected
Controlled group female students having high achievement score	13	25.20	4.20			

Here, the calculated t-value = 12.95 which is higher than the $t_{0.01} = 2.76$ of table value. Therefore, null hypothesis is rejected. Thus, there will be significant difference between the mean score of post test of economics subject of experimental group female students and control group female students having high educational achievement score.

Experimental group females having high achievement having high mean, therefore, Experimental group females having high achievement students acquired high achievement on achievement test followed by teaching through concept mapping.

H0₆: There will be no significant difference between the mean score of post test of economics subject of experimental group male students and control group male students having low educational achievement score.

Table No.9

Group	N	Mean	S.D	SE _D	t-test	Acceptance / Rejection at (0.01 level)
Experimental Group male students having low achievement score	14	33.00	2.61	0.99	14.61	Rejected
Controlled group male students having low achievement score	16	21.07	2.91			

Here, the calculated t-value = 14.61 which is higher than the $t_{0.01} = 2.76$ of table value. Therefore, null hypothesis is rejected. Thus, there will be significant difference between the mean score of post test of economics subject of experimental group male students and control group male students having low educational achievement score.

Experimental group male having low achievement having high mean, therefore, Experimental group male having high achievement students acquired high achievement on achievement test followed by teaching through concept mapping.

H0₇: There will be no significant difference between the mean score of post test of economics subject of experimental group female students and control group female students having low educational achievement score.

Table No.10

Group	N	Mean	S.D	SE _D	t-test	Acceptance / Rejection at (0.01 level)
Experimental Group female students having low achievement score	13	33.00	2.33	1.18	8.03	Rejected
Controlled group female students having low achievement score	17	23.53	4.03			

Here, the calculated t-value = 8.03 which is higher than the $t_{0.01} = 2.76$ of table value. Therefore, null hypothesis is rejected. Thus, there will be significant difference between the mean score of post test of economics subject of experimental group female students and control group female students having low educational achievement score.

Experimental group females having low achievement having high mean, therefore, Experimental group females having high achievement students acquired high achievement on achievement test followed by teaching through concept mapping.

FINDINGS:

Findings are as under.

- (1) Teaching through concept mapping is more effective than traditional method in economics subject in standard 11th.
- (2) Educational achievement of experimental group male students is higher than control group male students. This means the effectiveness of learning through concept mapping seen in experimental group male students.
- (3) Educational achievement of experimental group female students is higher than control group female students. This means the effectiveness of learning through concept mapping seen in experimental group female students.
- (4) Educational achievement of male and females of experimental group are equal. The effectiveness of learning through concept mapping is seen equally in both females and male.
- (5) Educational achievement is equal in both controlled group male and females.
- (6) High achievement of experimental group male students is higher than control group male students. This means the effectiveness of learning through concept mapping seen in experimental group male students.

- (7) High achievement of experimental group female students is higher than control group female students. This means the effectiveness of learning through concept mapping seen in experimental group female students.
- (8) Educational achievement of Experimental group male students having high achievement score is higher than control group male students having high achievement score. The effectiveness of concept mapping is seen on Experimental group male students having high achievement score.
- (9) Educational achievement of Experimental group female students having high achievement score is higher than control group female students having high achievement score. The effectiveness of concept mapping is seen on Experimental group female students having high achievement score.
- (10) Educational achievement of Experimental group students having high achievement score is higher than experimental group students having low achievement score. The effectiveness of concept mapping is seen on Experimental group male students having high achievement score.
- (11) Educational achievement of Control group students having high achievement score is higher than control group students having low achievement score. The effectiveness of concept mapping is seen on control group students having high achievement score.

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