DEVELOPMENT OF COMPUTER ASSISTED INSTRUCTIONAL (CAI) PROGRAM AND FINDING ITS EFFECTIVENESS FOR DEVELOPING SOCIAL SKILLS ESSENTIAL FOR GROUP WORK

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Abstract

Success of group work depends upon the social skills. Also social skills helps for cooperative learning, while the conducting group work or group discussion and out-put of group work, researcher find-out gap between group work ideology and student-teacher perception. Through the research work researcher tried to develop the CAI program based on social skills and its awareness among the student-teacher, through social skills they will work in the group smoothly and effectively. Before the conduction of group work, orientation is needed of social skills, once they understood the philosophy of group work and social skills, automatically group work as well as co-operative learning will effective. So CAI program is effective to create awareness among the student-teacher about the social skills as well as group work.

Keywords: *Social Skills, CAI Program, Co-operative learning.*

1. Title: Development of computer assisted instructional (CAI) program and finding its effectiveness for developing social skills essential for group work.

2. Introduction: In the new education policy given importance to learning and student centric education. So traditional teaching is not effective compare to use of mix or multi method as well as approaches in the day today teaching-learning processes. Co-operative learning **(Johnson & Johnson, 1994)** is very helpful and supportive to all kinds of learner. Present educational courses and curriculum introduced modes of learning in this, group work one of them, so conduction of group work is a very difficult task for instructor, teacher associate mainly teacher and student also!so this research work will concrete solution on this kind of issue.

3. Need of Research:

1. Check the effectiveness of group activity.

2. Determine the level of group work as well as activity.

3. Overcome on the problem, develop the program with help of the technology and check its effectiveness.

4. Underline the importance of social skills **(Johnson & Johnson, 1994)**to conduction of group work and co-operative learning in daily teaching-learning processes.

4. Importance of research:

1. Get new techniques of concept of group work and social skills as well as co-operative learning activity.

2. Aware and awaken about the innovative practices of teaching-learning processes.

3. Given practical experience to conduction of group work and new theory of group size and arrangement etc.

1. Statement of Problem:

Developing the computer assisted learning (CAI) program and finding its effectiveness for developing social skills essential for group work.

2. Explanation of the research problem:

D. El. Ed. student-teachers are going to be teacher in the future. They should know about the innovative pedagogies. In this, group work is playing significant role to understand the course concepts clearly that is why group work is necessary and essential activity particularly for primary teacher. For success of group work is depending on social skills, so researcher has selected this problem to develop awareness about the social skills among the D. El. Ed. student- teacher.

5. Operational Definitions:

1. Group work: The work done purposefully for the fulfillment of the objectives of the unit related with the D. El. Ed. curriculum in the group by the student-teacher is called as group work **(Parsnis, 2000).**

2. Social skills: The researcher enlisted interrelated skills with these are called as social skills.

1. Self -control.

2. Development and management of inter faith.

3. Expressing emotions.

4. Expressing non-verbal emotions.

5. Purposeful listening responsibility.

6. Management of anger stress and emotions.

7. Strong bonding of relations.

8. Motivation and reinforcement.

9. Commitment with the group.

10. Practice with intellectual judgment.

3. Computer assisted instructional program (CAI):

The instructional program (PPTs) **(Jagtap, 2006)** made with the help of computer for the development social skills of student-teacher.

6. Objectives of the Research:

1. To create and compose the concept with list of social skills.

2. To develop computer assisted instruction program (CAI) for create awareness about the social skill among the student-teacher.

3. To implement computer assisted instruction program (CAI) for create awareness about the social skill among the student-teacher.

4. To check the effectiveness computer assisted instruction program (CAI) for create awareness about the social skill among the student-teacher.

7. Assumptions:

1. Group work is included in the curriculum of D. El. Ed**(Ed, Marathe & Pawar, 2005).**

2. Student-teacher have not exactness about the philosophy of group work as well as social skills**(Ed, Marathe & Pawar, 2005).**

8. Hypothesis:

1. Research Hypothesis:

Researcher had been use of set of hypothesis **(Mulay& Umathe, 1998).**

After implementation of computer assisted instruction programme (CAI) the awareness level of social skills will be increased among the student-teacher of D. El. Ed.

2. Null Hypothesis: After implementation of computer assisted instruction program (CAI) the awareness level of social skills will not be increased significantly among the student-teacher of D. El. Ed.

1. After implementation of computer assisted instruction program (CAI) the awareness level of social skill *Self Control* will not be increased significantly among the student-teacher of D. El. Ed.

2. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***Inter faith*** will not be increased significantly among the student-teacher of D. El. Ed.

3. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***Expressing Emotions*** will not be increased significantly among the student-teacher of D. El. Ed.

4. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***expressing non-verbal emotions*** will not be increased significantly among the student-teacher of D. El. Ed.

5. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***Purposeful listing and responsibility*** will not be increased significantly among the student-teacher of D. El. Ed.

6. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***Management of anger, stress and emotions*** will not be increased significantly among the student-teacher of D.El.Ed.

7. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***Strong bounding of relation*** will not be increased significantly among the student-teacher of D. El. Ed.

8. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***Motivation and reinforcement*** will not be increased significantly among the student-teacher of D. El. Ed.

9. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***Commitment with group*** will not be increased significantly among the student-teacher of D. El. Ed.

10. After implementation of computer assisted instruction program (CAI) the awareness level of social skill ***Practice with intellectual judgment*** will not be increased significantly among the student-teacher of D. El. Ed.

9. Research Method: Experimental method type Quasi-experimental study **(Best & Khan, 2005)**

1. Research design: Signal group **(Best & Khan,2005)**

10. Population: D. El. Ed student-teacher in the pune city.

11. Sampling: Non-probable purposive sampleselection method.

1. Sample: D. El. Ed student-teacher of Dyanganga D. El. Ed College, Hignekh. Pune.

2. Sample Size: 42 student- teacher

12. Tool of data collection: Rating Scale (5 point scale based on likert scale) **(Mangal, 2000)**

13. Statistical tools: Mean, Standard deviation and T test **(Garrett & Worth, 1981).**

14. Scope and limitation of the research:

1. Scope: Applicable for all the D. El. Ed.

2. Limitation:

1. This research is limited for such as learning only Marathi medium D.El.Ed colleges.

2. This research is limited for student-teacher of first year Marathi medium D.El.Ed colleges.

3. This research is limited for the awareness of social skill.

4. This research is limited for the academic year 2017-2018.

3. Delimitation:

1. There is no any kind of control on the external variables such as learning capacity of the student-teacher, reading of related literature and conversation in the research.

2. Marks got in the observation while the group activities.

15. Data Collection: In social skills of 42 student - teacher are observed with the help of researcher made rating scale.

15. 1.Data analysis and interpretation:

Table No: O1.Pre-Post observation scores

Sr. No	Pre-Obs(X)	Post-Obs (Y)	Sr. No	Pre-Obs(X)	Post-Obs (Y)
1	47	50	**23**	36	40
2	50	55	**24**	38	46
3	42	52	**25**	42	48
4	52	57	**26**	44	49
5	46	51	**27**	49	51
6	48	50	**28**	42	52
7	46	48	**29**	44	46
8	47	50	**30**	45	50
9	44	46	**31**	40	43
10	38	42	**32**	35	40
11	40	46	**33**	45	47
12	41	47	**34**	40	46
13	42	48	**35**	41	47
14	38	40	**36**	43	49
15	41	47	**37**	40	44
16	42	49	**38**	50	52
17	42	50	**39**	51	55

18	43	48	**40**	39	42
19	40	46	**41**	40	44
20	38	42	**42**	40	46
21	40	46		1792	1996
22	41	49	N=42	M1=42.67	M2=47.52

Interpretation: If we will see the pre observation score of social skills of the group and average of post observation scores than we will find that that after implementing CAI program for developing social skills in post computer assisted observation. There is significance growth in the level of social skills of teacher trainees.

Table No: 2 Social skills Observation Marks Distributions and analysis

Interpretation:

1. In the **Group A** Social skills Pre-Observation frequency is minimum 03 and maximum in between 07 and Post-Observation frequency is minimum 03 and maximum 08 in between.

2. In the **Group B** Social skills Pre-Observation frequency is minimum 03 and maximum in between 07 and Post-Observation frequency is minimum 03 and maximum 07 in between.

3. In the **Group C** Social skills Pre-Observation frequency is minimum 03 and maximum in between 04 and Post-Observation frequency is minimum 03 and maximum 06 in between.

4. In the **Group D** Social skills Pre-Observation frequency is minimum 03 and maximum in between 06 and Post-Observation frequency is minimum 03 and maximum 06 in between.

5. In the **Group E** Social skills Pre-Observation frequency is minimum 09 and maximum in between 06 and Post-Observation frequency is minimum 03 and maximum 06 in between.

6. In the **Group F** Social skills Pre-Observation frequency is 03 and 04 average and maximum in between 08 and Post-Observation frequency is 03 and 05 and 06 average found maximum.

Interpretation:

In the table No:1 if we will see the pre-observation score of social skills of the group and average post-observation scores than we will find that after implementing CAI program for

developing social skills in post CAI program observation. There is growth significance growth in the level of social skills of student-teacher.

Table No: 03: Social skills – Pre and post observation scores frequency distribution (Bhandarkar, 2005)

| Class Interval	Pre Scores	Post Scores
56-60	00	01
51-55	02	07
46-50	08	20
41-45	17	06
35-40	15	03
Total	42	42

Observation:

1) Social skills table No:03 pre-observation Class Interval (35-40) C.I. Frequency is 15 and post observation class interval frequency is 03.

2) Social skills table No: 03 pre-observation Class Interval (41-45) C.I. Frequency is 17 and post observation class interval frequency is 06.

3) Social skills table No: 03 pre-observation Class Interval (46-50) C.I. Frequency is 08 and post observation class interval frequency is 20.

4) Social skills table No: 03 pre-observation Class Interval (51-55) the frequency in between this 02 and post observation class interval frequency is 07.

5) Social skills table No: 03 pre-observation Class Interval (56-60) the frequency in between this 00 and post observation class interval frequency is 01.

Interpretation:

1. With the help of social skills pre-observation scores C.I. frequency difference it is observed that in between C.I. (35-40) and (41-45) frequency is 15,17 and post-observation C.I. frequency is 03,06; which is very less in comparison of pre-observation.

2. With the help of social skills pre-observation scores C.I. frequency difference it is observed that in between C.I. (46-50);(51-55); and (56-60) frequency is 08,02,00 and post-observation C.I. frequency is 20,07,01 which is more in comparison with post-observation scores.

Graph No 01: Social skills pre and post observation frequency graph
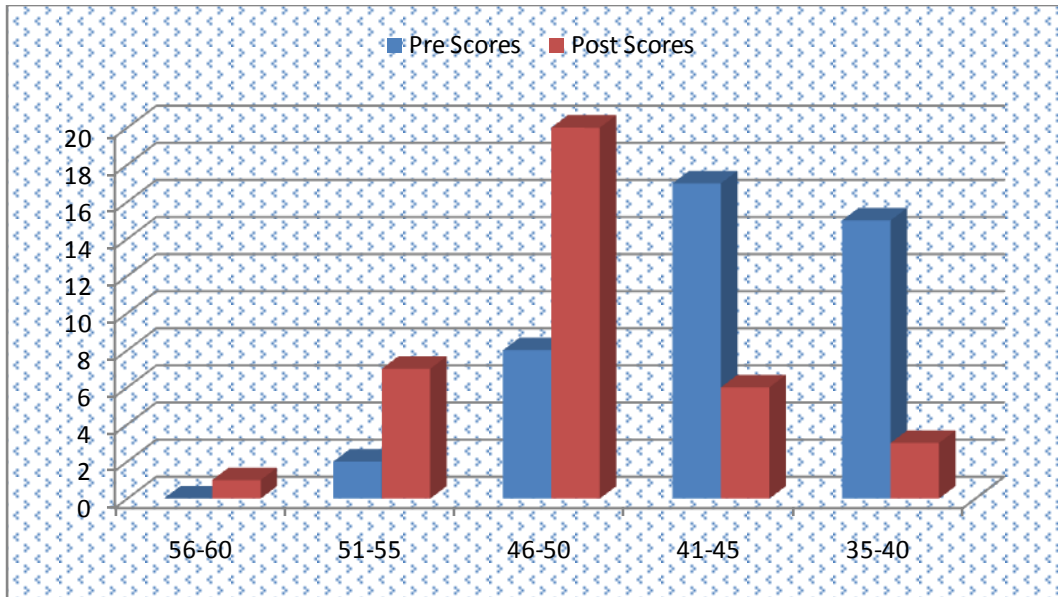
Observation:

1) As per the comparison of pre and post observation Class interval (56-60) and Frequency (00,01) frequency graph of social skills, height of bar graph of post observation frequency (Brown Color) is greater than pre observation (Blue Color) frequency bar graph. (Table:03)

2) As per the comparison of pre and post observation Class interval (51-55) and Frequency (02,07) frequency graph of social skills, height of bar graph of post observation frequency (Brown Color) is greater than pre observation (Blue Color) frequency bar graph. (Table:03)

3) As per the comparison of pre and post observation Class interval (46-50) and Frequency (08,20) frequency graph of social skills, height of bar graph of post observation frequency (Brown Color) is greater than pre observation (Blue Color) frequency bar graph. (Table:03)

4) As per the comparison of pre and post observation Class interval (41-45) and Frequency (17,06) frequency graph of social skills, height of bar graph of post observation frequency (Brown Color) is lower than pre observation (Blue Color) frequency bar graph. (Table:03)

5) As per the comparison of pre and post observation Class interval (35-40) and Frequency (15,03) frequency graph of social skills, height of bar graph of post observation

frequency (Brown Color) is lower than pre observation (Blue Color) frequency bar graph. (Table:03)

Interpretation:

1)   As per the microscopic observation and interpretation of height of pre and post observation graph of social skills frequency   indicating is that pre observation Class Interval (35-40) and (41-45) Frequency (15,17) and post observation Class Interval (35-40) and (41-45) Frequency (03,06) in between comparison with pre and post graph which is colored by Blue and Brown colors, pre observation bar graph's height is greater than post observation.

2)   As per the microscopic observation and interpretation of height of pre and post observation graph of social skills frequency   indicating is that pre observation Class Interval (51-55) and (46-50) Frequency (02, 08) and post observation Class Interval (51-55) and (46-50) Frequency (07, 20) in between comparison with pre and post graph which is colored by Blue and Brown colors, pre observation bar graph's height is lower than post observation.

3)   At a glance of bar graph of pre and post observation of social skills frequency, generally blue bar graph's height is lower than brown bar graph.

Table No: 04: Social skills pre and post observation Mean & S.D.

Sr. No	Particulars	Pre	Post
01	No of student-teacher	42	42
02	Mean	42.7	47.52
03	Standard Deviation	4.03	3.94

Observation:

1. The mean of social skills pre-observation scores of teacher trainees is 42.7 and post-observation scores of student-teacher 47.52.

2. The mean difference of pre and post observation is that 4.82.

3. The standard deviation of social skills pre and post observation is 4.03 and 3.94.

4. The S.D. difference of pre and post observation is that 0.09.

Interpretation:

1. From the statistical particulars of the given Table No: 04, it is observed that there is the pre- observation scores of mean (42.7) than post- observation mean scores (47.52) of social skills.

2. Post-observation S.D. scores are diverted mostly (3.94) than pre-observation S.D. scores (4.03)

Table   No: 05: Comparison between pre and post observation scores of social skills

(Z test)

Sr. No.	Particulars	Pre	Post
01	No of student-teacher	42	42
02	Mean	42.7	47.52
03	Standard Deviation	4.03	3.94
04	Co-relation	0.86	0.86

Observation:

1. From Table No: 05 it is understand that pre-observation mean (42.7), post-observation mean (47.52) is more.

2. There is higher positive relationship between the scores of these pre and post-observation.

Interpretation:

1 **.**Pre and post-observation scores difference is significance.

2. Co-relation between two observations score is positive.

Table No: 06: Pre and Post (Co-relation, Mean, S.D.) comparison of observation

scores

Sr. No	Social skills	Dimensions of Statistics	Pre	Co-relation	Post
01	Self-Control	Co-relation		0.08	
		Mean	4.40		5.00
		S.D.	0.96		096
02	Inter faith	Co-relation		0.89	
		Mean	4.4		4.83
		S.D.	0.9		1.18
03	Expression emotion	Co-relation		0.89	
		Mean	4.76		5.16
		S.D.	1.07		1.05
04	Expression Non-Verbal	Co-relation		0.89	
		Mean	4.23		4.88
		S.D.	1.05		0.88
05	Purposeful listening &Responsibility	Co-relation		0.82	
		Mean	4.3		4.88
		S.D.	1.05		0.88
06	Anger, Stress, Emotions Management	Co-relation		0.76	
		Mean	3.92		4.66

		S.D.	0.71	.96
07	Proper construction of relation	Co-relation		0.73
		Mean	4.23	4.52
		S.D.	0.82	0.91
08	Motivation and Appreciation	Co-relation		0.86
		Mean	4.23	4.78
		S.D.	0.93	1.09
09	Commitment with the group	Co-relation		0.76
		Mean	4.23	4.64
		S.D.	0.84	1.05
10	Implementation by judgment intelligence	Co-relation		0.69
		Mean	4.14	4.5
		S.D.	0.84	0.99

Observation:

From the given statistical information it is cleared that pre-observation mean scores of social skills sub unit are in between 3.92 to 4.76 and post-observation mean scores are in between 4.5 to 5.16.

In these two observation scores good and higher positive relationship is less and more.

16. Testing of Hypothesis:

In this research to test Null Hypothesis after implementation of Computer Assisted Instruction Program researcher has considered the change in achievement level of social skills.

According to teacher trainees group work observed rating scales scores of the Mean and by Standard Deviation than value and with help of table value researcher has made comparison and accepted / rejected the hypothesis.

Table-07: Hypothesis Testing and Result

Sr. No	Pre Mean	Post Mean	Pre SD	Post SD	'Z' Value	Signi ficance Level	'Z'Tabl e Value	Null Hypo Thesis Accepted/ Rejected
Hp-1	42.67	47.52	4.03	3.94	2.29	0.05	2.02	Accepted
Hp-2	4.40	5.00	0.96	0.96	1.30	0.01	2.71	Accepted
Hp-3	4.4	4.83	0.91	1.18	0.21	0.01	2.71	Accepted
Hp-4	*4.76*	*5.16*	*1.07*	*1.05*	*2.86*	*0.01*	*2.71*	*Rejected*
Hp-5	4.23	4.88	0.91	1.18	0.21	0.01	2.71	Accepted
Hp-6	4.3	4.88	0.86	0.91	1.32	0.01	2.71	Accepted
Hp-7	3.92	4.66	0.71	0.96	1.57	0.01	2.71	Accepted
Hp-8	4.26	4.52	0.82	0.96	0.51	0.01	2.71	Accepted

Hp-9	4.23	4.98	0.93	1.09	1.49	0.01	2.71	Accepted
Hp-10	4.23	4.64	0.84	1.05	0.85	0.01	2.71	Accepted
Hp-11	4.14	4.5	0.84	0.99	0.68	0.01	2.71	Accepted

Observation:

1. After statistical analysis Hp-1 Z Value is 2.29 and Z table Value is 2.02. it is greater than Z table value so it is significance at 0.05 level. So Null Hypothesis is Rejected and Research Hypothesis is Accepted.

2. After statistical analysis Hp-4 Z Value is 2.86 and Z table Value is 2.71 it is lower than Z value 2.086. So Z Value is significance at 0.01level. So researcher has Rejected Null Hypothesis and Accepted Research Hypothesis.

3. According to statistical analysis researcher has accepted all null hypothesis:- Hp-2, Hp-3, Hp-5, Hp-6, Hp-7, Hp-8, Hp-9, Hp-10, Hp-11.

17. Finding of research:

After implementation of CAI Program of two weeks on D.T. Ed.student-teacher. Researcher has studied the effects on social skills the finding are given below.

According to implementation of CAI Program.

Social skills pre and post observation.

1.   D.T. Ed. student-teacher social skills pre observation Mean is 42.67; post observation Mean is 47.22.

According to testing of hypothesis

2.   **Hp-1**After implementation of social skills based computer assisted instructional program(CAI) developed by researcher for group work of D.T. Ed. student-teacher there is increased Mean of pre observation(42.67) and post observation(47.22) difference between mean is 4.85

3.   **Hp-2**After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T. Ed. student-teacher there is little bit (0.60) increased. Mean of pre observation (4.40) and post observation(5.00) The social skill *Self Control* difference between pre and post mean is 0.60.

4.   **Hp-3** After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (0.43) increased. Mean of pre observation(4.40) and post observation(4.83) The social skill *Management of Inter faith* difference between pre and post mean is 0.43.

5.   **Hp-4** After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (4.76) increased. Mean of pre observation(5.16) and post observation(0.40) The social skill *Expressing Emotions* difference between pre and post mean is 0.40. Z Table value(2.71) is lower than Z calculate Value(2.83) that is why researcher accepted Null hypothesis and rejected research hypothesis.

6.   **Hp-5** After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (4.23) increased. Mean of pre observation(4.88) and post observation(0.65) The social skill *Expressing non-verbal emotions.*difference between pre and post mean is 0.65.

7.   **Hp-6** After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (4.3) increased. Mean of pre observation(4.88) and post observation(0.58) The social skill *Purposeful listening and responsibility,* difference between pre and post mean is 0.58.

8.   **Hp-7** After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (3.92) increased. Mean of pre observation(4.66) and post observation(0.74) The social skill *Management of anger, stress and relations. Strong bounding of relations.* difference between pre and post mean is 0.74.

9.   **Hp-8** After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (4.26) increased. Mean of pre observation(4.52) and post observation(0.26) The social skill *Strong bounding of relations* difference between pre and post mean is 0.26.

10.   **Hp-9** After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (4.23) increased. Mean of pre observation(4.78) and post observation(0.55) The social skill *Motivation and reinforcement* difference between pre and post mean is 0.55.

11.   **H-10**After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (4.23) increased. Mean of pre observation(4.64) and post observation(0.41) The social skill *Commitment with the group* difference between pre and post mean is 0.41.

12.   **H-11** After implementation of social skills based computer assisted instructional program (CAI) developed by researcher for group work of D.T.Ed. student-teacher there is little bit (4.14) increased. Mean of pre observation(4.5) and post observation(0.36) The social skill *Practice with intellectual judgment* difference between pre and post mean is 0.36.

18. Conclusions:

1. In the Group work's pre and post observation found is that increased the level of social skills among student-teacher.

2. The Computer Assisted Instruction program (CAI) found effective for increasing the social skills awareness and level among the student-teacher.

3. Enlisted social skills are useful for cooperative learning.

4. Success of group work is based on social skills.

5. For personality development of any individuals social skills are the essential attribute of persona.

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