



SOFTWARE ON SELF EVALUATION: VALIDATION AND ITS EFFECTIVENESS

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Abstract

At present, in India teacher-training institutions, traditional methods are using for self-evaluation in practice teaching. Using ICT, self-evaluation makes more effective and improve good performance in teaching quality. Teaching is skill; Self-evaluation is the mirror of teaching. The aim of the researcher was to use of ICT practices in the classroom. For this purpose, this study was conducted. The significance of the present study was to develop the CAMT self-evaluation software and validate the software by the computer experts, Educationalists, teacher educators and teacher educators. This experiment was conduct on student teachers of Vaishnavi B.Ed. College, Mahabubnagar, Telangana. This College has well equipped computer laboratory and six smart classrooms. The experiment was tried out on 40 Student teachers among them 20 of Science and 20 of Arts student teachers were selected as sample. This study was conducted in three stages 1) Procedure for development of CAMT Self Evaluation Software 2) Internal Validation of the Software and 3) External Validation of the software. The data was analyzed qualitatively and quantitatively. The interview was conducted on the samples to get opinion towards CAMT Self Evaluation tools and the response scale scores were analyzed using Chi squire and Graphical representation. The main findings showed that the developed CAMT Self Evaluation software was user-friendly, usability and flexibility. Student teachers, teacher educators and educational experts were positively opined towards developed software. There was no significant mean difference between arts and science student teachers response scores. The teacher educators and Educational experts were more interested towards this software to regular use of daily lesson classes. This software is also helps to self-evaluation for micro teaching skills.

Keywords: *Self Evaluation, CAMT Software, Validation, and Macro Teaching.*



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Introduction:

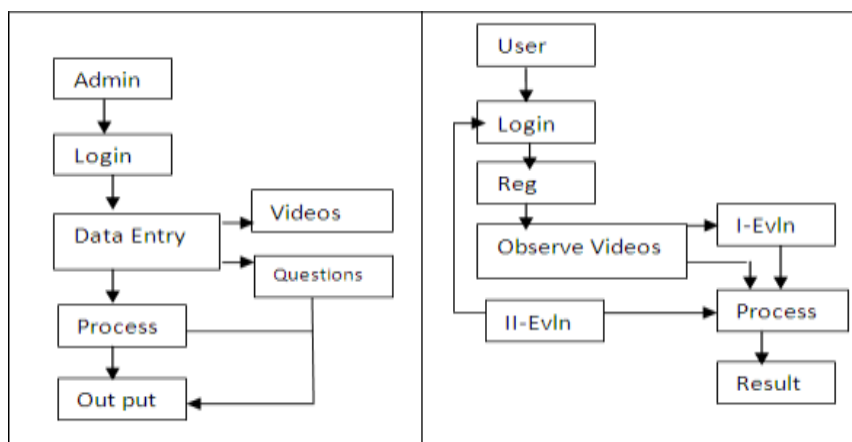
The main aim of lifelong learners and trainees needed to learn the importance of technology applied for self-evaluation. They could do this by filling out self-evaluation forms, journalizing, taking tests, writing revisions of work, asking questions, and through discussions. When students evaluated themselves, they are assessing what they know, do not know, and what they would like to know. They began to recognize their own strengths and weaknesses. They became more familiar with their own beliefs, and possibly their

misconceptions. After self-evaluated they would be able to set goals that they feel, they could attain with the new knowledge they have about themselves.

In education, ICT is an assisting tool. It is medium of teaching and learning. It also use as self-evaluation tool. The normal teacher follows traditional self-evaluation method. The best teacher follows software-based tools like online and off line self-evaluation methods. There are many methods for self-evaluation in teaching; self-monitoring, audio video recording, students' feedback on teaching is using questionnaires, and interviews. The Computer aided Macro Teaching self-evaluation tool is developed on the principles of macro teaching self-evaluation skills based on observation tool.

Some reviews studied that on macro teaching practices video based pedagogy method commonly adopted in the classroom. Videos facilitate observation of teaching practices for variety of purposes, such as viewing teaching style for self-evaluation. Wright (1998) found that video-based self-evaluation provided impetus for teacher change. Kpanja (2001) found that videos using groups showed significant progress in micro teaching skills training compared to groups that did not use video analysis. Video-based pedagogy has been showed to be enhanced by web-based environment.

The use of video based macro teaching skill and self evaluations in teacher training are fairly well documented; however, the integration of both approaches has received attention in the field. In this study, the researcher implemented Computer aided Macro teaching software tool to enhance student teachers reflection on their macro teaching skills. This research recommended that the use of CAMT Self evaluation software tool encourage student teachers for self-assessment that force the student teacher to think about their work.



The following flow chart shows the cycle of Computer aided Macro teaching self-evaluation.

Objectives:

1. Development of CAMT self-evaluation software.
2. To find out the effectiveness of science and arts student teachers towards developed CAMT software.
3. To find out the effectiveness of developed CAMT software in terms of user-friendly, flexibility and acceptance by student teachers, teacher educators and educational experts acceptance.

Hypotheses:

1. CAMT self-evaluation software significantly effective in term of user friendly and flexibility.
2. There is no significance mean difference between arts and science student teachers in terms of user friendly and flexibility of CAMT self evaluation software.
3. Student teachers, teacher educators and educational technology experts positively responses towards CAMT self-evaluation software.

Design: The design involved in the study has three phases:

- 1) Stage-I: Development of software
- 2) Stage-II: Internal validation of soft ware and
- 3) Stage-III: External validation of software.

In the first stage, the process of developing software designing proposed. The software is prepared on principles of macro teaching skills, catering to the general requirement, macro teaching skill requirements, development of software flowcharts and basic platform. The second phase is the design followed for internal validation. In this stage, the computer experts, teacher educators and educational experts validate the software tool. The last and the third phase is to validate the software externally. During this phase conduct lab try out and response scales were implemented on student teachers, teacher educators and educational experts. The current study is experimental in nature. The researcher was purposely-selected Vaishnavi B.Ed College, Mahabubnagar, Telangana. The College has well equipped computer laboratory and well-established six smart classrooms available where the students are regularly taught.

Sample:

4. Number of Student-teachers-40
 - Arts stream student-teachers-20

- Science stream student-teachers-20
- 5. Number of Computer Experts-5
- 6. Number of teacher educators-5
- 7. Number of Educational technology experts-5

Development of Software Product (CAMT Self Evaluation Software):

The CAMT software is developed by using the platform of VB 6.0 with MS Access background. The software has following characteristics.

- i) This software is developed with Macro teaching principles.
- ii) This software is developed on the bases self evaluation theory.
- iii) This software is developed with the different steps of macro teaching.
- iv) This software is developed on five point scale with representation of graphical measurement.
- v) This software is developed on video based pedagogic teaching centre.
- vi) This software has compatibility with user-friendly, flexibility and acceptance of the users.



Screen shots of CAMT Self Evaluation software

- vii) Designing and color scheme of the software is attractive and pleasurable.

Macro Teaching Skills Used for the Software:

In Indian educational context regular classes conducts for 40-45 minute for each class at secondary schools. The lesson is practiced in classroom on Herbartian steps. The lesson plan consists of the following steps practiced by the student teachers regularly in the classroom. 1) Motivation stage, 2) Statement of Aim, 3) Development stage, 4) Recapitulation stage, 5) Evaluation stage, and 6) Home assignment stage. The whole lesson is assessing them using this software. The reflection of teachers helps to develop good teaching further for class. Teachers evaluate themselves different skills like introducing lesson, asking questions, explanations, Black board work, body language, language clarity and continuity, activities

etc. Reflections are motivating teachers to improve quality of teaching. The reflections are measured by ratings like Very Poor, Poor, Good, Very Good and Excellent.

Experimentation and Data Collection:

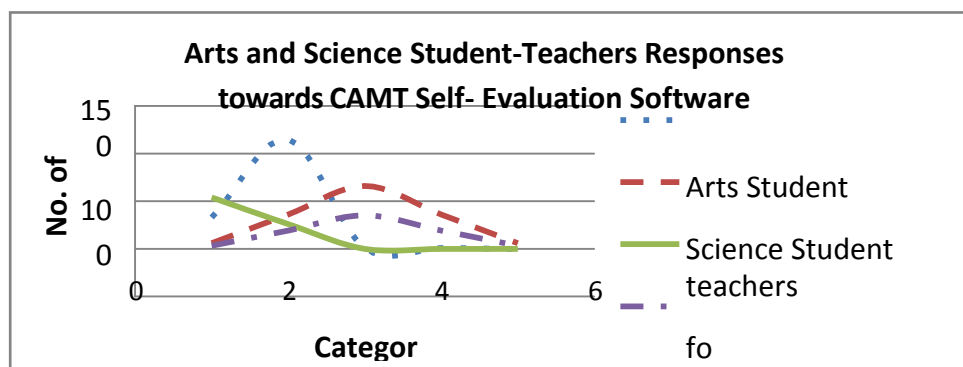
The researcher tested variables under 4 stages:

1. In the first stage the design of CAMT self evaluation software is developed with the help of computer experts and educational experts. Later the software is tested by the software designer and developer and certified by the registered software technology. Here the researcher certified the software by Ikon software Tech.
2. In the second stage the CAMT software administered to student teachers, teacher educators and educational experts for testing user friendly, flexibility and acceptance.
3. In the third stage the CAMT software administered Likert scale on arts and science student teachers in terms of user friendly, flexibility and acceptance. On the data of acceptance scale the Chi-square (Goodness of fit test) value are computed.
4. In the fifth stage the reactions scales are administered on student teachers, teacher educators and educational experts are administered with tool, opinion towards CAMT software in terms of user-friendly, flexibility and its acceptance. On the data of reaction scales the graphical representation are computed.

Testing of Hypotheses:

Table-1: Analysis of significance of Arts and Science Student-Teachers Response Scores Towards CAMT Self Evaluation Software in terms of User Friendly, Flexibility and Acceptance

Category	Frequencies	SA	A	N	DA	SDA	χ^2	Remark
Arts Student-teachers	fo	33	115	1	1	0	398.9	S*
	fe	6	36	66	36	6		
Science Student teachers	fo	54	26	0	0	0	592.5	S*
	fe	3.2	19.2	35.2	19.2	3.2		



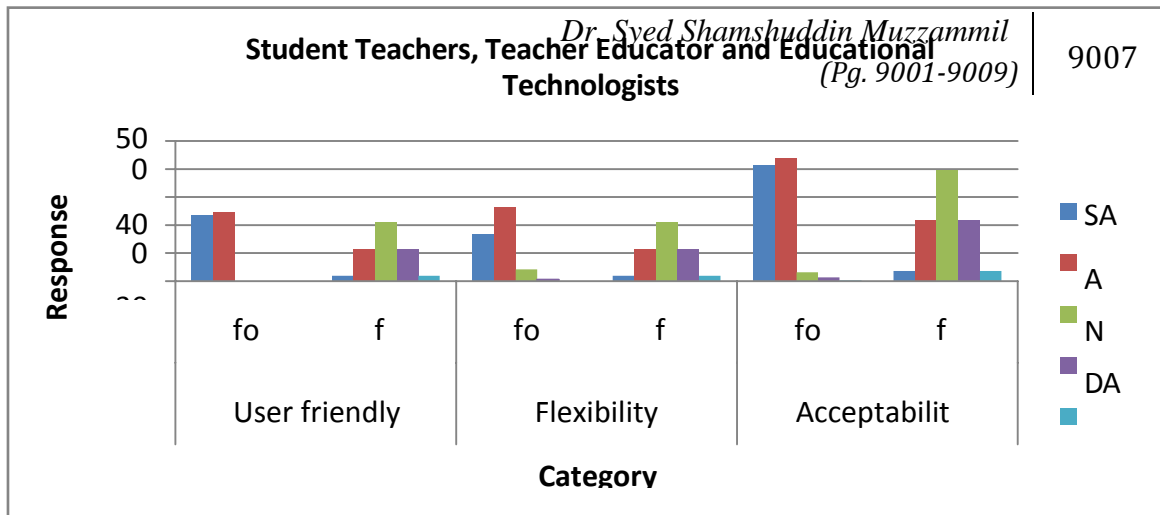
Graph-1

Table-1 and Graphs shows that,

- 1) The obtained χ^2 value is 398.9 with df 4 and is greater than the tabled value (9.488) at 0.05 level of significance. The null hypothesis is rejected. The difference is highly significant between observed frequency and expected frequency. The result is that the Arts student teachers response frequencies are not normally distributed towards user friendly, flexibility and acceptance of the software. It means that the Arts student teachers are positive opinion towards developed software.
- 2) The data on flexibility is analyzed. The obtained χ^2 value is 592.5 with df 4 and is greater than the tabled value (5.99) at 0.05 level of significance. The null hypothesis is rejected. The difference is highly significant between observed frequency and expected frequency. The result is that the Science student teachers response frequencies are not normally distributed towards user friendly, flexibility and acceptance of the software. It means that the Science student teachers are positive opinion towards developed software.

Table-2: Analysis of significance of Student teachers, Teacher Educators and Educational Technologists Response Scores towards User Friendly, Flexibility and Acceptability of the Software

Category	Frequencies	SA	A	N	DA	SDA	χ^2	Remark
User friendly	fo	236	244	00	00	00	2937.69	S*
	fe	19.2	115.2	211.2	115.2	19.2		
Flexibility	fo	167	262	42	9	0	1577.47	S*
	fe	19.2	115.2	211.2	115.2	19.2		
Acceptability	fo	412	440	32	14	2	4715.01	S*
	fe	36	216	396	216	36		



Graph-2

Table-2 and Graphs shows that,

- 1) The data obtained for user friendly is analyzed. The obtained χ^2 value is 2937.639 with df 4 and is greater than the tabled value (9.488) at 0.05 level of significance. The null hypothesis is rejected. The difference is highly significant between observed frequency and expected frequency. The result showed that the student teachers, teacher educators and Educational Experts response frequencies are not normally distributed towards software. It means that the software is fully user friendly and they are positive opinion towards software.
- 2) The data obtained for flexibility is analyzed. The obtained χ^2 value is 2937.639 with df 4 and is greater than the tabled value (9.488) at 0.05 level of significance. The null hypothesis is rejected. The difference is highly significant between observed frequency and expected frequency. The result showed that the student teachers, teacher educators and Educational Experts response frequencies are not normally distributed towards software. It means that the software is fully flexible and they are positive opinion towards software.
- 3) The data obtained for acceptability is analyzed. The obtained χ^2 value is 2937.639 with df 4 and is greater than the tabled value (9.488) at 0.05 level of significance. The null hypothesis is rejected. The difference is highly significant between observed frequency and expected frequency. The result showed that the student teachers, teacher educators and Educational Experts response frequencies are not normally distributed towards software. It means that the software is acceptable and they are positive opinion towards software.

Qualitative Analysis of Interview Data:

The student teachers, teacher educators and educational experts were responded that
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the CAMT self-evaluation software was very helpful to effective measurement tool. The software operating is easy with sequencing modes. The software is user friendly and flexibility. The software helped student teachers to assess themselves for effective teaching. The student teachers found that the material is much interesting and is useful to regular self-assessment. Thus, the use of this software enhances the quality of teaching at teacher training centers.

Major Findings:

1. CAMT self-evaluation software is effective generic software that can be used during teaching practices.
2. The responses of Arts and Science student teachers using CAMT software are significantly higher than conventional method.
3. Student teachers, teacher educator and educational experts' reactions are significantly positive towards use of CAMT self-evaluation software in terms of friendly and flexible.
4. Student teachers, teacher educator and educational experts' reactions are significantly positive towards use of CAMT software in terms of user friendly, flexibility and acceptance.

Educational Implications:

1. CAMT self-evaluation software can be helpful to create positive in practice teaching. Therefore, it can be more useful and effective for the learners.
2. CAMT software tool helps each student teacher to proceed with his own assessment. It is also helpful to increase their conscious of self-evaluation for improvement in teaching.
3. It also provides opportunity to the student teachers for an active participation for self-evaluation.
4. Such instructional software materials can be introduced in teachers' training programmes to develop teachers' efficiency in teaching.
5. Principals and school management should utilize such software in their school and also inspire the teacher trainees to develop and to use such software materials to self assessment.

Recommendations:

1. The CAMT software assessment tool can be use in macro teaching practice.
2. The effectiveness of CAI-MPSA software material can be compared to group learning

and to an individual learning.

3. A similar study can be made for macro practice teaching.
4. Pre-service and in service teachers can also use CAMT self evaluation software in regular classes.

Contributions of the Study:

1. CAMT self-evaluation software for student teacher to regular use in practice teaching.
2. An approach for creating generic software in the field of education.

Suggestions for Further Study:

1. The CAMT self evaluation software can be further improved upon with more facility such as Macro teaching self evaluation, speed testing etc.
2. The software can be further modified to use Multilanguage.
3. The software can be tried out at large scale with workshops to create awareness of use of ICT in evaluation.

Conclusion:

Researcher concluded that CAMT self evaluation software tool offers teacher educators and student teachers an opportunity to be actively engaged in the teaching practice to receive peer suggestions through this software, to choose the place and time to evaluate themselves, to change their teaching errors and get accurate feedback and also know their strength and weakness in practice teaching. The CAMT software is helps pre service and in service teacher in teaching practices. In the current study judging from overall response of the student teachers, teacher educators and educational experts of the investigators, it is found that all are having positive attitude toward CAMT self evaluation software. So it can be concluded that CAMT software is one of the effective way to improve the quality while teaching practice.

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