

Classroom Application of TLM and ICT Equipment at the Secondary Level of Education and Teachers' Attitude towards Their Use

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Abstract

Use of Teaching Learning Material (TLM) including Information and Communication Technology (ICT) by the teacher in classroom situation makes the classroom interaction process lively, enjoyable and fruitful. TLMs can be heard, seen, casted, touched, watched and thus leads to permanent learning. Apart from these, at present, Information and Communication Technology (ICT) also plays a vital role in teaching learning process and it has revolutionized the entire classroom communication process. The present author has conducted a descriptive survey study to find out the level of utilization of the TLMs by the teachers of Secondary Schools under the provincialized and private management and to find out their attitude towards the use of TLM and ICT equipment in classroom situation. The author has adopted stratified random sampling technique and accordingly 75 provincialized and 90 private school teachers have been selected. Self structured questionnaires rightfully standardized have been administered to collect data. Data analyses have been shown by computing percentages and 'Z' tests. The study revealed that the teachers mostly use the traditional type of teaching aids like Black-board and Text-book. Teachers are lagging far behind in using Audio, Projected-visual, Audiovisual and ICT equipment. Further the study shows that there exists no significant difference between provincialized and private school teachers' attitude towards using TLM in classroom situation and there exists significant difference between provincialized and private school teachers' attitude towards using ICT equipment as TLM in classroom situation.

KEYWORDS: TLM, ICT, Classroom, Application, Attitude.

1. Introduction:

Teaching Learning Material commonly known as TLM is a widely conversed subject matter more particularly in the Primary and Secondary Level of School Education. TLM indicates the device/ aid/ material/apparatus/object that support the teacher to transmit facts, skills, attitude, knowledge, understanding and perception to the learners effectively. TLMs can be seen, heard and touched that makes the classroom environment lively. Appropriate use of TLM by the teacher related to the subject matter ensures active involvement of the students which make the classroom situation enjoyable and memorable one. Again the application of TLMs ensure the value of concrete, non-verbal and practical experiences that are much more significant than that of conventional methods of teaching which are mostly verbal. **Akram, Sufiana and Malik (2012)** conducted a study on "Use of Audiovisual aids for effective teaching of Biology at Secondary School level." In the study the teachers had reported that proper use of Audio visual aids by the teachers makes difficult concepts and abstract ideas crystal clear to the students and they take much interest in the classroom teaching learning process. **Tyagi (2018)** conducted an experimental

study and found that teaching of Mathematics through Video Programmes is better than traditional teaching in case of students of class IX.

1.1 Significance of the study:

It is a reality that if the learners are motivated to learn, definitely they will learn. TLMs and ICT equipment properly used by the teachers can easily secure and sustain students' interest throughout the class. On the other hand in this scientifically and technologically advanced world ICT has changed every aspect of our life including classroom. Advanced countries have already taken the advantages of using ICT for teaching-learning purpose. Developing countries like ours also cannot be unresponsive towards these changes. Therefore research study on classroom application of TLM and ICT equipment at the Secondary Level of Education and teachers' attitude towards their use bears prominent significance.

1.2 Statement of the problem:

Classroom application of TLM and ICT equipment at the secondary level of education and teachers' attitude towards their use.

1.3 Objectives of the study:

Objective 1. To study the frequency of application of TLM and ICT equipment as TLM in classroom situation by the teachers in relation to the management status of their schools (provincialized / Private).

Objective 2: To study the attitude of the teachers towards the use of TLM in classroom situation in relation to the management status of their schools (provincialized / Private).

Objective 3: To study the attitude of the teachers towards the use of ICT equipment as TLM in classroom situation in relation to the management status of their schools (provincialized / Private).

1.4 Hypotheses of the study:

Ho1: There exists no significant difference between the provincialized and private school teachers' attitude towards the use of TLM in classroom situation.

Ho2: There exists no significant difference between the provincialized and private school teachers' attitude towards the use of ICT equipment as TLM in classroom situation.

2. Research Methodology: Research methodology implies the technique that has been adopted by the researcher for conducting the study and the logic behind using such a technique.

2.1 Method of the study: The descriptive survey (school survey) method has been adopted by the present investigator.

2.2 Study area: Kamrup (M) District of Assam has been considered by the investigator as the area of the study. The study covers the sample schools belonging to Kamrup (M) District of Assam.

2.3 Variable of the study: The management status of the schools i.e. provincialized and private has been identified as the variable of the present study.

2.4 Sample of the study: Stratified random sampling technique has been accepted by the present investigator to select the representative teachers for the study. Accordingly a total number of 165 teachers (75 teachers from provincialized schools and 90 teachers from private schools) form the teacher sample.

2.5 Tools used in the study: Self structured questionnaires have been administered by the present investigator to collect data. Content validity of the questionnaires has been checked. Again, reliability co-efficient of the attitude scale has been found as 0.87.

2.6 Scoring pattern: The attitude scale has been prepared by the investigator with 3 ratings such as strongly agree, agree and disagree. Accordingly scoring pattern has been fixed as 2 for strongly agree, 1 for agree and 0 for disagree.

2.7 Statistical technique used: As the objective 1 is concerned with status finding, therefore descriptive statistical analyses in terms of percentages have been shown. On the other hand, for objective 2 and 3 inferential statistics such as ‘Z’ tests have been used.

3. Analysis of the study: After organization and tabulation of the collected data, analysis has been shown accordingly as under.

3.1 Analysis of Objective 1. To study the frequency of application of TLM and ICT equipment as TLM in classroom situation by the teachers in relation to the management status of their schools (provincialized / Private).

Table 3.1: Percentage of Frequency of Application of TLM and ICT equipment by the provincialized and private school Teachers

Category of TLM	Name of the TLM	Category of Teacher	Always		Frequently		Sometimes		Never	
			Total	Per cen	Total	Per cen	Total	Per cen	Total	Per cen
AUDIO TLM	a)Radio	Prov.	0	0%	0	0%	0	0%	75	100%
		Private	0	0%	0	0%	4	4.44%	86	95.56%
	b) Audio-player	Prov.	0	0%	0	0%	0	0%	75	100%
		Private	0	0%	0	0%	12	13.33%	78	86.67%
	c) Lingua-phone	Prov.	0	0%	0	0%	0	0%	75	100%
		Private	0	0%	0	0%	0	0%	90	100%

Category of TLM	Name of the TLM	Category of Teacher	Always		Frequently		Sometimes		Never	
			Total	Per cent	Total	Per cent	Total	Per cent	Total	Per cent
	d) CD/DVD Player	Prov.	0	0%	0	0%	0	0%	75	100%
		Private	0	0%	0	0%	14	15.56%	76	84.44%
PROJECTED VISUAL TLM	(a) Slides with slide projector	Prov.	0	0%	0	0%	7	9.33%	68	90.67%
		Private	0	0%	0	0%	23	25.56%	67	74.44%
	(b) Epidiascope	Prov.	0	0%	0	0%	0	0%	75	100%
		Private	0	0%	0	0%	0	0%	90	100%
	(c) Overhead projector	Prov.	0	0%	0	0%	0	0%	75	100%
		Private	0	0%	0	0%	10	11.11%	80	88.89%
NON-PROJECTED VISUAL TLM	(a) Text book	Prov.	75	100%	0	0%	0	0%	0	0%
		Private	90	100%	0	0%	0	0%	0	0%
	(b) Chalk-board	Prov.	75	100%	0	0%	0	0%	0	0%
		Private	90	100%	0	0%	0	0%	0	0%
	(c) Chart	Prov.	6	8%	32	42.67%	34	45.33%	3	4%
		Private	4	4.44%	68	75.56%	15	16.67%	3	3.33%
	(d) Drawing/Picture	Prov.	8	10.67%	56	74.67%	8	10.67%	3	4%
		Private	52	57.78%	33	36.67%	5	5.56%	0	0%

Category of TLM	Name of the TLM	Category of Teacher	Always		Frequently		Sometimes		Never		
			Total	Per cent	Total	Per cent	Total	Per cent	Total	Per cent	
	(e) Album	Prov.	0	0%	0	0%	0	0%	75	100%	
		Private	0	0%	0	0%	12	13.33%	78	86.67%	
	(f) Map	Prov.	20	26.67%	33	44%	17	22.67%	5	6.67%	
		Private	32	35.56%	27	30%	21	23.33%	10	11.11%	
	(g) Atlas	Prov.	2	2.67%	3	4%	11	14.67%	59	78.67%	
		Private	5	5.56%	12	13.33%	26	28.89%	47	52.22%	
	(h) Globe	Prov.	5	6.67%	14	18.67%	32	42.67%	24	32%	
		Private	14	15.56%	16	17.78%	35	38.89%	25	27.78%	
	(i) Model	Prov.	18	24%	23	30.67%	10	13.33%	24	32%	
		Private	25	27.78%	42	46.67%	22	24.44%	1	1.11%	
	(j) Specimen	Prov.	12	16%	18	24%	27	36%	18	24%	
		Private	13	14.44%	22	24.44%	23	25.56%	32	35.55%	
	(k) Puppet	Prov.	0	0%	0	0%	0	0%	75	100%	
		Private	0	0%	0	0%	5	5.56%	85	94.44%	
	AUDIO - VISUAL TLM	(a) Television	Prov.	0	0%	0	0%	2	2.67%	73	97.33%
			Private	0	0%	0	0%	8	8.89%	82	91.11%
(b) Educational Film		Prov.	0	0%	0	0%	28	37.33%	47	62.67%	
		Private	0	0%	0	0%	42	46.67%	48	53.33%	
IC T E	(a) Comput	0	0%	7	9.33%	20	26.67%	48	64%		

Category of TLM	Name of the TLM	Category of Teacher	Always		Frequently		Sometimes		Never	
			Total	Per cent	Total	Per cent	Total	Per cent	Total	Per cent
	er/Laptop	Private	0	0%	22	24.44%	43	47.78%	25	27.78%
		Prov.	0	0%	0	0%	0	0%	75	100%
	(b) Computer with Internet Facility	Private	0	0%	0	0%	28	31.11%	62	68.89%
		Prov.	0	0%	0	0%	0	0%	75	100%
	(c) LCD Projector	Private	0	0%	9	10%	47	52.22%	34	37.78%
		Prov.	0	0%	0	0%	0	0%	75	100%
	(d) Interactive White Board	Private	0	0%	0	0%	0	0%	90	100%
		Prov.	0	0%	0	0%	0	0%	75	100%
	(e) Power Point Presentation Facility	Private	0	0%	18	20%	44	48.89%	28	31.11%
		Prov.	0	0%	0	0%	0	0%	75	100%

Abbreviation: Prov.= Provincialized.

The above table 3.1 shows that the picture of frequency of using Audio TLM by the provincialized and private school teachers is quite dark. The same picture can also be observed in case of projected visual TLMs. All the teachers irrespective of the management of their schools make a good deal of utilization of the non- projected visual TLMs except puppet. The use of television by the teachers in classroom situation as an audio-visual TLM is nil. Some provincialized (37.33%) and private (46.67%) school teachers sometimes make use of educational film in their classroom situation. Regarding the utilization of ICT equipment, computer/laptop is sometimes used by 26.67% Govt. and 47.78% private teachers. Computer with internet facility is never used by the provincialized school teachers whereas 31.11% private school teachers sometimes use this facility in their classroom situation. Provincialized school teachers never use LCD projector, whereas 52.22% private school teachers sometimes use this in their classroom situation. Interactive white board is never used by the teachers irrespective of the management of their schools. Power point presentation facility is never used by the provincialized school teachers, on the other hand 20% private school teachers have reported that they frequently make use of this and other 48.89% teachers have reported that they sometimes use this facility in their classroom situation. Thus it can be interpreted that in case of TLMs, frequency of using these

both by the provincialized and private school teachers is almost same. But in case of using ICT equipment in classroom situation, the private school teachers are far ahead than that of provincialized school teachers.

3.2 Analysis of objective 2 and 3:

‘Z’ tests have been calculated by the present investigator to find out the significant difference between the mean scores of provincialized and private school teachers’ attitude towards TLM and ICT equipment as TLM.

3.2.1 Objective 2: To study the attitude of the teachers towards the use of TLM in classroom situation in relation to the management status of their school (provincialized / Private).

Ho1: There exists no significant difference between the provincialized and private school teachers’ attitude towards the use of TLM in classroom situation.

Table: 3.2 ‘Z’ value of provincialized and private school teachers’ attitude towards using TLM in classroom situation

Management of schools	N	Mean	S.D	SE _D	C.R or Z value	Status
Prov.	75	31.39	10.2	1.71	0.61	Ho is accepted
Private	90	32.44	11.7			

Abbreviation: Prov. = Provincialized.

The table 3.2 depicts that the calculated ‘Z’ value is 0.61 which is much smaller than the critical ‘Z’ value i.e. 2.58 at 1% level of significance. Therefore the calculated value is not significant. Hence the Ho1 stating, “There exists no significant difference between the provincialized and private school teachers’ attitude towards the use of TLM in classroom situation” is accepted. From the above analysis it can be interpreted that both provincialized and private school teachers have the same attitude towards the use of TLM in classroom situation.

3.2.2 Objective 3: To study the attitude of the teachers towards the use of ICT equipment as TLM in classroom situation in relation to the management status of their school (provincialized / private).

Ho2: There exists no significant difference between the provincialized and private school teachers’ attitude towards the use of ICT equipment as TLM in classroom situation.

Table: 3.3 ‘Z’ value of provincialized and private school teachers’ attitude towards using ICT equipment as TLM in classroom situation

Management of schools	N	Mean	S.D	SED	C.R or Z value	Status
prov.	75	29.31	13.15	1.91	3.68	Ho is rejected
Private	90	36.33	10.45			

Abbreviation: Prov. = Provincialized.

The above table 3.3 reveals that the calculated 'Z' value is 3.68. Our critical 'Z' value is 2.58 at 1% level of confidence. It has been seen that calculated Z value is higher than the critical Z value at 1% level of significance. So it can be said that the calculated 'Z' value is significant. Hence the Ho2 stating, "There exists no significant difference between the provincialized and private school teachers' attitude towards the use of ICT equipment as TLM in classroom situation" is rejected. From the above analysis it can be interpreted that the provincialized and private school teachers' attitude is not same towards using ICT equipment as TLM in classroom situation.

4. Discussion:

The present study covers the types of teaching aids starting from traditional Black-board to sophisticated Interactive White Board. From the result of the study it can be resumed that both the provincialized and private school teachers are well versed with the use of conventional type of TLM like Black-board and Text-book. It depicts the picture that till this date Secondary School teachers irrespective of the management of their schools are confined with the traditional lecture dominated one way classroom communication. The following discussion will further illuminate the entire related matters.

- Use of TLM and ICT equipment by the teacher in the classroom situation provides ample opportunities to the students to shift their role from mere passive listeners or receivers to active participants or senders. **Hoda and Bano (2017)** also maintained that the ICT tools are as powerful as they are capable of bringing a change and reform the traditional mode of learning. Indirectly it will also lead towards the development of the inner potentialities of the learners.
- Use of TLM and ICT equipment in classroom situation by the teachers has definite impact on students' academic achievement. Study of **Atiano (2014)** also indicated that poor TLM facilities have negative influence on students' performance in Kenya Certificate of Secondary Education. TLM also saves time as it hardly demands repetition.
- Role of teacher training institutions is noteworthy in this field. Concept of TLM, types of TLM, how to prepare TLM, when to use TLM, developing computer literacy (at least Ms Word, Ms Excel and Power Point Presentation) of the teacher trainees, training on software preparation, use of Internet and WWW for classroom teaching purpose etc. should become indispensable part of teacher training program. For in service teacher training short term training course, orientation program and refresher courses should be arranged twice in a year. In the study of **Oyedele, Rwambiwa and Mamvuto (2013)**, the author had set the research question as- How do teacher trainers and trainee teachers in Africa University rate the importance of Educational Media and Technology in teaching and learning in Africa University? The study disclosed the picture that while trainees appreciated the role of Educational Media and Technology in teaching and learning, the majority of the trainers did not use Educational Media and Technology during their teaching.
- Role of the Govt. and the respective authority (more particularly in case of private management schools) is also worth discussing in this regard. Excellent academic career is not the single criteria for being a competent teacher. While appointing teachers authority should check their command over TLM and ICT use so that successful classroom transaction can be ensured.

5. Conclusion:

TLM should be an indispensable part of everyday's class. A classroom without TLM becomes dull and creates fatigue due to the heaviness of verbalism. Teachers need to have adequate orientation in this field to develop favourable attitude towards TLM and more particularly towards ICT use in classroom.

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