

# AN ANALYSIS OF SCHOOL TEACHERS' PERCEPTIONS ON THE USE OF TELEVISION, INTERNET AND COMPUTERS (TIC) AS LEARNING TOOLS

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## ABSTRACT

*The Purpose of this study was to analyze school teachers' views on the usage of TIC (Television, Internet, and Computer) learning tools as supplementary to the class room based instruction in schools. Some of the aspects covered in this study are – awareness, effectiveness, quality, usefulness to students, relevance and role of parents. Information was gathered through a questionnaire distributed among 75 teachers of a school. The survey conducted was analyzed and results compiled. Based on the analysis, the study proposes several actions to be taken by the school management, teachers, TIC developers and parents so as to improve the effectiveness of TIC learning tools.*

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## INTRODUCTION

The most commonly seen phenomenon in the 21<sup>st</sup> century is probably change. Changes are seen in almost every sphere of activity- from technology to education from healthcare to medicine. Change has become synonymous with “progress”. The impact of these changes is highly substantial, affecting every aspect of human endeavor. School education is no exception to this change.

The Aristotelian method of pedagogy, with the teacher and the pupil exchanging information, is slowly being supplemented by informational technological advancements which are slowly revolutionizing the field of education. These emerging technologies enhance and support the learning process, thus presenting before the learner several vistas of learning.

Many education technology companies have developed Computer Based Tutorials (CBTs), educational websites targeting school children. These companies have used attractive animations, audio-visual methods to convey the difficult concepts in mathematics, sciences etc. School children also find these technologies more interesting and motivating. Recently, TataSky has introduced interactive learning using TV. All these companies are trying to provide supplementary learning tools for school children, as they see it as a huge market. Most of the cases these learning tools are based on what technology can offer rather than on learning needs of the school children.

The biggest missing link in the development of TIC learning tools are (i) not involving important stakeholders namely – parents, teachers and school children (ii) Scientific evaluation of these new supplementary learning tools (Dikshit 2003, Huseth 2001). Technology savvy parents are buying the TIC learning tools and some of the children are also using these tools. However, very limited research is available on the evaluation of TIC learning tools in school education (Hungand Hsu 2007). However, several researchers studied TV as a learning tool in distance education programs aimed at graduation and post graduation students (Venkaiah 2006, Sanjay 1999, Sahoo 1994).

Supplementing school education with technology based TIC learning tools is what is referred as blended learning (b-learning). B-learning when properly used at school level will revolutionize the school education system. B-learning is a new paradigm and teachers associated with traditional class room based teaching find it difficult to appreciate the power of this new technology. School teachers have an important role to make the TIC learning tools contribute effectively in school education (Beaudoin 1990). The present study focuses on understanding the perceptions of school teachers in adopting TIC learning tools at school level.

## **OBJECTIVES OF THE STUDY**

This article is a study based on the teachers' perspectives with regard to the use of TIC {Television, Internet, Computer} tools in teaching .It focuses on whether these tools act as supplementary aids to teaching or whether they hamper the overall instruction process. It also focuses on the role of parents with regard to the use of TIC tools. The study also lists certain suggestions for improving the effectiveness and utility of these tools in academic instruction. It also tries to identify the problems faced by teachers in using these tools.

## **SCOPE OF THE STUDY**

The paper limits its study to the use of TIC tools as mentioned i.e. TV based learning, Internet based learning and computer aided learning. It also limits itself to the teachers' perspectives with regard to the use of these tools in the academic process.

## **METHODOLOGY**

The study was based on a self-developed questionnaire investigating the attitude of teachers towards using TIC techniques and the overall effectiveness of these TIC techniques in the academic process from the point of the view of the teachers. A questionnaire with response pattern on a 5 point scale with parameters like SA {strongly agree}, A {agree},

UD {undecided}, D {disagree}, SD {strongly disagree} was developed to collect the required information from teachers. The questionnaire also had a suggestion block which listed all the suggestions given. Thus, the information collected consisted of both statistical and descriptive data.

A total of twenty questions were framed and circulated among 75 teachers of a premier school. The response received from 56 teachers was analyzed. The response rate was 74%. The questionnaire was distributed to a random group of teachers from all levels –preschool, primary and secondary and from all the departments including languages, math, science,

computers etc. The percentage of preschool teachers was 23 that of primary school 46 and high school 31.

## QUESTIONNAIRE

As seen the questionnaire had two segments to fill in. The first block had three general questions on the usage of television, internet and computer by teachers as supplementary teaching aids. Teachers were asked to mark on a scale ranging from “a very large extent” to “not at all”. For analysis, the first three segments (very large extent, large extent, considerable extent) were considered under positive and the last two segments (limited extent, not at all) under negative.

Aspects	Very large Extent		Large Extent		Considerable Extent		Limited Extent		Not At All	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Use of Television based content/quiz	1	2	2	4	11	21	15	28	14	26
Use of Internet based content/quiz	1	2	8	15	12	23	9	17	12	23
Use of Computer based content/quiz	5	9	2	4	16	30	13	25	6	11

The second block of questions probed deeper into the teachers’ perspectives about the TIC learning tools, their overall effectiveness in the academic instruction process. The entire questionnaire is thus ‘teacher’ perspective as they have a better understanding of the effectiveness of these tools.

Statements	SA		A		Undecided		D		SD		No Answer	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1 Use of TIC learning tools helps in creating interest towards mathematics and science subjects.	28	50%	24	43%	1	2%	2	4%	1	2%	0	0%
2 Children regularly using TIC learning tools do better in school exams.	9	16%	31	55%	9	16%	7	13%	0	0%	0	0%
3 Use of TIC learning tools is a waste of time for children	0	0%	1	2%	4	7%	35	63%	15	27%	1	2%
4 School children do not take interest in TIC learning tools	0	0%	4	7%	1	2%	32	57%	19	34%	0	0%
5 TIC learning tools motivate school children towards reading general books.	6	11%	24	43%	6	11%	17	30%	1	2%	2	4%
6 Parents are encouraging school children to use TIC learning tools as they do not have time to help them with studies at home	12	21%	32	57%	4	7%	6	11%	2	4%	0	0%
7 I feel use of TIC learning tools is not effective	0	0%	1	2%	8	14%	32	57%	14	25%	1	2%
8 The quality of TIC learning tools is questionable	5	9%	23	41%	11	20%	15	27%	2	4%	0	0%
9 Children have difficulty in following the TIC learning tools content as it does not synchronize with the content covered in schools.	3	5%	17	30%	8	14%	17	30%	9	16%	2	4%
10 Children have difficulty in managing the time in using TIC learning tools and school work	5	9%	37	66%	3	5%	9	16%	2	4%	0	0%
11 I encourage children to use TIC learning tools	14	25%	41	73%	1	2%	0	0%	0	0%	0	0%
12 I feel schools should integrate TIC learning tools into the school education	25	45%	29	52%	1	2%	1	2%	0	0%	0	0%
13 I think that TIC learning tools help only a few students	4	7%	12	21%	3	5%	30	54%	6	11%	1	2%
14 I believe that presence of parents while children use the TIC learning tools helps improve effectiveness	23	41%	30	54%	1	2%	2	4%	0	0%	0	0%
15 Many families cannot afford the TIC learning tools	11	20%	40	71%	3	5%	2	4%	0	0%	0	0%
16 I feel that schools should recommend appropriate TIC learning tools to help parents	15	27%	35	63%	4	7%	1	2%	0	0%	1	2%
17 I think most of the TIC learning tools are not suitable to school children	1	2%	12	21%	11	20%	28	50%	4	7%	0	0%
18 I feel that most of the TIC learning tools are based on sound research on school children learning needs	0	0%	30	54%	17	30%	5	9%	2	4%	2	4%
19 I feel that use of TIC learning tools will reduce the interest of school children in class room teaching	4	7%	22	39%	3	5%	23	41%	1	2%	3	5%
20 I feel that children are taking the full advantage of the TIC learning tools to improve their educational performance	11	20%	17	30%	12	21%	13	23%	1	2%	2	4%

## ANALYSIS OF RESULTS

Parameters 1, 2 have been taken as positive responses while parameters 3,4,5,6 have been taken to be negative responses for the analysis.

The analysis of the first block clearly showed that a majority of the teachers were unaware of TV being used as a supplementary teaching aid. Most teachers {43% } said that they have been using computer based content in their teaching process. 30% of teachers agreed that internet also is a powerful tool in the teaching process. While television had been in existence for a longer time and had arrived much before the computer and the internet, it is surprising to note that TV stands more as an entertaining medium rather than an educational medium as seen by only 27% of teachers who rated television as an educational tool.

A general overview of the results showed that most teachers feel that TIC learning tools do help children in their academics, while only 2% said that TIC tools are a waste of time for children. 98% of teachers felt that use of these tools is highly effective.

Most teachers {98 % } of them said that they would encourage students to use TIC learning tools. Three fourths of the teachers felt that a regular use of TIC learning tools would foster better academic results. But, on the other hand three fourths of teachers felt that children would find difficulty in managing time doing TIC learning tools and school work. This could also mean that TIC learning tools are seen as an additional burden on the students, if asked to use them.

A solution to this problem was the answer given by 96% of the teachers who felt that TIC learning tools should be a part of the school curriculum. Once amalgamated into the school education process, teachers feel that TIC tools would become more effective.

While a majority of teachers {93% } voted that use of TIC learning tools creates interest in the minds of the children towards Math and Science, they believe that these tools are not very effective for the other subjects. Only 54% of the teachers said that TIC learning tools motivate children towards reading general books while another 46% were undecided whether these tools promote healthy reading.

93% of teachers believed that students take an active interest in these tools if incorporated into their school education. Another startling fact that arose was that 46% of teachers believe that use of TIC learning tools would reduce the interest of school children towards classroom teaching. This lays a greater emphasis on teachers to adopt newer techniques into the teaching process. It also goes on to say that, teachers were skeptical about using these tools as classroom teaching would take a setback.

75% of the teachers believed that the content of TIC learning tools synchronizes with the content of their textbooks; as such TIC tools form an effective learning podium for children. They also give children a reinforcement of the topics already learnt.

While the audio-visual media has an effective impact on the minds of children it is surprising to note that 30% of teachers believe that TIC learning tools help only a few students. Whether this

set is of the highly meritorious or the slow learners who are benefited seems to be a matter of further analysis. Only 50% of teachers believe that children are taking full advantage of TIC learning tools to improve their educational performances, while 50% are unclear about this. It goes to say that teachers themselves are unclear about the effectiveness of TIC learning tools in their academic process. A conclusion to be arrived is that teachers have to be themselves educated on this before actually using them for students.

23% of the teachers believe that most of the TIC learning tools are not suitable to school children. A questionable fact is whether these tools would be more effective for the college and research level students. This also stresses the fact that content of the TIC tools need to be more and more aligned to school education in school and at home too. However 89% of teachers felt that schools should recommend the appropriate learning tools to parents. This puts an additional onus of responsibility on the management to suggest suitable tools for parents.

The role of parents in the promotion of TIC learning tools turned out to be more positive. Many teachers believe that parents are themselves encouraging school children to use TIC tools as they do not have the time to help with studies. 98% of the teachers believe that the presence of parents while children are using TIC tools help improve effectiveness. So, TIC learning tools should be a part of the education process at The most commonly seen phenomenon in the 21<sup>st</sup> century is probably change.

TIC learning tools have emerged as a high cost venture as 91% of teachers believe that many families cannot afford TIC learning too. This reiterates the first result reached that many teachers are unaware of TV being used as an education supplement. Only the computer and the internet are viewed by teachers as a tool in education.

54% of teachers believe that TIC learning tools are based on sound research on school children needs. 50% are doubtful about the quality of these TIC tools. Both these lay a great stress on more research into the effectiveness and use of TIC tools.

## LIMITATIONS OF THE STUDY

The study limits itself to only a single school. The number of teachers involved in the analysis was 75 and the responses reached were from 56 of them. The questionnaire was prepared to elicit responses only from teachers and did not look at the child's or the parent's views. While all the teachers were grouped together and taken as one unit, the study allows further scope on the views of teachers based on experience, gender, subjects taught, level of the teachers at which they are teaching which were not taken into consideration for this paper.

## SUGGESTIONS

The following suggestions regarding the usage of TIC tools were reached at:

1. Television as an educational supplement should become more popular.
2. Educational programs on TV should be advertised in newspapers.

3. The timings of TV education programs should be convenient to children.
4. Content of TIC learning tools should be in sync with school curriculum.
5. Inform children beforehand the schedule of the time and the topics to be shown.
6. Content of TIC learning tools should be prepared by subject experts.
7. Content should relate to all levels of students and should be made attractive and interesting.
8. Review tests to be made available as children can test what they have learnt.
9. Teachers' lesson plans and classroom techniques should be revamped, incorporating these tools.
10. Teaching techniques should become more interesting.
11. Allow parents to directly monitor their children's usage of TIC learning tools.
12. School management should take an active role in the selection and usage of TIC tools.
13. Management can also share their views on the effective usage of TIC tools with other schools.

## DISCUSSION AND CONCLUSION

As observed, learning tools have been perceived by teachers as computer aided and internet based, while TV based learning is given a poor third slot. So, it is to be understood that teachers are to be aware of TV being used as a learning tool. As said, Teachers' personal factors, attitudes and beliefs regarding technology are of great importance in their decisions to adopt technology in their classrooms. This coincides with our analysis too when a majority of teachers encourage students to use TIC learning tools and they wanted it to be a part of the school curriculum. There was a significant thrust on parents and school management in the implementation of these tools. Teachers felt that this trio together {Teacher, Parent, School management} should work together in the implementation of these tools in the school. Schools should incorporate these in the school curriculum and also recommend the same to parents. The study also concludes that there is not much of research evidence on the effectiveness of media as an educational supplement.

As the use of TIC learning tools continue to increase rapidly in schools as well as homes, it seems inevitable that TIC tools will impact not only practical classroom teaching, but even the pedagogical theories that stand behind them. No doubt the attitude of teachers towards these TIC tools as well as their attitude towards the practice of teaching and the subjects they teach will be an important factor in the degree to which TIC tools may be integrated into classroom teaching. Efforts to popularize TV based learning and further explore these avenues are surely needed.

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