Impact of Leadership on Meaningful Use of ICT

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Abstract

This research is a case study of a private school system of Lahore which aims to get an insight into the impact of leaders on meaningful use of ICT into teaching and learning. The major source of data for this research were the interviews of school heads and teachers, observations and document analysis which reflected, that the leaders are critical factors when it comes to ICT implementation in a classroom in an effective manner. School leader does not need to be an IT expert but does need to have a vision to adopt this reform; competent enough to be a role model and does have an ability to support his / her school teachers by providing them on-going professional development in order to make them feel proficient users of ICT which will help teachers to integrate ICT in their daily lesson planning which will eventually enhance students’ learning.

Keywords: School leadership, meaningful use of ICT, ICT vision

1. Introduction

This paper focuses on the meaningful learning of students with ICT and how it is affected by the school leader strategies. The way teachers teach; children learn and the way school principals manage their schools are changing as a result of ICT implementation. Support and coordination is required to integrate ICT in teaching and learning process. Achieving effective integration of ICT in today’s world is a complex undertaking for both educational and administrative areas. A lot of research has been done on ICT implementation in schools but very few highlights the relationship between the ICT meaningful use and the impact of leadership strategies on it. The ultimate aim of ICT adoption is to facilitate effective transformation of learning, motivation for teachers to inculcate ICT in their teaching methodologies and to encourage students to use ICT in their daily lives. In the past decade, ICT is integrated in private and public schools of Pakistan especially in the province of Punjab. An enormous amount of foreign aid has been invested to provide basic IT infrastructure and to introduce computer studies in all public schools of Punjab. However, the contentious issue is the educational effectiveness of technology into teaching and students’ learning (Stuart, 2009). This research will identify the impact of leadership strategies on meaningful use of ICT in schools as ICT can be effective if school heads actively support it, learns it well, have adequate knowledge of it, provide on – going professional development and support their staff in the process of this change (Tearle, 2004), moving from objectivist knowledge to the constructivist one (Papert, 1987). Meaningful learning through an effective use of ICT requires students to be actively participating in ICT integrated activities; reflecting back on their prior knowledge; discussing and analyzing specific situations in groups and working as collaborators not as competitors (Jonassen, 2010).
2. Literature

ICT has brought a shift in educational philosophy as well as in the ways it is integrated in the teaching and learning process as Tondeur, Valcke, & Van Braak identified a significant difference in the way it’s integrated into the classrooms and had an impact on students’ learning (2008). Technology leads learning needs to be more informed by constructivism (Clouse & Nelson, 2000). Understanding of a task and an effort invested by the student in completing that task or an activity drives learning (Jonassen, 2010, p. 2) and nature of a task determines the quality of learning required. In order to engage students to learn meaningfully, according to (Jonassen, 2010, p. 3), the task should engage active, constructive, intentional, authentic, and cooperative activities. (Duffy & Cunningham, 1996, p. 171) Strongly support learning as an active process of constructing rather than acquiring knowledge and defining instructions as a process of supporting that construction with cooperative authentic activities rather than communicating knowledge. When students use technologies to investigate (active and manipulative); explore (articulate / reflective); write and build models (intentional and authentic); build communities and communicate with others (collaborative); design and visualize, then they are engaged in a deeper level of thinking and reasoning. Technologies might be the lousy teachers, but they can be powerful tools to think with (Jonassen, 2010, p. 10).

ICT initiatives in an education sector of Pakistan started in 2004. Massive foreign aid had been invested in this sector in order to raise the standards of education through ICT. Private school systems in Punjab had started integrating ICT into their lessons effectively for the past decade. However, few are doing it effectively as the critical factor of the effective use of ICT into teaching and a learning process is school leadership. The school leader needs to foster and share their ICT vision with their staff at all levels as when the leader is enthusiastic and visionary about ICT, the team becomes motivated as well. The private school system, the study is about had been providing quality education for the past 34 years. The school system is famous for giving challenging, creative, and well-rounded learning environment for the students in order to develop higher order thinking.

According to Sandhotz et al (1997), the key factors on whether teachers integrate technology into their classrooms effectively is the level of support they receive from their school administrators. (Schiller, 2002), furthermore had identified the schools as “standing out from the crowd” pg. 292 in terms of ICT integration in their classrooms where school principals has regarded ICT as an important factor of students’ learning. Furthermore, enhanced by (Riffel & Levin, 1997) that the real challenge for the teachers is to incorporate ICT into their pedagogy as they can easily integrate ICT into the learning process. Becker, Ravitz, & Wong, are of the opinion that some teachers make extensive use of ICT in order to change their classroom practices whereas others only use ICT to extend their traditional instructional practices (1999). Clark, (1983) supports it as according to him, effective learning of a student through technology will not occur if technology will be used in a traditional way – delivery vehicles for instructional lessons and students as recipients of that information (Jonassen, 2010, p. 10). It reflects that if schools use technology as a learning tool for students to learn with it, rather than from it, then the nature of students’ learning will be more meaningful (Jonassen, 2010, p. 6).

3. Methodology

The qualitative research method supported this particular case study as it helped in exploring, illuminating and understanding the role of a school leader and its attributes towards effective use of Information Communication Technology in the classrooms for meaningful learning of students. All the participants interviewed for the study were major stakeholders of their schools i.e. school heads and teachers. To protect the identity of these stakeholders, the Researcher assigned them pseudo-codes. The data was collected from a private school system of Punjab, Pakistan using following data collection tools:

- Interviews: was the primary source of data. They were done of the School Heads and the teachers selected by the School Heads as good practitioners.
School Documents: Schools mission statement, curriculum documents, ICT policies and procedures, lesson plans, job description of teachers and school heads etc.

- Questionnaires: administered to all teachers, administration and IT coordinator at school and the Curriculum designer or evaluator.
- Observation: of IT facilities and infrastructure at school, ICT integrated classrooms.

Data has been collected by using different collection tools as according to (Patton, 2002), “Triangulation strengthens the study by combining methods”. As interview was the primary source of information for this research, the table below reflects the practical framework of research questions with the interview questions and the themes evolved from them.

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<tr>
<th>Research Question</th>
<th>Theme</th>
<th>Interview Questions</th>
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| Is leadership exertions are important regarding ICT implementation? | Computer Savoy | - Proficiency over the computer: How frequently you use computer for administrative and personal tasks? Which websites you usually visit?  
- When did you start working for ICT skill development? |
| | Leadership Role | - Define your leadership style?  
- In your opinion, what should be the role of a leader in ICT integration in school?  
- What should be the vision of a school principal for ICT integration? |
| | Leadership Support regarding ICT | - Is there any ICT professional development program for teachers? Kindly share the objectives of those trainings?  
- How do you support your teachers in defining the key factors while integrating ICT in their teaching methodology?  
- What IT resources are available in your school?  
- Identify key players who introduce and support ICT in your school and what exactly are their roles?  
- Is there any specific strategy you have regarding ICT? |
| How important is a role of a private school Head office when it comes to the implementation of technology in the classrooms? | Role of Top Management (Head Office) | - Is ICT implementation a part of school development plan?  
- Is there any ICT professional development program for teachers? Kindly share the objectives of those trainings?  
- What IT resources are available in your school?  
- Identify key players who introduce and support ICT in your school and what exactly are their roles?  
- Any curriculum support available for the teachers with respect to ICT? |
| How learning of the students and their conformity similar to the meaningful learning attributes? | ICT integration pros and cons | - In your opinion, is it easy to incorporate ICT in the teaching and learning process?  
- What are the barriers for ICT integration with teaching and learning? |
| | ICT integration examples | - How do your teachers incorporate ICT into their teaching practices? Give few examples?  
- How do you support / your head supports you/ your teachers in defining the key factors while integrating ICT in your / their teaching |
| | ICT integrated classroom | - In your opinion, how technology enhances students’ learning?  
- What is a role of a student in an ICT integrated classroom?  
- How do teachers assess students’ learning in a technology integrated lesson?  
- In your opinion, how technology helps student to learn effectively? |
4. **Results and Discussion**

This paper highlights the impact of leaders on a meaningful use of ICT which leads to effective learning, a case of Private School of Lahore, Pakistan. The findings of the study justified the research questions and were aligned with the literature review. Certain themes were derived from the data collected and had addressed the importance and impact of School Heads strategies, actions and support to the teachers on the implementation of ICT in the classrooms in order to enhance students’ learning.

4.1. **Meaningful use of ICT**

It has been observed that there was a blend of ICT integrated activities; in few classrooms ICT had been used as a powerful tool of learning where students were busy in doing research work in groups, discussing and reflecting back on their work, making changes and designing their final thoughts for presentation. Students were actively involved in the activities and the research and were learning with the technology not from it. Such activities were moving from the objectivist form of knowledge to the constructed one and it had developed high order thinking in students and makes them responsible for their own work as Jonassen identified the ingredients of meaningful learning of students through ICT which were knowledge construction, not reproduction; conversation, not reception; articulation, not repetition; collaboration, not competition, reflection, not prescription, (2010).

On the other hand, there were many teachers, who were using ICT in their classrooms as instructional tools which replaces black/white boards. The researcher had identified that they had been using Youtube, as a visual aid which makes things easy to understand and students can easily relate to it and can built new knowledge on the existing one. The students are at the receiving side at the beginning of a lesson and they have to reflect on it at the end of the lesson. Technology is being used as a delivery vehicle in the classroom and is the advancement of traditional instructional technology. Teachers are given few YouTube links in their lesson planners by the Head office as well. Whereas, there are some, who uses technology just for the sake of using it, no objective behind it and just want ICT, a part of their lesson planning.

The effective implementation of technology which leads to the meaningful learning of a student depends upon the quality of a lesson prepared by the teachers. It had been identified from the research that few teachers are self-motivated and are confident about using ICT as they had been using it since their student life whereas there were several teachers, who had been working for more than 10 years and were not computer proficient, were reluctant to integrate it in their lessons.

4.2. **Impact of Leadership**

School heads have to play a vital role in the meaningful integration of ICT. As literature has proven that leaders are supposed to make sure that ICT integrated lessons are not techno-driven but pedagogically driven. It has been found out from the research that most of the teachers go to their School heads for the guidance while integrating ICT into teaching and learning. School heads had offered their extended support and motivation to the teachers whenever it is required. They always tried to plan teachers’ lesson in such a way to use the limited IT resources efficiently. Due to the limited resources like there was only one computer lab in the schools, School heads made their time table in such a manner that maximum number of teachers can make use of a computer lab. Research has proven that the School heads had guided their teachers while they were planning their ICT integrated lesson that to stick with the lesson objective and see IT as a tool for learning. The subject objective should not be lost while delivering an ICT integrated lesson. School heads always motivate their teachers by giving stars on their planner or appreciating them in front of the whole staff.

Two of the Heads mentioned that they believe in leading by example while integrating ICT as it gives motivation to the teachers and they try to follow the same path and eventually had created an environment of learning through ICT. The school heads were aware of ICT integration strategies and its importance in an
educational sector. H3 was a computer engineer herself, whereas H2 and H4 had started using computers when it was mandatory for them at the workplace and they had been using it for the last ten years.

Though ICT integration is a part of school development plan, and School heads didn’t accept any planner from the teacher which doesn’t have ICT integration in it, unfortunately no specific measure had been taken by the School management in this regard. There is no professional development or continuous on-campus ICT training for teachers, though school heads had shown their consent that they really wanted to have on-going professional development for teacher so that they can learn and use technology effectively in their classrooms. It had been observed through the documentation evidence, that there had been trainings for the teachers in the past and few teachers had also mentioned it in their interviews.

By and large, the School heads are doing their best to create a culture of learning for their teachers and students were of the opinion that teachers had been given maximum resources, guidance, support and motivation and if teachers are still reluctant to implement ICT meaningfully in their lessons, then the teachers are coming up with lame excuses and are not competent enough. There is a need of professional development for teachers on an on-going basis and right people should be hired for the right job if quality is expected from the teachers as quality teachers can design quality lessons in order to enhance students learning through the quality implementation of ICT.

5. Conclusion

School System does have a vision for the integration of ICT in students learning and teaching. However, some strategies need to be redefined in order to have an effective implementation of ICT in the classrooms. Though researched schools are implementing ICT into their teaching and learning as ICT integration is a part of school development plan but unfortunately technology is still used as an advancement of instructional technology and behaves as a vehicle of delivering information from the educational videos, songs, illustrations to the student.

6. References