Role of School Principal in the effective ICT Integrated Pedagogy in School Environment

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Abstract

The purpose of this paper is to explore the role of the school principal in the effective Informational and Communication Technology (ICT) integration in the environment of a school. The all-pervasive internet has permeated the four walls of the classroom fostering a change in the teaching-learning vistas. It is imperative that schools develop a plan for ICT integration and the role of the principal is of great significance in the planning and implementation of a road map to ICT integration. The role of the school leader or principal, is very significant as he/she is a guide and motivator for all school events, including the integration of ICT in the school ecosystem. Transformational Leadership style of the principal facilitates the use of ICT in the school. The principal should be aware of the latest trends in ICT to make the learning experience contemporary. The principal is the key driver for a positive change in school. As mankind is at the cusp of the fourth industrial revolution, it is desirable that schools and principals of schools take steps to integrate ICT well for a holistic learning experience to improve the quality of education.

Keywords: Informational and Communication Technology (ICT), school principal

In this age of Information Technology, the permeation of ICT in schools is moving at an unstoppable speed. Slowly, but surely and steadily, ICT has made inroads into the teaching-learning environs of the school. John Dewey said, "If we teach today as we taught yesterday, we rob our children of tomorrow." Change is the law of nature. The advent of Information Technology has positively changed the scenario of teaching-learning in schools. It is for the schools to adopt and adapt to the changing landscape of education, otherwise, without use of ICT, it may not be possible for the school

to provide a contemporary holistic learning experience to its students. While it is certainly possible to impart education using the 'chalk and talk' method, integration of latest trends in the pedagogy is the need of the hour.

With the advent of the internet, geographical boundaries of learning no longer exist. Using technology, it is possible to access the online gamut of educational resources available in the world, within the four walls of the classroom. In fact, the ripples of Information and Communication Technology in the dynamic and ever-evolving scenario of school education is undoubtedly being felt by all stakeholders in the ecosystem of education today. In the research study conducted by Makhanu and Kamper, (2012), it was concluded that a principal's access to ICT infrastructure has a positive influence on secondary school performance. This paper explores the roles and vistas of a school principal in effective ICT integrated pedagogy.

The principal should have a plan and vision for the effective integration of ICT in all domains of the school, be it the management of the school or the administration of the school or the teaching-learning process. Successful integration of ICT starts with the Principal's vision, belief and commitment for ICT use across the school but then needs to involve a wider range of personnel in decision-making and policy-making (Newhouse & Newhouse 2010). Whole school approach is basic and imperative to effective ICT integration. Further, the principal should ensure that the implementation of integration in ICT is not limited to a few subjects but is integrated into the entire curriculum transaction process.
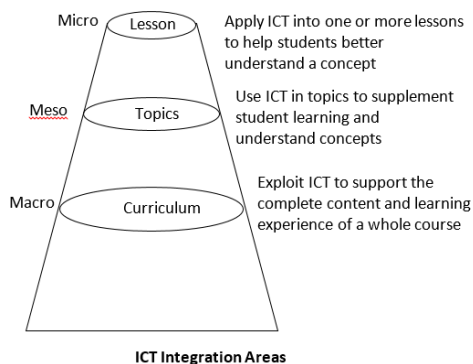
Figure 1: ICT Integration Areas (Misirli 2016)

It is possible to divide integration of technology in the school into three major categories, micro, meso and macro level. As illustrated in the figure above, micro level is application of ICT in one or more lessons, meso level is use of ICT in is use of ICT to supplement teaching in certain topics. It is important that at the macro level, the principal encourages the staff to exploit integration of ICT for the complete curriculum (Misirli 2016).

The principal acts as a guide and motivator for every spark of creativity and innovation in the school. Like for any school-related event, the role of a school Principal in the integration of ICT in education is very significant. Undoubtedly, the Principal should lead the integration of ICT from the front. At every stage of ICT implementation in the school, from the availability of hardware and software for ICT, to use of ICT as a resource for students, teachers and administration and then use ICT as a tool for innovation and transformation, the school Principal plays a pivotal role. Undoubtedly, the school leader should facilitate the seamless integration of ICT in all vistas of education.

The principal himself/herself should be a harbinger of positive change in the ecosystem of the school. For this, the principal should strive to be adept at using IT regularly and confidently. He/she should have a passion to use and experiment with newer technologies and be a crusader for use of newer ICT related software.

The staff will feel motivated to use ICT if the Principal also uses ICT proactively. According to Caridi (2009), it is desired that leaders overtly encourage the use of new technologies and hence, attempt to 'showcase' it in order to inspire staff members and students. Additionally, it is desirable that leaders actively find the extent to which ICT is being used within the school and look to understand its potential further.

In the words of Prensky (2001, p. 6), "If the Digital Immigrant educators really want to reach Digital Natives – i.e. all their students – they will have to change. It is high time for them to stop grousing". The Principal should make all efforts to bridge the gap of learning styles between the 'digital natives' and 'digital immigrants'. Continuous professional development opportunities to all teachers irrespective of the classes they teach will give teachers the confidence to use technology with ease.

An overall ecosystem of ICT can be a game-changer in the school scenario because students are 'digital natives' and are more comfortable in the use of ICT than teachers who are 'digital immigrants'. All stakeholders should be a part of the ICT environment of the school. Enochsson & Rizza (2009, p. 28) concluded that at the policy level "clear expectations and evaluations, enough flexibility for the changing field" of ICT integration in education is needed.

It is imperative for the principal to be aware of the teaching styles of the teachers and the learning styles of the learners. According to Nandakumar, Nair and Jharkaria, (2014), ICT integration is about creating student-centred constructivism learning environments where technology is used as a tool for the development of students and as an instructional strategy in the context of changing pedagogy. So, the principal needs to keep abreast with the latest trends in education to foster innovation in the school. Undoubtedly, the students of today are tech-savvy and at ease with

technology, hence the teacher will need to evolve the learning styles to teach the way the students want to learn.

In 21st-century education, technology needs to be integrated into the classroom and to the needs of students who are quite at ease with IT devices. Professional development for principals must be designed so that they can be role- models and supervise technology integration by teachers well (Thannimalai, & Raman 2018). The principal should encourage workshops, seminars and capacity building programmes to hone the skills of educators in the use of technology. Effective integration of ICT into the curriculum should become the prime concern of the principal, only then will the teachers adopt it in their curricular transactions. Encouraging peer to peer learning in schools will enhance pedagogical competencies of teachers.

Afshari et al (2010), took up a study which illustrated that transformational leadership style has a significant association with the level of computer use by principals of schools. They opined that the leadership style exhibited by the leader could facilitate or impede technology infusion. If school leaders want to initiate and implement change in school using ICT, they must be eager to model the transformational components of charisma, inspirational motivation, intellectual stimulation and individualized consideration in their schools. The transformational leadership components are worth a description in this paper.

The famous American historian and political scientist, James MacGregor Burns, in his book Leadership (1978) introduced the concept of Transforming Leadership. In 1985, Bernard M. Bass (1985), extended the work of Burns (1978) by explaining the transforming and transactional leadership and introduced the term "transformational" instead of "transforming." The author feels that Transformational leadership qualities of the principal greatly foster the use of ICT in the school environment.
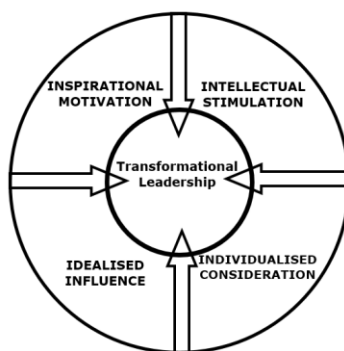
Figure 2: Transformational Leadership Theory
(adapted from https://www.marketing91.com/transformational-leadership/)

Here, it would be worthwhile to discuss the four elements of transformational leadership for school leaders in context ICT integration is to be taken up at all levels in the school.

1. <u>Individualized Consideration</u> - It is the degree to which the Principal attends to the ICT related need of each teacher. The principal carefully listens to the concerns of each teacher regarding concerns for effective implementation of ICT and acts as a mentor. It also includes giving due recognition to the contribution of each teacher towards ICT implementation.

2. <u>Intellectual Stimulation</u> - It is the degree to which the school principal takes up risks and solicits ideas and views of the teachers. Such school leaders nourish creativity and propel the teachers towards independent thinking. The novel situations that arise due to ICT implementation are an opportunity to learn.

3. <u>Inspirational Motivation</u> - The school principal articulates a vision of ICT integration which is inspiring and appealing to the teachers. The school principal exhibits optimism and good communication skills. The vision to inculcate is ICT is powerful and engaging. The teachers show willingness to put in more effort in ICT integration.

4. <u>Inspirational Motivation</u> - Integration, the school principal has a vision that inspires all teachers about future ICT implementation goals. The principal provides energy and purpose to move forward. The principal should have good communication skills that are well understood, clear, precise and powerful to ensure the vision is well understood by the teachers. (Adapted from https://en.wikipedia.org/w/index.php?oldid=454966429)

Transformational Leadership style is known to have a positive performance outcome in the schools.

According to Moore's law, the overall processing power for computers doubles every two years. Considering this rapid advancement, technological advancement increases at an exponential rate. This will impact the use of ICT in education too. From the use of Instructional Whiteboard to the use of Artificial Intelligence and Machine Learning, the way technology is impacting the education scenario is immense. Principals should be familiar with current research and best practices in ICT in education. Moreover, they should use new technologies and model their use to change and improve the ICT environment in which the educators function. Novel technological software brings varied and improved learning experience to students. The Principal should support and enhance the use of the latest innovation of IT in the classroom so that students get an enriching and latest experience (Afshari et al, 2012).

For the imminent Fourth Industrial Revolution, the education system needs to be rewired and restructured. Since this can dramatically

change the way schools prepare students for the future, the principal and his/her team of teachers have to educate students to be prepared for the novel, hitherto unknown disruptive technologies. With Artificial Intelligence, Machine Learning and Augmented Reality entering the arena of education, education will continuously evolve. School leaders need to embrace not only the integration of technology in the schools but prepare students and teachers to be critical thinkers and neoteric innovators. The principal is going to be the key factor to drive a culture of learning in the school. The principal will need to be a life-long learner in this era of redefining the purpose of education. In the words of Mahatama Gandhi, "Be the change that you wish to see in the world', so, if the Principal wants the integration of newer technologies in the school education, he/she had to first learn to use these technologies and drive the change. The principal and the staff should have the technical skills and the global competencies to prepare students for the ever-evolving education. It is important to encourage a culture of how to develop the cognitive ability of learning newer technologies.

Quality in education is a journey, and not a destination. Wee Leng (2010) concludes "transformational leadership is about the organisation and so is contingent upon rather than integrated with teaching and learning". The ultimate aim of education is to enhance the learning experience of students and make learning a joyful and meaningful experience. In this era of rapid change in technology, judicious use of technology in the school can well enhance the teaching-learning experience in the school. It is to be remembered that the use of ICT is not only for the teachers of computer department, rather for all teachers under the watchful eyes and guidance of the school principal. Professional development opportunities and programmes for school principals will foster the use of ICT by teachers in the school and hence prepare the students to be future-ready for the fourth Industrial Revolution.

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