TEACHERS' DIGITAL INNOVATIONS: AN EMPIRICAL JUSTIFICATION

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DOI: https://doi.org/10.56293/IJMSSSR.2024.5019

IJMSSSR 2024
VOLUME 6
ISSUE 3 MAY - JUNE **ISSN: 2582 - 0265**

Abstract: The goal of my research would be to describe the experiences of teachers on digital innovations. Experiential pieces of evidence revealed that educational leadership goes through a broad-spectrum a dearth of logical academic inquiry on matters on teachers' cyber aptitude. Thus, my phenomenological study revealed the experiences of the 11 elementary school teachers in the Division of Davao Occidental using the purposive sampling technique. Teachers exposed that they were using the digital innovations they considered best to improve classroom instructions: instructional videos, localized instructional materials in PowerPoint presentation, and computerized worksheets and reading materials. These were inspired by the teachers' educational technology pursuits and their ideal picture of an instructional leader as globally competitive with the 21st Century skills. To deal with the fast advancing technologies, teachers were with the school community managing resources and delivering instructions with the integration of technology resulting in productive and all-inclusive education; where learners endured learning. This development served as a paradigm shift in teaching as it demanded teachers to cope with the constantly changing world to attain job satisfaction. In the entirety, digital innovations through creating technology-based instruction and digital innovations implementation in the school, as well as, facilitating ICT integration in teaching and learning as part of the curriculum instruction unraveled the need of the 21st Century learners.

Keywords: Educational Technology, Digital Innovations, School Teachers, 21st Century Skills

1. Introduction

"Experiential learning is a powerful and proven approach to teaching and learning that is based on one incontrovertible reality: people learn best through experience."

- David A. Kolb

My pursuit for an exhaustive understanding of the public-school teachers' virtual journey towards digital innovations helped me understand that the Department of Education is on the edge of difficulty. With the trifling attention given to this educational divide, I was stirred to launch this qualitative study to a group of faculty members, who are classroom teachers, whom challenged with and acted on this concern hoping to gain empirical proof for professional learning and community advancement.

Public school teachers are undergoing a lot more frustrations day by day in their school life seeing how their learners progressing less and less in their classes. Andreas Schleicher, an education director said that most parents and teachers will not be surprised by the finding that students who spend more than six hours online per weekday outside of school are particularly at risk of reporting that they feel lonely at school and that they arrived late for school or skipped days of school. She interpreted that building deep, conceptual understanding and higher-order thinking requires intensive teacher-student interactions, and technology sometimes distracts from this valuable human engagement (Schleicher, 2015).

Nowadays, high technology conquered the world. They are so powerful that classroom instructions are exposed and susceptible to becoming an unproductive mode of education. This leaves the teachers unguarded! However,

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the fact that those students expect to control their mode of learning, they are motivating classroom teachers to modify their methods of instruction and interaction (Barone, 2003).

The goal of my phenomenological study on the challenges of technological invasion in education to the instructional expertise of teachers was to light up the definite teachers' school life with their digital innovations. The essential inquiries hereunder were bent from my considerations of the foregoing investigators which directed me to conduct a qualitative study to set up my inquiries and carry out the conception of my research queries that spell out the research gap which is the mandate for educator's leadership role in shaping how technology can be used to keep the educational goals. To subdue these obstacles, teachers must be convinced that technology will empower them and help their students learn.

With this investigation, an intensification of understanding of the common experiences of teachers in coping with the demands of the new breed of learners for technological advancement in schools shall be prospered.

My determination for this study was to disclose the experiences of the public-school teachers about digital innovations. Through their experiences, facts could be assembled to see the effects of digital innovations on teachers and teaching. Even if a lot of individuals may assume that digital innovations could hardly be realized in the public schools and so teachers could hardly cope with the demands of the technological age, there is trivial data or direct evidence in the educational literature dealing with teachers in Asia and even in the Philippines to confirm such supposition. It is imperative to explore digital innovations further to find out their effects on teachers and teaching. It is essential to study why teachers innovate teaching approaches and determine other results or data that may clarify during this study.

Research Questions

My study was on digital innovation of the teachers in Kinangan Integrated School, Division of Davao Occidental.

Specifically, it sought to answer the following:

1. What are the teachers' educational technology pursuits?
2. How do teachers cope with the fast advancing technologies to upgrade teaching strategies?
3. What lessons can be drawn from the study?

2. Methods

My phenomenological study attempted to describe an understanding of the experiences of teachers and school heads concerning the challenges of technological invasion in education to teachers' instructional expertise within the context of the school environment and community at large to which the current system contributes to an educational achievement gap for teachers and school heads.

3. Results

Teacher's Educational Technology Pursuits in the Public Elementary School of the Division of Davao Occidental

The themes and core ideas on the Teacher's Educational Technology Pursuits in Kinangan Integrated School, Division of Davao Occidental are composed of the teachers' technological innovations, the teachers' best technological innovations developed, and the teachers' ideal image of an instructional leader.

Under the theme teachers' digital innovations, all core ideas are instructional videos, localized instructional materials in PowerPoint presentation, and computerized worksheets and reading materials.

The results revealed, that the Kinangan Integrated School teachers in the Division of Davao Occidental were providing classroom instructions with the shift from traditional approaches to the contemporary methodologies in teaching to ensure that learners are attaining the competencies due in every grade level. They have been struggling

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into localizing instructional materials using the technology to suit the instruction to the needs of the learners, creating instructional videos to make the classroom activities more engaging for the learners, and employing hands-on group or individual activities in the classroom with the provision of computerized worksheets and reading materials.

Table 1. Themes and Core Ideas on Teachers' Classroom Technological Innovations

Themes	Frequency of Responses	Core Ideas
1.Teacher's technological innovations developed that improve classroom instructions	Typical	Instructional videos to support and enhance understanding of the content of the lesson
	Typical	Localized instructional materials in power point presentation to make lessons relevant to the learners
	Typical	Computerized worksheets and reading materials for individual hands-on activities
2. Teacher's best technological innovations developed	Typical	Instructional videos to support and enhance understanding of the content of the lesson
	Typical	Localized instructional materials in power point presentation to make lessons relevant to the learners
	Variant	Computerized worksheets for group or individual hands-on activities
3. Teacher's ideal image of an instructional leader	Variant	An inspirational leader that constantly encourages learners to go up to greater heights
	Typical	A resourceful and innovative instructional leader that can address learners' problems creatively
	General	A globally competitive instructional leader with 21st-century skills

The results disclosed that teachers went localizing instructional materials using the technology to suit the instruction to the needs of the learners. With this endeavor, teachers walk extra miles to embark on contextualization of the lesson from the traditional resources for the learners to understand fully the lessons and imbibe concepts taught meaningfully. Any resource a teacher uses to help him teach his students is instructional material.

The results also exposed that the teachers' quest to improve instruction involves creating instructional videos to make the classroom activities more engaging for the learners. This is with the idea of bringing the real world into the classroom, thus, teachers used media as the leading tool. It is much easier to bring materials to life and gain the students' interest with the help of YouTube, podcasts, streaming videos, and news feed. Learners can quench their natural curiosities by researching related topics through the Internet. On the other hand, to open the classroom to the wider world, teachers may also want to use national or international online news networks to discover topics of interest. They now leverage social media to make their connections with the real world interactive. So learners can add comments to articles, and tweet and blog their opinions on global and local issues. With their comments read by thousands, and having others respond to them will surely empower them (Davies, 2016).

The theme, teachers' best technological innovations developed with the core ideas: instructional videos, and localized instructional materials in power point presentation, both were mentioned several times in the in-depth interviews. However, the core idea, computerized worksheets was mentioned less in the responses.

In the main, teachers revealed that the Kinangan Integrated School teachers of the Division of Davao Occidental considered instructional videos best to support and enhance understanding of the content of the lessons. It

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assumes that digital innovation plays a major role in creating a new and improved model of teaching and learning. To achieve this vision, technological innovation will be used to completely integrate it into the curriculum, which includes the development of multimedia instructional materials, and technological innovation-enabled assessment; intensifying competency-based professional development programs. The key thrusts of this strategy are: enhancing curriculum, empowering teachers, administrators, officials, and students, and strengthening schools, governance, and management (Peres, 2016).

So, in the pursuit of making lessons relevant to the learners, teachers revealed that they resorted to localizing instructional materials in power point presentations. They made use of common things in the locality, simplify texts and other inputs from references, and amplify them for learners to view them on screen. This is in line with the idea that the range of instructional materials that meet the needs of students and suit the limitations of the teaching and learning environment is a vital feature of effective teaching.

Likewise, teachers revealed that they considered the provision of computerized worksheets for group or individual hands-on activities as the best educational digital innovation they have developed. Well, it is said that teachers are intelligent and resourceful people. Once they learn to use technology in their professional lives like keeping records, creating documents, and enhancing their learning, they will gradually learn how technology can enhance teaching and learning. They took responsibility for helping design the staff development process so that it would meet their needs, so that it included time to practice using the equipment, to watch teachers' model lessons that infused technology into the curriculum, and to mentor other teachers (Schrum, 2005).

The theme, teacher's ideal image of an instructional leader with the core idea, a globally competitive instructional leader surfaced several times in the in-depth interview. While, the core idea, of a resourceful and innovative instructional leader, was a bit mentioned in the responses. In addition, the core idea, an inspirational leader was the least stated among the responses.

Mostly, the results opened up the fact that teachers felt the need to be globally competitive instructional leaders with 21st Century skills. They revealed that they need to be competent teachers to match the demands of the 21st Century learners. The profile of our learners has changed. They are digital natives living with video games and the Web and have been described as "marching through our schools, carrying a transformational change in their pockets in the form of powerful multimedia handheld devices" (Chen, 2010).

Also, the results showed that teachers felt the need to be inspirational leaders that constantly encourage learners to go up to greater heights. They are aware that this is an important role of the leaders in empowering learners to enjoy academic freedom. This upholds the idea that today there is a demand for educators' leadership role in shaping how technology can be used to upkeep educational goals. Teachers, for instance, must have the provision of all stakeholders in the educational community to positively impact technology in their classrooms. They must be responsible for the needed leadership to discover the best means of using technology to augment teaching and learning (Schrum, 2005).

Teachers' Coping Mechanisms with the Fast Advancing Technologies to Upgrade Teaching Strategies

The theme on teachers' coping mechanisms with the fast advancing technologies to upgrade teaching strategies in Kinangan Integrated School, Division of Davao Occidental included the core ideas: the teachers' management of resources, the teachers-school community partnerships, and the teachers' delivery of instruction.

Under the teachers' management of resources to cope with the demands of learners in the integration of technology to classroom instruction with the core idea: innovate learning resources using the technologies to facilitate discovery method surfaced in the in-depth interview. However, the core ideas: careful planning for appropriate technological resources to use in class for smooth delivery of lessons, and utilizing whatever available technology like personal gadgets both gained less favor of the responses during the in-depth interview.

Fundamentally, teachers experienced that instructional leaders created technology-based instruction and implement technological innovations in school as part of the curriculum instruction to address the need of the 21st Century learners. They have perceived this very challenge unfolding in their workplace. This aligns with the

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test for educators and educational institutions, education technology is tasked with creating the data-driven processes and applications that facilitate learning may understand solution implementation–but they can't stand in for educators when it comes to disseminating knowledge. Education technology, if developed and applied correctly, has the potential to become truly industry-changing for educators–streamlining time-consuming processes like lesson planning, reporting, and record-keeping, and simplifying communication–with even farther-reaching implications for educational institutions themselves (Lazaro, 2014).

Table 2. Themes and Core Ideas on Teachers' Utilization of Available Resources

Themes	Frequency of Responses	Core Ideas
1. Teachers' management of resources to cope with the demands of learners in the integration of technology to classroom instruction	General	Innovate learning resources using the technologies to facilitate effective learning to happen
	Variant	Careful planning for appropriate technological resources to use in class for smooth delivery of lessons
	Variant	Utilize whatever available technology like personal gadgets
2. The teachers' and the school community in addressing the demands of their jobs concerning technological innovations	General	Instructional leaders created technology-based instruction and implement technological innovations in school as part of curriculum instruction to address the need of the 21st Century learners
	Typical	Energize the school to facilitate ICT integration in teaching and learning
	Variant	Instructional leaders created technology-based instruction and implement technological innovations in school as part of curriculum development to address the need of the 21st Century learners
3. Teachers' delivery of instruction with their technological innovations.	General	Lessons delivery become fun, easier, interesting, and all-inclusive
	Variant	Lesson delivery becomes vibrant and captivating where learners sustain learning
	Variant	Lesson delivery becomes fruitful and productive

In addition, teachers felt the relevance of the ICT in their job that was the provision of the necessary technology that can be used for classroom instruction. It can be said that the successful development of these tools will impact every aspect of our future. Accessible, effective solutions for superior education empower students and teachers to focus on the task of learning. They can do more with the resources they have, improving the quality of education available to young people around the globe, and better equipping them for the future (Lazaro, 2014).

Mostly, teachers, with their technological innovations, perceived how lessons delivery becomes fun, easier, interesting, and all-inclusive. They have experienced how classrooms' technological innovation; devices are far more cognitively penetrating. They are demanding of learners' attention and they are extremely prevalent in the

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learning environment. With this, learners may no longer need to write notes and perhaps no longer need to use powers of cognition, perception, and attention to understand what is being taught. Technological innovation replaced them (Goundar, 2014).

Lessons drawn from the study, Teachers' Technological Innovations

The themes and core ideas on lessons drawn from the study were the teachers' striking experiences, the teachers' constructive insights gained, and the teachers' ideal learning community.

Comprising the theme, teachers' striking experiences to share with their workfolks to improve their teaching practices are the core ideas: First, teaching with educational technology support best how teacher generate learning. Secondly, teaching with educational technology integration engages learners to the lesson thus, reducing cases of learners' absenteeism. Lastly, teaching with educational technology keeps learners excited to experience different kinds of learning situations.

Concerning technological innovation to improve instruction, the Kinangan Integrated School teachers in the Division of Davao Occidental shared their striking experiences to their workfolks, their constructive insights gained from their endeavors with the use of educational technology, and their ideas about ideal learning community.

Encompassing the theme, teachers' constructive insights gained from their endeavors with the use of educational technology are the core ideas: the emergence of educational technology serves as a paradigm shift in teaching which was constantly mentioned in the responses in the in-depth interview; the innovation with educational technology is a necessity for a teacher to cope with the constantly changing world, and the ICT exploration builds satisfaction and self-esteem which were fairly expressed in the in-depth interview.

Table 3. Themes and Core Ideas on Teachers' Insights to their Learning Community concerning Technological Innovations to Improve Instruction

Themes	Frequency of Responses	Core Ideas
1. Teacher's striking experiences to share with their workfolks to improve their teaching practices	Typical	Teaching with educational technology integration engages learners to the lesson thus, reducing cases of learners' absenteeism
	Variant	Teaching with educational technology keeps learners excited to experience different kinds of learning situation
	General	Teaching with educational technology supports best how teachers affect learning
2. Teacher's constructive insights gained from their endeavors with the use of educational technology	General	The emergence of educational technology serves as a paradigm shift in teaching.
	Typical	Innovation with educational technology is a necessity for a teacher to cope with the constantly changing world.
	Variant	ICT exploration builds satisfaction and self-esteem
3. Teacher's an ideal learning community	General	Learning community that has access to high-end educational technology

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CONCLUSION

The implication for practice and implication for further research pertinent to the shared experiences on digital innovations of the Kinangan Integrated School teachers of the Division of Davao Occidental is presented in this chapter. The discussion of the findings and conclusions of the research has been presented in the previous pages of this written work, yet, this final section focused on the report of the implications that can be made as to the conclusions of this research that can be applied to current and future educational practice. However not extensive and open to interpretation of the readers, these implications are presented intending to inflame additional discussion and debate by the learning community as educators seek to improve the educational landscape to meet the 21st Century classrooms, and as researchers consider the possibility of further exploration of these issues.

This investigation was conducted to make clear the experiences of public-school teachers on digital innovations and disclose the effects of their utilization to their professional development and to teaching itself. Technology does, indeed, have a role to play in the education of the 21st Century learners, and distinctly delivers means for increased learner interaction, student-centered learning, and the increased motivation and engagement of students. These benefits, however, do not just mystically happen as technological innovations are introduced into today's classrooms.

As I evaluated the findings and conclusions, one thing became readily apparent – teachers were experiencing classroom digital innovations, coping with the fast advancing technologies to upgrade teaching strategies, and proposing to their learning community the technological innovations to improve instruction.

The teachers' coping mechanisms with the fast advancing technologies to upgrade teaching strategies include the teachers' and the school community in managing resources and the delivery of instruction to cope with the demands of learners in the integration of technology into classroom instruction.

Affording classroom instructions with the shift from traditional approaches to the contemporary methodologies like localizing instructional materials using the technology to suit the instruction to the needs of the learners, creating instructional videos to make the classroom activities more engaging for the learners, and employing hands-on group or individual activities in the classroom with the provision of computerized worksheets and reading materials in teaching to ensure that learners are attaining the competencies due in every grade level is imperative for learning, to address learners' learning needs. Providing opportunities to learn more deeply with supporting technological instructional innovations is a significant implication of this study for practicing public school administrators.

Conceptualizing the ideal image of an instructional leader as an inspirational leader that constantly encourages learners to go up to greater heights, a resourceful and innovative instructional leader that can address learners' problems creatively, and a globally competitive instructional leader with 21st-century skills in the educational landscape is an upright implication of this study for public school teachers.

Coping with the fast advancing technologies to upgrade teaching strategies through the management of resources with the school community to cope with the demands of the learners in the delivery of instruction with the integration of technology, on the other hand, is a good implication of this study to the learning communities. Moreover, addressing the demands for technological innovations through creating technology-based instruction and implementing technological innovations in school, as well as, facilitating ICT integration in teaching and learning as part of the curriculum instruction to address the need of the 21st Century learners are necessary implications of this study not only to school administrators but also to the school communities.

Certainly, the delivery of instruction with technological innovations resulting in fun, easy, interesting, vibrant, captivating, fruitful, productive, and all-inclusive lesson delivery; where learners sustain learning is a significant implication of this study to the public-school teachers. Furthermore, the teachers' striking experiences in improving their teaching practices with educational technology integration that engages learners to the lesson reducing cases of learners' absenteeism, keeping them excited to experience a different kind of learning situation, thus, support best how teachers generate learning are preeminent implications of this study to public school teachers.

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The advent of educational technology serves as a paradigm shift in teaching as it is a necessity for teachers to cope with the constantly changing world and the successes experienced in this endeavor to attain job satisfaction and boost self-esteem. A salient and serious implication of this study, then, is that public school teachers and school administrators must make a tremendous effort to provide appropriate technological innovations if true the change in instructional practice is expected to occur. It is certainly a possibility that administrators when provided an opportunity to provide their teachers with support to these pressing concerns, will rise to the occasion and offer a rare insight into the learning institution.

This research, then, should work for the inspiration to teachers to enthusiastically engage in teaching with technological innovations – a practice that will assist in improving instruction as well as expanding a sense of revolutionizing new age or global classrooms.

REFERENCES

1. Barone, C. A. (2003). Technology and the changing teaching and learning landscape: Meeting the needs of today's internet-defined students. American Association of Higher Education Bulletin, 55(9).
2. Chen, M. (2010). Education nation: Six leading edges of innovation in our schools. John Wiley & Sons.
3. Davis A. (2015). Political Journey of School Heads: A Phenomenological Inquiry. University of Minadanao. Davao City.
4. Goundar, S. (2014). The distraction of technology in the classroom. Journal of Education & Human Development, 3(1), 211-229.
5. Lazaro, H. (2014). What is Edtech and Why Should it Matter to You? General Assembly, August, 12, 2014.
6. Schleicher, A. (2015). School technology struggles to make an impact. BBC News, 15.
7. Schrum, L. (2005). Technology as a too

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