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The Decision-making Process in ICT Integration in an International High School

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Abstract: Philosophers in the decision-making theories concern themselves with normative questions of how and why choices should be made. This qualitative case study aimed at demystifying decision-making but with a thrust on delineating how the process was done for Information and Communication Technology (ICT) integration. Thirteen participants in an international high school in Eswatini were interviewed to collect data which was augmented with relevant documents. The findings showed positive ICT outcomes like meeting curriculum needs, and effectives in school information management and communication. These outcomes came about as a result of a four-step decision-making process that was centred around participatory decision-making. Firstly, an ICT vision set the tone, followed by a policy that articulated exactness to what needed to be done. Third and fourth involved acquiring requisite ICT tools and inculcating necessary ICT skills respectively. A devolution of ICT responsibilities and ICT decision-making empowered subordinates and resulted in positive feeling around ICT. Consequently, the study recommends school-wide consultations and collaborations to work around the demands of ICT integration in a school.

Keywords: ICT, ICT integration, Decision-making, ICT decision-making process.

INTRODUCTION

The integration of ICT into the curriculum is an apparent requirement of the 21st century (Szyszka, Tomczyk, & Kochanowicz, 2022) because of its indispensability and acknowledgement as an important catalyst for social transformation (Servaes, 2022). Technology changes the teacher's status from being the sole holder of knowledge and information and to a chief adviser on how students can obtain it (Szyszka, Tomczyk, & Kochanowicz, 2022). Technology is also appealing to how today's students learn (Alam, 2022). Because of the universality of technology, schools also invest in ICTs for administrative functions like effective school management, communication, and planning (Akinwumi, Faremi, & Olatunbosun, 2023). ICT has a causative function of saving time; increasing school and personnel productivity; promoting creativity and accountability and help reduce duplication of functions (Akinwumi, Faremi, & Olatunbosun, 2023). Having looked at the value, ICT integration on the other hand requires decision-making that is apt and seeks to address all the contextual technology issues that prevail in a school. It can be mentioned from the outset that principals are not always adequate to play this role on their own. Decision-making is a process with steps that one can carefully link together, evaluate and understand how a decision was brought about. However, this process (key steps followed) is usually obscured in literature vis-à-vis in ICT integration. The description of an international school in this study is the characterisation through offering foreign curriculums and a collection of both staff and students from different parts of the world.

LITERATURE REVIEW

The significance of decision-making is widely acknowledged as a pivotal aspect in school leadership and making excellent judgments is critical (Amalia, *et al*., 2020; Gárate, 2023; Musengamana, *et al*., 2024). It is defined as the process of choosing the most preferred option (according to some criteria) from several options (Babalola, Nsibande, & Awolola, 2020; Pomerol & Adam, 2004). Babalola, Nsibande and Awolola (2020) add that decision-making involves not only choice but also considering consequences and counting costs and benefits. Therefore, it is a process and it takes time and effort to make up a choice (Bohanec, 2009). Decision-making involves determining the condition under which a decision is made and tackling a problem depends on one of the following conditions: a) certainty condition where the decision-maker can make an accurate decision because they know the outcome of every alternative; b) risky condition-based on a probability that a particular outcome will come out from a given and c) uncertainty condition- where a decision is made and you are not sure about the outcome and cannot make probability estimates (Babalola, Nsibande, & Awolola, 2020). Salles (2015) defines a problem as a recognition of a need to make a decision by diagnosing a situation. ICT integration in a school is a problem to contend with considering the costs of technology, training people and dealing with the rapid changes that it encompasses (Ghavifekr, *et al*., 2016).

Principals and other school leaders meet many challenges which can be tough to address and yet can be overcome (Gárate, 2023). The absence of

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decision-making would result in significant challenges for schools in effectively carrying out operations and attaining set objectives (Musengamana, *et al*., 2024). Regarding ICT integration, decisions must be made for the formulation of vision (Singhavi & Basargekar, 2020), resource procurement (Namisiko, Munialo, & Nyongesa, 2014) and issues of general management and training (Camelo, *et al*., 2018) amongst other considerations. The fundamental principle behind decision-making in a school must be centred on a notion that individuals who are impacted by a particular choice should be given a substantial assignation in the decision-making process (Musengamana, *et al*., 2024). This is especially true with regards ICT integration where principals must decide for everyone and meet technological goals.

The main problem in any decision-making process is that evaluating consequences requires a complete knowledge of all future events and their likelihoods. Several activities can be involved in the process as highlighted by Bohanec (2009): a) identification of the problem for decision-making; b) collection and verification of relevant information; c) identification of decision alternatives; d) anticipating consequences of the decisions; e) making the decision; f) informing concerned parties of the decision and its rationale; f) implementation of the selected alternative and g) evaluation of the consequences of the decision.

Most principals would be out of depth to make informed ICT decisions as they may not be fully acquainted with technology matters (Flanagan & Jacobsen, 2003; Ghavifekr, *et al*., 2016). Nevertheless, other individuals may possess the essential ICT knowledge and responsibility to understand and effectually implement the decisions (Musengamana, *et al*., 2024; Torre & Sarti, 2020). A number of scholars in education have postulated that the active involvement of teachers, ICT coordinators, parents and students in decision-making processes is thus very significant (Anderson & Dexter, 2005; Tondeur, *et al*., 2015; Torre & Sarti, 2020).

There are studies that have been carried out to show the importance of decision-making in schools and in some cases focusing on certain individuals. For example (Chopra, 2020; Gárate, 2023; Perry-Hazan & Somech, 2023; Tijani, 2020). Tijani (2020) examined participatory decision-making as an effective instrument for school effectiveness in Nigeria. These concepts were reviewed from a qualitative approach and descriptive analysis. Principals' administrative role was critical but the study suggested that educational goals were more attained when they developed managerial skills that enhanced effective participation of others in decision-making. Chopra (2020) investigated teachers' participation in decision-making processes and practices in India. This pilot case-study explored teachers' perceptions and shared insights on how they participated in decision-making processes. Two semi-structured interviews and a focus group discussion were used. The findings suggested a promotion of equitable education through critical thinking and critical pedagogy. This was to be hinged on distributed leadership, based on democratic ideals, to achieve equity and equality in opportunities and socio-economic mobility.

The studies above and many others reveal the importance of decision-making and incline towards collaboration and shared responsibility in decision-making. However, there is a dearth in literature of the pertinent steps to be taken in describing a process. Moreover, studies that specifically address the decision-making process concerning ICT integration for school purposes remain elusive.

Statement of the Problem

School leaders make decisions that affect the whole schooling system and the welfare of others (Gárate, 2023). Decision-making is regarded as mental process (Bohanec, 2009) that is done by rational people. Therefore, the assumption that is made is that a decision taken was rational and the right one. Unfortunately, decisions tend to look right at the beginning and later on are seen in a different light. It is important that all decisions that are made be done following a process. This can allow evaluation at each stage to question the rationality of the steps taken. School leaders cannot decide alone, particularly in matters that affect the entire school (Gárate, 2023). When it comes to ICT integration in schools, the process of decision-making is not clearly spelt out (in most studied literature) on who does what and what steps lead to technological adoption.

Theoretical Framework

This study was grounded on the stilts of the classical normative theory of decision-making which is one of the popular theories available. Normative decision-making theory assumes that in certain settings, decision makers should follow decided-on rules that ensure consistent and optimal decision outcomes (Bohanec, 2009; Straub & Welpe, 2014). According to Salles (2015) the

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theory considers decision-making to look out for the optimum and considers that all useful information is available and is known. People are considered as rational and seek to maximize their subjective efficacy with each decision they make (Bohanec, 2009; Leacock, 2008). They weigh all facts and choose the option that offers the best overall outcome. Any variance from the optimal predicted solution is interpreted as an error in reasoning that can be corrected by intellectual reconsideration (Leacock, 2008; Salles, 2015). Thus, this theory is indisputably successful for problems that are repetitive and well-defined.

The reason for pinning the study on this theory was a consideration of principals and teachers as rational people who have been dealing with students and curriculum for considerable time. The conditions of service in an international school and the expectations of the curriculum bodies, syllabi and students are well known. Thus, principals and teachers can usually make constructive decisions for their schools. The normative direction also focuses on providing guidance on how to solve problems and what procedures to follow in order to achieve the required goals (Jankelová & Puhovichová, 2020).

Nonetheless, this theory is criticised because decision-making can be automatic, and people make shortcuts that can deviate from the norm (Leacock, 2008). Actual human perception and evaluation of decisions can be erratic under certain conditions and uncertainty (Straub & Welpe, 2014). For the sake of this study, the strengths of the normative decision-making theory tally with the participatory approach to decision-making. Proponents of the participatory approach argue that implementers of a decision are the workers and any normative rationalization, decision-making and implementation must involve them (Hashim, Alam, & Siraj, 2010). According to Nyindo (2023) subordinate participation in decision making has a positive impact on their commitment and leads to organizational performance and greater innovation.

Participative decision-making produces too, a culture of ideas and values from different people to amount to measures of value and recognition, openness to discussion and change (Chopra, 2020). Participatory decision-making assures sustainable implementation, allows the mobilization of present resources, reconciles divergent interests and secures consensus among all stakeholders in tackling priority issues (Tijani, 2020). In specific terms the participatory decision approach augments to the normative decision-making for ICT integration through: 1) creating an understanding of leadership that backs collaboration and democratic participation in ICT matters; 2) creating ideas that shape purpose, perceptions and aspirations for pedagogy and addressing change with ICT and 3) creating institutional characteristics that facilitate equity and democratic ownership (Chopra, 2020; Hashim, Alam, & Siraj, 2010).

RESEARCH METHODOLOGY

Research Approach

Qualitative data was collected in this study. This preference emanated from a desire to collect data from naturally occurring settings in an ordinary school setting to get a strong handle of what the reality was like (Cohen, Manion, & Morrison, 2018; Miles, Huberman, & Saldana, 2020).

Research Design

A single case study was fitting to get a real world experience and to obtain an in-depth understanding of the participants and how they act in given situations (Cohen, Manion, & Morrison, 2018; Yin, 2018). Though a case study design, a deduction of the factors that influenced decision-making in ICT integration and the outcomes of ICT integration was made possible. Moreover, this depth of understanding helped the researchers in theorization to deduce what entailed the decision-making process.

Permission to Conduct Research

Permission to conduct this research was sought and obtained from the school principal and the Eswatini Ministry of Education and Training.

Research Participants

One international high school was purposively sampled. Its selection was embedded from it being a school that offered international curriculum - International General Certificate of Secondary Education (IGCSE) and International Baccalaureate (IB). Not only are these sought after curriculums but they are designed with ICT integration being integral in how they are offered. The sampled school is well resourced (in terms of technology) and hence it was more probable that data collection would be more successful. Thirteen participants were then selected from the school. The list included a principal, deputy principal, two departmental heads, six teachers, an ICT

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coordinator, and two students. Purposive sampling was also used in selecting the participants. Principals make decisions and control schools. Hence their input was sought for. Departmental heads are also part of school leadership and had to be included for additional perspective. All teachers used ICT in teaching and learning and three were asked by the deputy teacher to participate in the study while the other three volunteered. The two students were purposively sampled because they were IB students whose diploma studies required intensive ICT use. This assortment of participants, assured that multiple realities were obtainable to fully grasp the context and address the research phenomenon (Cohen, Manion, & Morrison, 2018; Creswell & Creswell, 2022).

Research Instruments

An interview guide was produced for semi-structured interviews which enabled flexibility in questioning and probing (Cohen, Manion, & Morrison, 2018). The interview guide had biographical questions, and then questions to elicit factors that influenced ICT integration and the outcomes of ICT integration. Generally, the interview guides had similar questions to get multiple realities for the same aspect and enable data triangulation (Cohen, Manion, & Morrison, 2018; Creswell & Creswell, 2022; Miles, Huberman, & Saldana, 2020). The interviews were done face-to-face. Documents in the form of syllabi, schemes of work, tests, videos, images, ICT policy, lesson plans were requested and obtained from some of the participants. Data was also collected from the school website. The data collection process was done in one school term.

Data Trustworthiness

The trustworthiness of this study was mostly determined by participant member-checking (Mertens, 2019). Participants received a transcript copy of their interviews and verified the transcription. A critical peer reviewer also checked transcriptions before sending them to the participants. A copy of the final draft was availed to all participants to check if the captured findings were a true reflection of the occurrences at their school (Denzin & Lincoln, 2018).

Data Analysis

Firstly, interview data was transcribed, organized into Word files and folders and stored (Cohen, Manion, & Morrison, 2018; Miles, Huberman, & Saldana, 2020). Documents videos and pictures were also sorted according to their categories. A critical peer reader verified the accuracy of the transcription. This then followed reading and re-reading the data to initially make sense of it and then open and axial coding for data reduction (Cohen, Manion, & Morrison, 2018). It was imperative to search for insights and to define priorities for data analysis (Yin, 2018). After coding, themes were thus generated that helped data presentation that specifically answered the research questions. The findings presentation has these themes and they are collaborated with participants' verbatim responses. Interpretation of the findings and meaning generation were based on the researchers' viewpoints as well as explaining them relative to current literature and the theoretical framework (Mertens, 2019).

FINDINGS

The findings of the study are presented starting with the factors that influenced decision-making for ICT integration. The factors are then followed by outlining the outcomes of ICT integration in the school. In this study, the name of the school is hidden and it is referred to as 'Phumphuli'. Participants are designated a title based on position in the school or subject taught. There were two Business Studies teachers and two students as well. Hence the numbers '1' and '2' are used to differentiate them.

Factors that Influenced Decision-Making for ICT Integration

The factors that influenced decision-making aspects that were leadership-determined and impacted ICT integration in the school. The factors included creation of both an ICT vision and a policy; acquiring ICT resources and the creation of opportunities for school-wide training.

Creation of an ICT Vision

The vision for ICT integration set the pointers that the process was hinged on. The vision was pre-set on the understanding of how an international school of its stature must operate especially the approach to education. The participants mentioned that this vision spiralled from the principal and various connotations were implied. The overall implication was that stakeholders had an awareness of strategic goals, ICT planning and school organization. With ICT the school could pursue goals that fostered students optimization in learning and holistic development. Regarding vision for ICT integration, the principal had this to say:

The vision with technology here is that the school strives to provide decent ICT infrastructure and

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tools for ICT especially computers and the internet. Connected to that, members of staff and students need to have computer literacy to use the tools so that teaching involves computers and everyone fits in a technology-based world in other ways as well.

The deputy principal seconded these facts and cited:
The modern world has technology and the moment students come into the school; they must operate with technology. Everything at this school obviously operates from an ICT perspective. Our students must become confident users of ICT. The mission and vision are based on the responsibility and obligation the school has in educating children from different nations and backgrounds and obviously using modern methods.

Similar views were obtained from other participants and other aspects of involvement in the vision promotion emanated. For example, the Music departmental head and Student 1 said:
You can see the attempts and evidence (from the resources) to involve technology and expose the students to what is the norm these days. The school vision for that is vividly glaring. They must not lack technology skills when every world system demands that. The whole school must understand that and be involved in its creation and promotion.

The student said:
Technology changes and here exposure to ICT starts from the moment you become a student. You work with ADAM and email and sometimes do homework on a computer. This has not changed over time. But now at IB, I even have a laptop for myself. So, the school prizes technology and I guess they will want to maintain the vision in that way so that our learning is linked to technology.

ADAM was the school's information management system. All stakeholders had access to it.

Creation of an ICT Policy
Connected to the ICT vision was the creation of a school ICT policy which provided specific guidance and regulations on ICT usage in the school. The policy document analysis revealed that it postulated that all ICT users be aware of its presence and understand before they used ICT and seek clarity when in doubt. The policy document had sub-sections on procedure of what to acquire and guidelines on how to use of computing facilities; legislation and disciplinary procedures; incident reporting to name a few among other functions. It also had an appendix section that showed examples of what constituted misbehaviours with ICT and the disciplinary actions taken. The principal backed this information and revealed that:

We have got a policy on ICT use that is acceptable use. It's just the everyday ICT use in education. It is about information that everyone needs. We create awareness about the goodness of ICT but also need to inform them of possible dangers and misconducts that arise from ICT use. This school is about growing young people into desirable adults that fit the modern world. The modern world has technology and the moment the students come into the school; they must operate with technology. But they must know what is acceptable and what is not.

The policy was drafted through consultation as highlighted by the Geography teacher:
There is an ICT policy, and it's on the website. It's all-inclusive. Meaning we were all consulted when coming up with the policy. We never really have to refer to it unless there is cyberbullying. You know when students are abusing ICT.

Acquiring ICT Resources
The data collected showed a lot of planning into acquiring the right ICT for various school operations. The most important acquisition involved developing an IT centre which had three IT laboratories that had networked desktop and laptop computers, projectors and smartboards. All classrooms in the school had data projectors, internet and Wi-Fi connections. The principal remarked that:

We have an IT centre with computers for all students to use for learning and research. The computers have an internet connection. Every classroom has a projector, a sound system, and internet connections so they can use videos, PowerPoint, and all sorts of mechanisms. We have got five classrooms with smart boards in them. They are not commonly used. To my knowledge, two teachers make use of them. Our approach is that if a teacher is using technology and wants to use it, we are very willing to invest in it. But they got to show that they are using the resources. We don't insist that students have laptops; indeed, in the lower forms, they should not. At the IB level, it's highly recommended that they have a laptop. And for those students on scholarship, we provide a laptop that will be part of the scholarship offer.

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From quoting the teachers, the Mathematics teacher declared that: "For me, the school provides me with every ICT resource that I need to be able to execute my duty. If I need anything extra, I can requisition it" Likewise, Business teacher 1 highlighted that: "What I like about this school is that it has all the resources I need for my teaching".

Another important resource acquisition was on the human resource side. An IT department led by an ICT coordinator was employed at Phumphuli. The ICT coordinator highlighted this:

Well, I don't work alone in this department. We are a team that strives to make people happy and supported in using technology. The IT department is divided according to responsibility. Five guys work in the centre with me. There is the IT centre manager, server administrator, network administrator, IT administrator and the general maintenance guy who assists with conduits and making holes through walls and things like that. There are also two teachers and at the moment two students and the sports coach. There is always someone in the community who is studying IT on their weekends or evenings and they come and ask if they can be of assistance here whilst they are between classes or jobs and see what happens in the IT lab.

ICT Training

After establishing ICT vision and policy and acquiring ICT tools, training of stakeholders was an important undertaking to facilitate optimum usage of ICT. All participants, mentioned some form of training that they received to develop crucial ICT skills. These skills helped them apply ICT in school functions and improved their dependence and confidence with it. The training was organised by the school leadership but carried out by the IT department. In particular, the deputy principal mentioned that:

The IT department is constantly offering training to teachers so that they can better their technology skills. The school has necessitated that opportunities are open for the teacher to go and say, 'look I want to say use Google Classes, how do I get started?'

The ICT coordinator described the training in this manner:

We organise training for teachers. Although you do not expect anyone not to know how to use a computer, you can find that some have basic typing and printing knowledge, yet there is a lot to learn on MS Word. Then there are other skills that everyone must know, like connecting laptops to projectors and using PowerPoint, for example. New teachers need to learn about ADAM and be inducted in other ways. It is almost the same with new students. The first three weeks of the first term are usually hectic, getting students a school email address and profile and teaching them how to use our school system.

The CAS departmental head corroborated this information and said:

The school management has always prized ICT training. You will find that all of our teachers have done some kind of ICT training in the school. When I arrived here, I did various courses and sessions on Microsoft Excel. Many voluntary courses were offered and anyone could sign up and get the training.

The principal highlighted another perspective to training in this manner:

If there is a teacher who says they want to go do a course or training for something we support that. If there's general training for everyone, there must be interest from the staff. At times we want them to learn certain software for use in the school and we organise that. However, in terms of teacher training - well times have changed. Teachers cannot always wait for the IT director or the school to train them. There is the web. With other things, they must learn on their own. I was never trained on computer literacy. We have got a few efficiency issues on ADAM but I was never trained on it. You learn with the device.

Outcomes of ICT Integration in the School

The decision-making process for ICT integration yielded outcomes that were pertinent to the school operations. ICT integration became a driving factor in meeting curricular needs, improving information management and school communication. Furthermore, the outcomes also showed a refined approach to ICT responsibilities and decision-making for ICT integration.

Meeting Curriculum Needs

International curriculums like IGCSE and IB are designed for both 21st century students and developing certain skillset they require in a modern world. Information that includes curricular guides, teaching content and examination papers should be obtained and augmented from the Internet. The deputy teacher said: "Teachers (and their students) do different things with technology during class interactions and their main advantage

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is having projectors in the classrooms and the school providing internet." The Business Studies teacher 2 said this information which corroborates the principal's revelation. "In general, in my teaching, I use EDpuzzle, Google documents, Google spreadsheets for student records and grade threshold formulas, Google Classroom and its interactive features including in-text comments and grading features, Padlet for interactive activities such as matching concepts."

Some subject selections from these curriculums cannot be done without ICT as explained by the Music departmental head:
In our department, Music is a taught subject in the timetable but can also be regarded as an extra-curricular activity. In the taught curriculum, students come to some point experience learning music through technology. IB and IGCSE students must compose and produce a musical piece. All of the music is created using technology and then sent away as the technological package for assessment.

Effective Information Management and School Communication
Both principals exposed that the school operated from a technological point of view. This was evidenced from how information was kept, retrieved, accessed and disseminated in the school. This was primarily based on the presence of ADAM which made light work of keeping staff and students' information. The French teacher gave its brief description:

All our information is kept on ADAM - all students, your classes, your students, yourself, and any type of information. Like at the beginning of the year for example, I do not know all my students, I can just open ADAM and go to my class and open people and then see all their pictures and relevant information about them.

ADAM was also used for report card generation and general communication and as mentioned by the CAS departmental head and Student 2. "Class teachers check for absentees every morning and post it on ADAM together with reasons why a particular student is not in school." The student gave a confirmation: "We also use ADAM. I can directly report to my class teacher if I am not feeling well and cannot make it to school or if I am going to be late because of a doctor's appointment."

Communication was specifically done through email and everyone had a school-generated email address. One way it was instrumental in the school was for communication with curriculum bodies as explicated by the History teacher:
We use email to correspond with relevant parties for seminars and conferences. There are professional development courses that are offered by IB and Cambridge that can be done at any level. So, it's like you can look into whenever IB is offering a workshop, then you can put your name up and then the IB coordinator will then link you up for that course. You receive all these notifications through email and you respond accordingly.

Refinement of ICT Responsibilities and ICT Decision-making
This finding was crucial in that it brought transformative and distributed forms of leadership. Not only did it empower stakeholders but also ensured fluidity in the ICT integration process. Having an ICT coordinator (and her department) helped the school leadership depend on technical expertise and helped produce informed ICT decision-making. The principal cited that:

The people there (the IT department) see to it that computers and other gadgets are working properly. Their feedback also helps us plan and budget as well. I don't have much to do with day-to-day technology needs in the school. The IT director and her department are the best people to address all IT-related responsibilities.

In support, the Mathematics teacher said that:
The IT department is a team of people who have been hired to ensure that all ICT facilities are always working. They have the responsibility of deciding the best way of tackling problems we might have. They know the programs the school needs. For example, what can be installed and what cannot. What antivirus to buy and so on.

The ICT coordinator had this to say about some of her roles:
The school management entrusts us with the operation of technology in the school. We deal with technical issues that a layperson may not understand. The school management trusts our judgement when we make decisions and change things. Just recently we upgraded. We found a way of making Wi-Fi faster for the teachers using existing infrastructure. And we were in the middle of that when a big storm hit last week (and we had just recovered from a previous one). We had already experienced three in a couple of weeks. What we do is make sure that we are insured.

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Secondly, we have decided to buy CISCO devices which are one of the best devices out there. It's our job to get the teachers functioning. We g*et al*l these devices to them and make sure that there is no issue with internet connectivity.

Teachers also mentioned the ICT autonomy they were afforded by the school leadership in their various subject areas. For example, the Mathematics department decided to use a software for all students in the school to help them practise. This was highlighted by the Mathematics teacher:

The *MyiMaths* website for example gives the students a chance to learn on their own. I am mentioning *MyiMaths* more because it is the one that all Mathematics students in the school use from forms 1 to IB. They log on to *MyiMaths* and choose that section on quadratic equations (for example) and then they'll be able to get a video. Students don't have to wait until the following morning to ask me how they can solve the equations. There will be a few questions that have been solved and then an exercise after practice. The program then marks and students get feedback. If the student wants more information, they can get more difficult questions level after level and they can also repeat a question at one level.

DISCUSSION

In this study, the findings show that decision-making for ICT integration was carried out to meet the intended objectives. ICT was a seen as a universal and contemporary tool that facilitated accustomed teaching and learning, school management in information keeping and in communication. The ICT vision created a roadmap for ICT integration seen in all operations, school organization, and overall culture. Principals are the chief decision-makers because finances and budgets are in their control. Hence normative decision-making was also exhibited in that it is norm that principals must plan to provide curriculum material for students and teachers. Habiballah, Bibu and Danaiata (2021) established that a clear ICT vision improved ICT integration and their study pinpointed the principal as an ICT leader who acted as a role model and conveyed a compelling ICT vision. These qualities were seen at Phumphuli as the principal channelled all stakeholders towards ICT integration and where he could, led from the front.

His vision was instrumental in help produce a school-specific ICT policy that a created more exactness in what was to be done in ICT integration. In studies, that produced similar results Rahim, *et al*. (2016) and Habiballah, Bibu and Danaiata (2021) validated that producing policies help develop strategic plans and goals for ICT integration. Although this was not corroborated at Phumphuli, policy regulations can push teachers. For example, Youngkyun, Jaeyeob and Bokyeong (2008) discovered in South Korea that teachers integrated ICT compulsorily because of policy connotations.

Apt decision-making was seen in strategic resourcing as well as in teacher training in ICT use. The findings enlighten that the ICT resources present at the school primarily determined the what and how of ICT integration. Similarly Gacicio, Gakuu and Kidombo (2021) and Camilleri and Camilleri (2017) established that ICT integration is enabled by making ICT infrastructure available together with a conducive environment that is accommodating to all. Camilleri and Camilleri (2017) also unearthed that ICT resources created a positive acquaintance and countless opportunities to enhance ICT expertise. ICT proficiency is also enhanced by facilitating that all stakeholders are given training as when it is needed. The training needs at Phumphuli resonated with Albalawi (2021), whose findings disclosed a need for ICT training as an ongoing process that must be necessitated by technological developments.

The outcomes for the decisions made for ICT integration showed a school-wide positive response as stakeholders integrated ICT in various functionalities. Efficiency and effectiveness were attained in teaching and learning, data management and school communication. However, the most important outcome was the refinement of ICT responsibilities and ICT decision-making. The school leadership mentioned their limitations in leading fully in ICT matters. The involvement of and delegation to the IT department created a more effectual ICT integration leadership as more hands-on and technical application was possible. This participatory decision-making was also extended to teachers and departments who used ICT based on experience, knowledge and consultation. Interrelated with the autonomy that teachers at Phumphuli enjoyed, Pettersson (2018) established that teachers worked better and were more creative when they got supported to enact the changes they saw fit. Similarly, Moreira-Fontán, *et al*. (2019) found out in Spain that support from school

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leaders independently motivated teachers and went a long way in promoting positive emotions with technology.

The findings can be summarised to show that the process of decision-making for ICT integration begins with a vision for the intended. The decision-making process features are shown in the ovoid shape in Figure 1. As shown in the figure, this vision (in case of Phumphuli) was determined by looking at the international curriculum considerations to appeal and cater for diverse students coming from all over the world and continue doing so. These high standards implicated on modernization of all operations that all staff and students expected a high standard of technology. In the process, an ICT policy ensued for resource acquisition, governance, implementation and acceptable use of ICT. ICT training was essential as a process item to operatize ICT integration with key skills and knowledge.

The outcomes of this process resulted in all stakeholders using ICT in meeting curriculum needs and school operations like information management and school communication. But most importantly, the decision-making process for ICT integration created a way of refining how all school operations could be done. With the structures and conditions put in place, other people (besides the school leadership) made impactful decisions with ICT depending on what needed to be done.

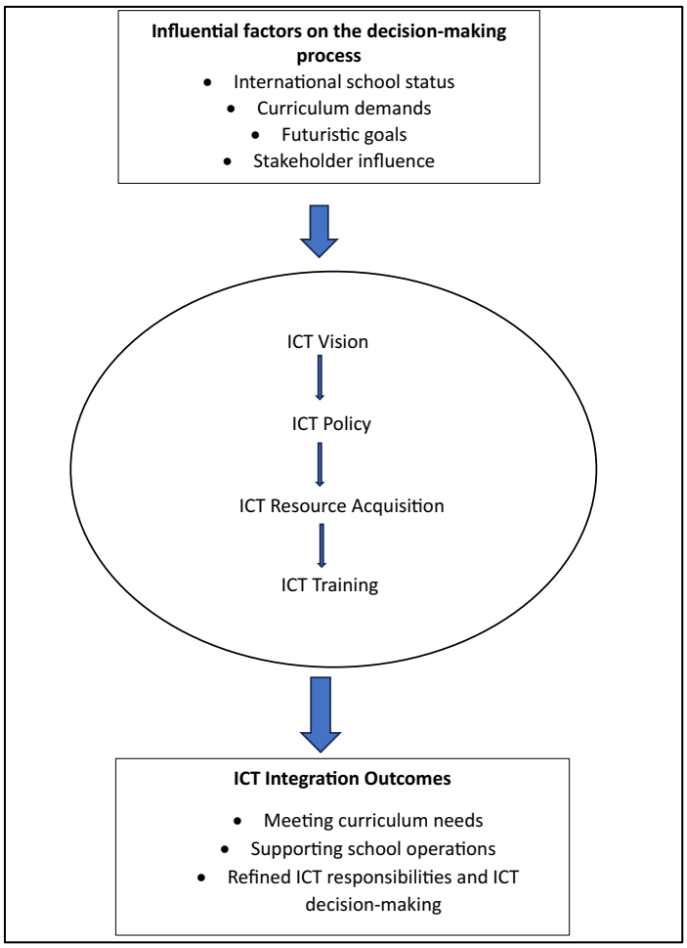

Figure 1: The Decision-making Process for ICT Integration

CONCLUSION

The decision-making process is critical in the function of schools especially in ICT integration where change is certain to come. Positive outcomes from ICT integration were meeting curriculum needs; effective information management and school communication and refinement of ICT responsibilities and ICT decision-making. These outcomes were possible because of initially developing an ICT vision and policy and then acquiring the right ICT resources coupled with training stakeholders. Basing on these four aspects, the decision-making process for ICT integration can contextually be understood as sequential. It starts with vision and culminates with ICT training. The value of each aspect is that

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embedded in them is the potential of empowering subordinates and the promotion of collaboration and collegiality which are great for all schools.

The study had a few drawbacks which originate from data collection and the research design. As a case study, the findings are difficult to extrapolate to other settings even if they could be offering the same curriculum and having similar resources. Perhaps a mixed-methods approach could improve this scenario. There was no mentioning by the participants about the evaluation process of the factors that influenced ICT integration. An evaluation rubric could probably help determine the strength of the aspects done and their worth in the decision-making process.

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