

A SELF-REVIEW FRAMEWORK: INFORMATION AND COMMUNICATION TECHNOLOGY IN A SCHOOL FOR LEARNERS WITH SPECIAL EDUCATIONAL NEEDS

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Abstract

Many learners with special educational needs experience learning difficulties at some stage during their schooling. Their learning disabilities can be better accommodated by well-trained teachers in exploiting the benefits of Information and Communication Technology (ICT) in their teaching and learning practice, making a significant difference to their learners with special educational needs (LSEN) experiences. The aim of the research is to undertake a baseline study to determine the use of ICT tools in a school for LSEN in Gauteng Province, West District. LSEN at school range from the Severe Mentally Handicapped to the Mild Mentally Handicapped, terms that emanate from medical reports which learners bring to the school as an admission requirement. The school is well equipped with assistive ICT devices to enable learners to overcome their barriers in the learning process and to improve the quality of teaching and learning. The baseline study used a self-review framework developed by the British Educational Communication and Technology Agency (Becta) as a theoretical lens to evaluate how six teachers out of 15 used ICT benefits in their teaching practice. A qualitative case study research design is used and the discussion in this paper is based on data collected through, observation, interviews and documentary sources. The data was analysed inductively through the interpretative theoretical lens of Becta's self-review framework. Results show that the school leadership and management structure do not implement ICT policies or encourage ICT use for teaching and learning. Therefore, teachers on an ad hoc basis adapt ICT services to the level of individual learners' needs. Teachers confirmed that they need professional development to use ICT effectively to support learners. The time table structure of the school limited teachers' access to the use of ICT resources for teaching and learning. On the other hand, learning with ICT tools, learners had positive outcomes in the learning process irrespective of their levels of differences. Teachers with their limited ICT skills enabled learners to complete learning activities and improved learners' attitudes towards learning. This is evident that the use of a self-review framework can ensure that a school's investment in ICT achieves fitness for purpose and also optimises the use of finite resources by teachers in supporting LSEN and inclusion.

Keywords: Becta self-review framework, Information and Communication Technology, inclusive education, learning disabilities, learners with special educational need.

1 INTRODUCTION

Many learners with special educational needs (LSEN) experience learning difficulties and their experiences continue to be one of the most disadvantaged groups in all our societies. Their learning difficulties or disabilities stem from poor focus and concentration, below average concrete and logical reasoning, poor fine motor skills as a result of low muscle tone, problems associated with visual perception and auditory discrimination as well as a low self-esteem and social difficulties [23]. In accommodating these learners in the learning process, the use of Information and Communication Technology (ICT) tools can make significant differences to their life experiences [19] by assisting them to engage in learning including those who are hard to reach, helping to break down some of the barriers that lead to under-achievement and educational exclusion [5]. In order for a school to succeed in accommodating LSEN, the entire school should embrace ICT. Most significantly, educational practitioners should take cognisance to the fact that when ICT resources are introduced in the classroom environments for LSEN, teachers' professional development should also be considered for the realisation of ICT tools capabilities.

Thus, the problem under investigation in this paper relates to how ICT tools can be used in the teaching and learning in a school for LSEN in Gauteng Province West District, South Africa. Also, how

teachers can be developed to use ICT tools. Firstly, the benefits of using ICT tools to support LSEN are discussed. Secondly, challenges faced by teachers in the use of ICT tools for LSEN are briefly explored. Finally, a Becta's self-review framework as a theoretical lens to evaluate how six teachers used ICT tools is presented. The framework is based on eight elements, referred to as *leadership and management; curriculum; learning and teaching; assessment; professional development; extending opportunities for learning; resources; and impact on pupil outcomes*. It is documented that Becta's self-review framework can be used to empower teachers to broaden their approaches and transform their teaching practices [1]; [6] and [18].

2 BENEFITS OF USING ICT TOOLS TO SUPPORT LSEN

In support for LSEN, the South African Department of Education (DoE) drafted a White Paper on Inclusive Education to accommodate in schools all learners with learning disabilities [11]. The DoE also formulated a White Paper on e-Education which upholds that every South African learner should have access to the use of ICT [12]. Accessibility to ICT tools in the Gauteng Province has been established due to initiatives such as GautengOnline (GoL) [14], which consists of 25 networked computers loaded with a range of prescribed software per school to enable learners to overcome barriers to learning and develop positive relationships with peers and teachers [8]. Access to ICT project offers opportunities for learners to use technology that will increase their engagement in the learning content. The focus for the establishment of the GoL is to promote learner access to ICT tools [14]. In light of this policy document, [2] and [3] affirm that the use of ICTs in school environments have a great potential for making it possible for learners with learning disabilities to develop new learning experiences in the classroom. When LSEN use ICTs in the learning process they begin to take responsibility for their own learning. They are motivated to learn [24] and develop data interpretation skills [20]. For [26], effective use of technology in the classroom reduces the gap between potential and performance, especially for learners with learning disabilities. Using ICT can raise learners' motivation to learn through giving them more control over the learning experience. On the other hand, [9] cautions that "problems arise when teachers are expected to implement changes in what they may see as adverse circumstances". In addition, very little attention has been paid to developing teachers' professional development in the use of ICT tools for LSEN in their teaching.

3 CHALLENGES FACED BY TEACHERS IN THE USE OF ICT TOOLS FOR LSEN

Teaching LSEN to use ICT tools requires that content be modified and teaching methods changed [17]. This includes designing new approaches to knowledge acquisition, critical thinking and creative problem-solving [21]. [22] emphasises that educational policies are highly politicised and do not attend to the culture of classroom practice or the pivotal role of the teacher in effecting change. According to [16], failure in policy implementation can be attributed to "... the inadequacy of teacher training, the weak design of implementation strategy" and that, [25] ICT policies have been implemented without sufficient professional development to transform teaching practice. [7] perceives that though policies are in place, teachers are still lacking pedagogical knowledge of best curricular uses of ICT tools for the teaching of LSEN. A lack of teachers' development may result in LSEN being disadvantaged in their learning process. The aim of the research is to undertake a baseline study to determine how teachers use ICT tools in a selected school for LSEN. Furthermore, an investigation needed to be undertaken into how teachers' professional development is supported, as they adapt ICT on an *ad hoc* basis. Thus, the study inductively interprets lived experiences of teachers teaching LSEN through the theoretical lens of Becta's self-review framework.

4 A BECTA'S SELF-REVIEW FRAMEWORK

To have a better understanding of how teachers can use ICT tools in a school for LSEN, this study draw from the Becta's self-review framework. The framework uses eight elements as a basis to conduct self-review to determine the success and areas where the school and teachers can improve in the use of ICT tools, as illustrated in Figure 1, below.



Fig.1: The self-review framework. [6]

A brief description of the eight elements of Becta's self-review framework is discussed.

4.1 Leadership and management

The element of leadership and management is therefore vital in the integration of computers into teaching and learning. This element is based on four strands, namely: *vision for ICT*; *strategy to achieve the ICT vision*; *organizational efficiency and effectiveness*; and *monitoring and evaluation* [6]. Leadership must have a vision for ICTs which is owned and understood by all stakeholders. The vision must be reviewed in the light of new developments in technology, practice and national policy. The leadership should also develop a strategy to achieve its vision by planning with the whole school, taking into account its current stage of development. Organisational effectiveness and efficiency requires that technology for management be secure and integrated with curriculum and student recording systems. It should allow for the following: staff and learner performance; staff development and deployment. Leadership and management need to ensure that the school monitors and evaluates the effectiveness of the ICT strategy to establish progress.

4.2 Curriculum

The curriculum element has three strands, firstly, *the planned ICT curriculum*, which takes into consideration ICT tools that are integrated in curriculum delivery. In this case the focus is on developing ICT capabilities by planning lesson activities involving the use of ICT tools. Secondly, *learner ICT experience when using ICT* may differ from what is planned. Learner ICT experiences challenge the teachers to lead curriculum development in which learning involves the use of ICT tools. Finally, *curriculum leadership and review* focus on how learners and teachers are using ICTs across subjects for learning and teaching. Teachers must plan activities that allow learners to use ICT in learning and teaching.

4.3 Learning and teaching

The curriculum element has three strands, namely, *teachers' planning use and evaluation*; *learning with ICT* and *leadership of learning and teaching*. Teachers' planning use and evaluation considers how teachers use ICT in the classroom to support and enhance learning, teaching and inclusion, and how they understand these processes. Learning with ICT strand relates to the use of ICT from the learners' perspectives, examining what pupils expect from their use of ICT, their opportunities to choose whether or not to use it and the skills they have developed in the use of digital resources. Lastly, leadership of learning and teaching relates to way in which leaders at different levels in the school promote, explore and develop the use of ICT within learning and teaching.

4.4 Assessment

Assessment element looks at how ICTs are used in all learning areas and how effective the process is. Communication between the learner and teacher can happen at any time, enabling work to be produced, submitted and marked electronically.

4.5 Professional development

Professional development has three strands, that is, *planning, implementation* and *review*. Planning considers not only the processes that the school uses to identify both individual and whole-school professional development needs, but also the planning required to meet those needs. Implementation reflects the range and quality of the provision that the school makes for the development of its staff's ICT skills. Review focuses on the context of the teachers and their profiles should be investigated in detail. It is about the evaluation of staff development in ICT, and seeks to promote systematic monitoring and evaluation that leads to analysis of the quality.

4.6 Extended opportunities for learners

Extended opportunities for learners have two strands, namely, *awareness and understanding*, and *planning and implementation*. Awareness and understanding strand reflects on the level of awareness and understanding by all staff of the opportunities for extending learning with ICT beyond the school. Planning and implementation considers how to turn policy into practice and the impact of ICT on extending learning opportunities for all learners.

4.7 Resources

The resources element has three strands, that is, *provision, access* and *management*. Provision relates to the management and support of ICT resources used in the school, focusing on how the physical environment for ICT impacts on the quality of learning and teaching using ICT resources. Access focuses on the ease with which teachers and pupils can access ICT resources and the range of locations that provide access is considered here. Management is about the extent to which the school expands and replaces its ICT resources through effective analysis of curriculum and administration needs.

4.8 Impact on learners' outcomes

This element has three strands, namely, *learner's progress in ICT capability, learner's progress more widely and attitudes and behaviour*. Learner's progress in ICT capability involves the extent to which all groups of pupils across all years make progress in ICT capability, Learner's progress more widely looks at the progress that learners make in improving learning through a wide range of ICT experiences. Attitudes and behaviour strand relates to the way in which the regular use of ICT by learners improves their attitudes towards learning in general, in turn reflected in their behaviour, interest, enthusiasm and curiosity, and how these drive them to explore the potential of ICT.

5 RESEARCH DESIGN: A CASE STUDY AND CONTEXT

In the context of this inquiry, the case was to describe and gain an understanding in the use of ICT tools in a school for LSEN in the West Rand District in Gauteng Province. There are a total of 15 staff members in the schools and six teachers were purposefully selected in this case study based on their experiences in the teaching of LSEN. Learners at the school range from the Severe Mentally Handicapped (SMH) to the Mild Mentally Handicapped (MMH), terms that emanate from medical reports which learners bring to the school as an admission requirement. All learners had been referred either by the Medical staff or the District Based Support Team (DBST) from the Education District Office. A learner profile is then devised in which barriers to learning are specified, then the level and nature of support is identified to formulate a support plan.

6 RESEARCH INSTRUMENTS

Observation was used as a method of data collection and six teachers were observed how they used ICT tools for LSEN in the GoL laboratory. A research journal was used during observations to record actions, and problems encountered using ICT tools. A semi-structured focus group interview with six teachers was conducted in order to gain an in-depth understanding of how they used ICT tools in accommodating LSEN. Thereafter, two teachers who participated in the focus group interview were asked participate in individual interviews in order to elaborate further on how they experienced the use of ICT tools for LSEN. Documentary sources that are relevant were used to describe the case of how teachers used ICT tools to support LSEN and for their professional development. Table 1 represents documentary sources.

Table 1: Documentary sources.

Documentary sources	
Document	The focus of the document
GoL Policy Document [14]	Access to the computer centre
Circular 71/2008: Integration of digital assets [13]	Learning and teaching with ICTs
Guidelines for schools ICT hardware specifications [15]	Procurement - procedure for ordering ICT tools
Managing ICTs in South African Schools, A Guide For School Principals [25]	Basic needs for ICT integration in the entire school
Guidelines for teacher training and professional development in ICT [10]	Teachers' competency on the use of ICT for teaching and learning
White paper on e-Education [12]	Document guiding the implementation of e-Learning in all South African schools
White paper on Inclusive Education [11]	A guide to adapt the mainstream education content to make it suitable for learners in special schools

Consequently, the collected data was analysed inductively through the interpretative theoretical lens of Becta's self-review framework and findings are discussed.

7 FINDINGS AND DISCUSSION

The Becta self-review framework for ICT tools allows schools to: assess and improve their use of ICT; identify strengths and seek suggested actions for improvement. Managing ICT in a school in line with established best practice can result in better learning outcomes and more effective use of valuable resources [6]. Accordingly, established categories and sub-categories within the Becta's self-review framework are discussed below.

7.1 The school leadership and management structure do not use ICT policies for teaching and learning

The school leadership and management structure should have both a vision and a strategy for ICT policies that need to be monitored and evaluated for effective teaching and learning [6] (Element 1 of Becta). However, in the context of this study, it was evident that the leadership and management structure of the school were not using ICT policies in the teaching and learning as envisaged by [6] and documentary sources like, [14], [13] and [25]. One of the teachers acknowledged that the school was not using ICT policies, indicating that: "*Policies in ICT are in place but we use policies in LTSM*" (Learner Teacher Support Material). Regarding encouragement to integrate ICT tools into learning and teaching, another teacher expressed the view that: "*There is not enough support*". A lack of support can be attributed to the lack of vision amongst the leadership and management structure of the school to develop ICT policies that support the use of ICT tools for achieving educational goals (refer to the *Becta Element 5* in 7.4.1).

7.2 Teachers adapted the mainstream ICT curriculum to the level of learners with special educational needs

To respond to the unique characteristic of LSEN, teachers need to plan, take into account learners' experiences of ICTs and demonstrate leadership to modify their pedagogical approach so as to help the learners to attain their possible potential within a curricular content [6] (*Element 2 of Becta*). However, the school did not have the ICT curriculum, and in answering this question: Do you have a special curriculum for LSEN? one teacher responded: "*No*", and in adapting the mainstream ICT curriculum another teacher confirmed that: "*Yes it is adapted*".

To be able to modify the pedagogical approach, teachers are encouraged to employ new teaching method using ICT [6]. However, this presented a challenge as they have to modify their approach. One teacher experienced that: *“Facilitators, they will come here, but don’t know they got their unique problems all of them. So if you struggle with a curriculum, I mean let alone the integration of the ICT. Can you imagine what is happening, it’s a serious challenge”*. Another teacher corroborated what had been said by her colleague about the struggle they experienced when teaching LSEN: *“There are different kind of disabilities, one with involuntary movement, arthetoid, cannot even type because his hands are shaking all the way. Some who are partially sighted, whereby we do not have the Braille computers”*. Despite the challenges teachers used available ICT tools, as reported by one teacher: *“... some pictures and specific programmes, Microsoft Word for that PowerPoint”* in the teaching and learning process. Another teacher pointed out that the use of available ICT tools can meet and improve learners’ skills in the use of digital resources: *“...you have learners who are able to comprehend what you are teaching them but they cannot put it on a written page. And you know I think ICT tools provide for us a way of adapting the curriculum, to reach the through different means of methods. So, I think ICT are the best, if we can get different programmes”*. Teachers’ experiences of adapting and using available ICT tools to teach learners is supported by [6], that integration of ICT tools should take into account the school’s current stage of development.

7.3 Teachers with their limited ICT skills enabled learners to complete learning activities

This category was incorporated two Becta Elements, that is 3 and 4, because the data collected indicated that the school was not using ICT policy, not having the ICT curriculum for LSEN, and the majority of teachers in the school lacked ICT skills and needed professional support. Teaching and learning with ICT tools, especially for LSEN, requires the teachers to be leaders in the planning and evaluating on how they can design the learning environments that accommodate all learners [6] (*Element 3 of Becta*). A school that successfully embeds ICT within learning and teaching gives both learners and the teachers the opportunity to communicate about how ICT tools can be used to support learning activities and assessment tasks [6] (*Element 4 of Becta*).

The use of ICT in the classroom should support and enhance learning, teaching and inclusion, and despite the lack of teachers’ ICT skills, learners were able to complete the activities. One teacher confirmed that: *“... they work with this thing to get to the end product. I think it works well they can draw they can insert, they can even print, looking at what they have done”*. The confirmation that learners can use ICT tools to complete the activities was supported by her colleague: *“Yes, on the ICT there are some who benefit because some are fresh from the mainstream, and because of being slow learners sort of, so now when they come here they are working with their own pace”* (*Element 3 of Becta*).

Teachers acknowledged that the use of ICT tools can support learners who are under-achieving: *“I think it can be used more especially in the LSEN school because we have learners who are able to comprehend what you are teaching them but because they cannot put it into writing, because of in a school of LSEN, fine motor skills are not yet developed. With the use of the keyboard or mouse they can be able to give you the correct answer”*. Teachers were aware that any ICT tool that is available can be used to support learners in accomplishing their learning activities. One teacher pointed out that learners were struggling with skills in the learning process in that: *“our learners are struggling from reading, writing, understanding communication, all those things”*. The [6] concludes that assessment evidence should be used in learning and teaching across the whole curriculum with ICT tools (*Element 4 of Becta*).

7.4 Teachers confirmed that they need professional development to use ICTs

Professional development for the use of ICT in the school includes individuals and whole-school professional development of ICT skills, the context of the teachers and their profiles [6] (*Element 5 of Becta*). This element is supported by the White paper on e-Education, which states that ICT in schools should be introduced in the teacher development programme [12] and [14]. Thus, this category consists of two sub-categories, that is, teachers’ value of professional support in the use of ICT in teaching practice, and how to deal with their attitudes and fears towards ICT in their profession.

7.4.1 Teachers valued the need for a professional support in the use ICT in their teaching practice

Expressing the view that support in the use of ICT in their teaching practice was valued, one teacher highlighted the professional aspect: *“From my development plan, ICT was amongst the list of the things that I have requested, but requested workshop about learners with educational needs, am still waiting for those particular training as I’ve requested”*. Teachers also pointed out the need to identify the type of professionalism required in the use of ICT for their school, for example: *“...most of the workshops that we got only comes from the district, ... type of programme that do not fit for our school”*. ICT can be an effective tool in supporting teaching practice and teachers were given laptops. However, one teacher said: *“giving us the laptops to try something. So I did not get the support that I expected from you as well, so I did not go anywhere because I felt frustrated. I really wanted to try that but I felt frustrated because it was so complicated”*. An important element in teachers’ professional development is the quality of support and training they receive in terms of planning, implementation and reviews.

7.4.2 Teachers acknowledged the need for a professional support to address their attitudes towards ICT in their teaching profession

Leadership and school management must take the lead in creating a vision that motivates and changes teachers’ attitude towards teaching using ICT tools. During the interview one teacher raised the view that: *“You know training in itself is not the only way, because it is also about the individual attitude of the educator. I would say change is not easy, how do we change the attitude of an individual? You can’t, some are just afraid. If you could call a meeting and ask what is your greatest fear, they know but what is in them does not change, even teachers have barriers, I would recommend counselling of teachers”*. On probing as to whether teachers have an attitude towards the use of ICT tools in the classroom, another teacher responded: *“Yes they have an attitude, they have a well-developed negative attitude towards the computer lab. Because maybe they think, or they undermine themselves for their knowledge that they have”*. Support and proficiency in the use of ICT tools by teachers can help them overcome their fear, as indicated by one of the teachers: *“...maybe if they would know how computers works or how ICT makes their lives easy teaching is very simple with computers and that can change the attitude”*. Another added that support for teachers *“...will also eliminate the fear of educators who are ... afraid to go there because of the fear of the unknown”*. According to [4], if teachers are supported in the use of ICT they develop positive attitudes towards them in the teaching and learning processes.

7.5 The planning and implementation of ICT use in the school depended on the individual teacher

The sixth element of [6] states that the school should plan and implement effective use of ICT tools and ICT policies. However, as discussed in the first category (*Element 1 of Becta*) above, the school leadership and management structure do not use ICT policies for teaching and learning and thus the planning and implementation of ICT use in the school depended on the individual teacher. One teacher indicated how, as an individual, she used ICT for planning: *“We didn’t, from the plan within the school ICT as a tool wasn’t intergraded into plan for our work schedules, ... it hasn’t been intergraded, actually ICT only appears as a tool, like maybe any other LTSM material”*. An ICT plan acts as a blueprint for the sequence of events that a school hopes to achieve. Without it, as this teacher said, *“Each and every individual will have to see to it, out of your own you have to see how you’re going to integrate, you have to make your own initiative only because, it’s not only that we are going to use as a resource”*. There was no link at the school between ICT policy plans and classroom activities.

7.6 The timetable structure of the school limited teachers’ access to the use of ICT resources for teaching and learning

The management should expand and replace its ICT resources so as to promote future planning and assuming best-practice procurement procedures [6] (*Element 7 of Becta*). The GoL schools for LSEN are allocated special budgets to procure ICT, making it possible for teachers to access various forms of currently available technology. The availability of ICT resources was confirmed by one teacher: *“...we have laptops, Mimipads, overheard projectors, the white boards, video cameras, digital camera”*. Despite the availability of ICT tools, teachers have limited access to the computer lab as a result of the school’s timetable structure. One teacher said that: *“... but for the purpose of teaching*

and learning I have not been because we go with the timetable... So we have not had the chance yet to use the computer lab". Another teacher also experienced: "Maybe your times come and teach for that period maybe for a month. With the computer you need to be there every day, you have to practice it every day to understand it better. It was evident during the observation that the system of timetabling denied teachers access to the laboratory. It is also was evident from a comment made by one of the teachers that: "I have to indicate by resources what am going to teach, use posters, maybe or real objects. Maybe I can add ICT, like in computer as the source am going to use, but it doesn't actually appear as part of the tool that you real are going to use generally, hence I say it's not integrate, it's been treated in isolation". Even with the abundance of technological resources, teachers were not able to use them within the curriculum as a result of the structure of the school's timetable [15], [16] and [28].

7.7 Learning with ICT tools learners had positive outcomes in the learning process

How ICT tools impact on learners' outcomes can be seen in the extent to which they made progress in ICT capability by acquiring new learning skills and being creative, innovative problem-solvers, as well as how independently they applied their ICT capabilities. Equally, the use of ICT tools should change learners' attitudes and behaviour as they develop interest, enthusiasm and curiosity regarding the learning process [6] (*Element 8 of Becta*). This category consists of two sub-categories.

7.7.1 The use of ICT tools benefited all learners irrespective of their levels of differences

When learners are learning with computer technologies and not from them they benefit. The teachers' experiences of the impact on learners' outcomes when learning with ICT tools was expressed by one teacher: "Not all of them are using ICT but at least they have an idea of what we will be using, since these are children who are intellectually disabled, the rate of comprehension differs from one individual but basically ICT benefits nearly all our kids, irrespective of their learning levels or the differences in the learning areas". This teacher's experience of how ICT can benefit all learners irrespective of their levels of differences was supported by another: "So some of them might benefit but some of them is very difficult to be able to manipulate the computer". A third said: "...some learners can benefit scholastically". These confirm the [6] in that when learners used ICT tools they were able to complete learning activities as discussed in paragraph 7.3 above.

7.7.2 The use of ICT improved learners' attitudes towards learning

Attitudes find their roots in human beliefs and influence their behaviour. One teacher said: "...if you give them sums in numbers they can be able to use a computer. Literacy as well those who are able to read,... to fill in the correct words... put in the correct words". The use of ICT tools makes learner perform better in their schoolwork. Two teachers pointed out how learners enjoyed using computers: "I could say in all the three areas, Numeracy Literacy and Life skills, more especially in numeracy, the learners enjoy it in numeracy. Calculating sums, subtracting, just basic numeracy, counting finding the right answer. And with literacy, it's about reading and they had to filling in the missing words". The teacher pointed out that: "They enjoy watching others, maybe playing with the mouse clicking there, just you know to be part of the others... But they would love to get a chance to grab that mouse, you know that keyboard just that feeling". As learners' enjoyed learning with ICT tools, their attitudes towards learning improved. Teaching with ICT can also help teachers to address their attitudes in their teaching practice, as discussed in paragraph 7.4.2.

8 FINDINGS FROM THE OBSERVATIONAL DATA AND DOCUMENTARY SOURCES

As mentioned in the findings from interviews, observations revealed that teachers spend time in trying to adapt and develop learning activities in order to use ICT tools to teach LSEN without a support from the management. Observations also revealed that teachers lack knowledge and skills in the use of ICT tools due to limited access to the computer laboratory as a result of the timetabling structure of the school. Teachers indicated that they are interested using ICT tools but lack formal training to use ICT tools for learning and teaching, especially for LSEN. The school has documents and policies as represented in Table 1 that need to be used to improve to the quality of teaching and learning, but they are not used.

9 CONCLUSION

The aim of this case study was to explore how teachers used ICT tools in a school for LSEN and how teachers' professional development can be supported in the use of ICT tools. We argued that ICT tools can enable learners to overcome barriers to learning and develop positive relationships with peers and teachers, and can improve the quality of teaching and learning. However, the school and especially teachers failed to fully exploit the possibilities for learning and teaching offered by technology. The use of ICT in addressing LSEN has been inadequate due to the main gap that exist between development of learning environments and systems that facilitate inclusion of learners with different types of disability. Despite the availability of ICT tools initiative by GautengOnline project loaded with a range of prescribed software to enable learners to overcome barriers to learning, including a number of policy documents as presented in Table 1, teacher are still faced with challenges on how to use ICT devices to support their learners in the learning process.

This study employed a Becta's self-review framework as a theoretical lens to evaluate how six teachers used ICT tools in their teaching practice from the collected data through observations, interviews and documentary sources. After analysis of the collected data, finding confirmed that the school leadership and management do not have vision and strategy to use ICT policies for teaching and learning. Consequently, the school could not develop an effective and efficient monitoring and evaluation system for ICT use.

Teachers adapted the mainstream ICT curriculum to the level of learners with special educational needs. Conspicuously, official documents which exist as shared conceptions of what constitute important content relate to mainstream schools and not to schools for LSEN. Though, with limited ICT skills, they enabled learners to complete learning activities irrespective of their different level of understanding, improved their attitudes towards learning and had positive outcomes in the learning process when learning with ICT tools. Yet, teachers still value the need for a professional support in the use ICT in their teaching practice and also a professional support to address their attitudes and frustrations towards ICT. If the school timetable structure that limited teachers and learners to access computer laboratory can be flexible, this would enable an effective use of ICT tools. Therefore, Becta's self-review framework as a theoretical lens can be used to evaluate how a school of LSEN can take advantage of using ICT tools for teaching, learning and professional development.

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