

Promoting Digital Literacy for Children in Conflict with the Law: The Open Distance Learning Potential

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ABSTRACT All children, including those in conflict with the law, deserve to have access to appropriate and quality education. Failure to access education normally leads to many social ills including engagement in criminal activities. The aim of this paper is to present the findings of a study on promoting digital literacy at three juvenile facilities in Gauteng, South Africa. The Integrated Model of Skills frames this paper. Data was collected through in-depth and focus group interviews. The findings revealed that inadequate effort has been made to equip the children in conflict with the law with digital literacy skills and there is insufficient technological knowledge and skills among teachers. This study recommends that open distance learning in the form of peer learning and open educational resources as potential approaches can be employed for improving digital literacy. Teachers should also receive technological training to enable them to integrate technology in their teaching.

INTRODUCTION

Digital literacy is a critical aspect in working towards successful rehabilitation of children in conflict with the law, especially in the Knowledge Era. Tlale (2013) and Engelbrecht (2011) postulate that every child has a basic right to education that will lead to literate citizenship. Literacy is perceived as the key to freedom, power, good health, longer life, development, effective learning, critical thinking and self-esteem (Klaas and Trudell 2011: 02). Being illiterate exposes the young people to exploitation, discrimination and other forms of danger including crime and poverty. Hautecoeur (2002: 253) notes that illiteracy can be costly and wasteful to the society. In the 21st century, it is not only reading and writing illiteracy that lessens the chances of a better life but digital illiteracy also poses a challenge. Klaas and Trudell (2011) argue that being literate means that one has information-processing skills, can easily access the world around him or her, can be involved in the social processes and can think critically. These attributes are now failing to work on their own and instead now require the use of technology in order to function properly.

Now, the world is connected, people need to have computer literacy like being able to use the computer for typing, filing and retrieval of archived documents, sending and receiving elec-

tronic mail, storing and retrieving relevant information, capability to conduct Internet searches for information and being able to filter through and use the applicable for personal and community development. Having the abovementioned basic skills makes it easier for the person to survive in the 21st century digital world. Therefore, Rogers (2011) argues that literacy can no longer be defined in terms of reading and writing only but should also include computer and digital literacy, which liberates the marginalized groups and gives them better chances of survival in the Information Age. Being digitally literate means having an ability to understand information in whatever format it is presented (Lankshear and Knobel 2008), being able to decode images and sounds, being able to work with any kind of information, understanding and presenting it in the simplest form possible (Lankshear and Knobel 2008). However, in promoting digital literacy, it is important that one is thoughtful in the strategies. The stakeholders that safeguard the interest of the children in conflict with the law should seek to have rehabilitation strategies that respond to current national development initiatives. Christianakis and Mora (2014) and Mora and Christianakis (2011) raised a concern that the communities tend to invest more resources into punitive measures instead of focusing more on proactive and restorative measures. Whitworth (2011) calls this attitude 'instrumental

progressivism', which he argues disempowers the children in conflict with the law by depriving them of a chance to learn to be innovative and critical thinkers (Whitworth 2011; Robins and Webster 1987). A different view of literacy that this study does not agree with and therefore does not apply here is the one of Green (2012: 381) who refers to digital literacy as digital literacies and sees it as 'placed resources'. These 'placed resources' are outlined as computer or video games, mobile phones, movies, digital cameras, digital recorders, and connected laptops. These views simply provoke an advanced way of looking at how the technologies can be used actively in the virtual world. Digital literacy promotes looking at basic ways of getting the underprivileged and normally scholastically isolated children in conflict with the law to move from being digital strangers to being digital natives. Digital natives work better in networked environments, they excel in games and they like to play with different technological gadgets (Makoe 2012; Prensky 2004, 2001). When children in conflict with the law become digital natives they might engage better with technology, and hence use it to benefit their personal development.

Relationship Between Crime and Poor Education

The link between illiteracy or poor education and criminal activity has been the center of debate from time immemorial (Ward et al. 2013; Shihadeh and Flynn 1996; Thorbecke and Charumilind 2002; Denton and Vloeberghs 2003). Children who grow up without proper guidance and education often turn to crime because they are unable to see any direction in their life and/or find any legitimate form of employment. Better education provides more opportunities for young people and offers greater rewards than criminal activity (Ward et al. 2013). Proper guidance and education are the very foundation of good citizenship. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of education.

Magano (2015: 53) highlights the prevalence of illiteracy amongst young offenders in South Africa. She also points out homelessness as another common challenge facing the youth who end up engaging in criminal activities. In addition,

Pakistani researchers, Hassan and Azman (2014) identify illiteracy, poverty and other socio-economic exclusions as the causes of youth getting involved in criminal activities and unhealthy working conditions.

Smith and Townsend (2004) suggest that one of the major obstacles that children in conflict with the law face is overcoming literacy insufficiencies. Foley (2001) reports that fifty percent (50%) of children in conflict with the law completing the eighth grade actually read below an eight-grade level. Furthermore, those children in conflict with the law also had greater difficulty with writing and oral language skills. Children in conflict with the law that possess higher literacy levels including digital skills have been found to have lower rates of reoffending and enjoy a more successful and smooth reintegration from the juvenile facility back into the community (Foley 2001).

Children in conflict with the law are faced with many challenges for them to access educational programs in juvenile facilities. Classrooms where teaching and learning takes place are often strongly guarded (Smith and Townsend 2004). The teacher must accommodate other activities taking place within the facility, such as other programs and outside services that children in conflict with the law must receive, namely, visits with social workers or chaplaincy. In the case of South Africa where unemployment is rife, children are the first to feel the impact. The impact of an unemployed parent could be involvement in criminal activities in order to feed siblings or one's frail parents. Therefore, it is the aim of this article to indicate the potential positive impact digital literacy could have on the rehabilitation of children in conflict with the law.

General Benefits of Using Digital Open Distance Learning Approaches

It is frequently argued that computer games are a valuable tool in enhancing learning and problem solving (Amory and Seagram 2003). Computers are seen as a means of encouraging learners who may lack interest or confidence (Klawe 1994) and of enhancing their self-esteem (Ritchie and Dodge 1992; Dempsey, et al. 1994). Equally, the use of digital ODL approaches have been proven to be in high demand amongst the incarcerated students as is the case of prison inmates in Kirikiri, Nigeria (Anene 2013). ODL is

more appropriate in the secure setup because it allows the students to learn regardless of transactional distance between them and the teacher. Digital ODL approaches would also benefit the students by allowing them to use drill and practice strategies. This is a form of learning where learners rehearse sets of material following the same pattern, thereby enhancing knowledge acquisition and retention (Mokiwa and Ngubane-Mokiwa 2014; Ricci 1994).

It has been established that the last few years have seen the unparalleled growth of social networking sites and their use primarily by youth under the age of 25. Social networking applications are seen as the fastest growing niche in the broad range of systems using the latest technologies. There has been a range of positive outcomes and impacts associated with the use of computers that contributed to reengaging children in conflict with the law back into classroom (Fabricatore 2000). These included improved numeracy and literacy, inculcation of digital literacy, supporting team-working, reducing stigmatization, reducing gangsterism, increased confidence and self-esteem, increasing motivation to learn more, reduced ostracism, supporting active social responsibility, and expanding the horizons for children in conflict with the law and their sense of own abilities and capacities.

Furthermore, digital literacy allows for the manipulation of objects, supporting development towards higher levels of proficiency (Fabricatore 2000). It is particularly effective when designed to address a specific problem or to teach a certain skill (Griffiths 2002: 47), for example, in encouraging learning in curriculum areas such as math, sciences and languages, where specific objectives can be stated (Randel et al. 1992), and when deployed selectively within a context relevant to learning activity and goal (Kirriemuir 2002). However, it is important that digital literacy is used to facilitate tasks appropriate to the learners' level of maturity in the skill (Din and Calao 2001). Moreover, for skills to be enhanced, learners must possess specific skills to some degree already (Subrahmanyam et al. 2001). Even simple computer programs can be designed to address specific learning outcomes such as recall of factual content or as the basis for active involvement and discussion (Dempsey et al. 1996; Blake and Goodman 1999). Exploratory, interactive computer programs are good vehicles for embedding curriculum con-

tent such as math and science concepts that may be hard to visualize or manipulate with concrete materials. Riddles and interactive digital literacy have been used successfully with college learners to enhance creative and other forms of critical thought (Doolittle 1995).

Complex computer programs, in particular, have the potential to support cognitive processing and develop strategic skills. Brain alternations associated with navigational and spatial learning occur more frequently in the use of more complex computer programs. This increases the users' learning and recollection capabilities and encourages greater academic, social and boosts digital literacy skills (Natale 2002). In addition, the use of digital devices cuts across all aspects of economic and social life. Entrepreneurship developments in computers are very rapid. This is because new versions of the old technology are on the increase. New and better ways of doing the old things are now with us. Technology quickly becomes obsolete requiring new skills and knowledge to be mastered frequently. Adaptation is only possible when based on a sound understanding of the principles, and concepts of entrepreneurship education.

It is obvious then that training in computers and entrepreneurship is essential to self-reliance. The present global economic crisis and the rising waves of unemployment have greatly emphasized the need for entrepreneurship education and computers for production of skilled and self-reliant individuals. Juvenile facilities need a functional technological center for the production of skilled and self-reliant citizens who will be successfully reintegrated back into society. In order to achieve the basic principles of self-reliance and entrepreneurship, education is required for the children in conflict with the law. The research question guiding this study was: *What are the barriers to promoting digital literacy amongst children in conflict with the law?*

Integrated Model of Skills

Bruce et al. (2007), Eshet-Alkalai (2004) and Eshet-Alkalai and Amichai-Hamburger's (2004) digital literacy integrated model of skills conceptual framework is appropriate for framing this study since it promotes five cognitive skills that can be developed through enhancing digital literacy. Okada et al. (2014) has used the same model

to illustrate the potential of Open Educational Resources (OERs) and Social Networks in facilitating digital skills through co-learning. Though social networks might be inappropriate in a youth centers, OERs can be used effectively to facilitate access to different literacies. In the next paragraph, different literacies that the children in conflict with the law can learn are outlined.

The Photo-Visual literacy (Nielsen 1993) could enable the children in conflict with the law that are inadequately literate to learning through visual materials. Reproduction literacy (Gilster 1997) is another skill that could allow the children in conflict with the law to learn to be creative through first duplicating what they see and then eventually making their own adaptations leading to art mastery. Gilster (1997) asserts that reproduction literacy is the 'ability to create new meaning or new interpretations by combining pre-existing, independent shreds of information in any form of media-text, graphic, or sound' (Aviram and Eshet-Alkalai 2006). Branching literacy (Jansen and Pooch 2001) involves non-linear thinking where one can freely move from one element of a given task to another and be able to make sense in an unrestricted manner. This element of digital literacy can work with the children in conflict with the law since they can learn through a flexible curriculum allowing them to learn wherever they are.

Learning through digital ODL would also be of benefit to the child in conflict with the law, as it would allow them the opportunity to acquire different digital literacy skills. Information literacy (Kerka 1999; Salomon 2000) involves the skill of critically engaging and questioning any given information. As mentioned by one of the teachers in the findings, the children in conflict with the law like other children are curious and tend not to accept everything at face value. This inquisitive nature is good since it prepares the learners to be active participants in the digital era. Socio-emotional literacy (Mioduser and Nachmias 2002) requires that one has social skills and strong personal character to be able to make sensible decisions in their use of cyberspace. This literacy is critical for the children in conflict with the law since having it will prevent them from being lured into committing cybercrime. The framework of digital literacy integrated skills model should be engaged with and used together with other frameworks informed by the United Nations Convention on the Rights of the

Child (UNCRC) (1989) so as to allow exposure to holistic development hence reducing recidivism. Anene (2013) argues that the presence of the National Open University in Nigeria (NOUN) in the Kirikiri Prison has led to the widening of opportunity to access digital literacy skills.

METHODOLOGY

The participants of this comprised a convenience sample of six teachers for youth in conflict with the law in the specific juvenile facility. The study comprised of four males and two females. Three of the teachers, two males and one female were trained as teachers. This study was conducted with ethical consent from the UNISA College of Education Ethical Clearance procedures and the Department of Education research code. Though the initial doctoral study focused on the children in conflict with the law, this article is based on the data that were collected through getting teachers' views. All research participants participated voluntarily and their identity is not revealed as per the ethical requirements.

Data Generation

The data was collected through the use of semi-structured focus group discussions with the teachers that make use of technology to facilitate teaching. The second set of data was collected through in-depth interviews with individual teachers. To ensure that all possible data was collected from this group of teachers, the researchers conducted another set of in-depth interviews until saturation was reached.

Data Analysis

The data analysis process took place during data collection as the researchers started identifying the trends among the interviewees and probed further in order to get more rich data. After the data had been collected, the researchers transcribed the data from each individual participant ensuring that each response matched the relevant research question. Once the capturing was properly done in a table form, the color-coding was used to identify common responses. Thereafter, thematic analysis was used to formulate themes that better represent the findings of this study.

FINDINGS AND DISCUSSION

The main research question was: *What are the barriers to promoting digital literacy among children in conflict with the law?*

In presenting the findings of this study, three major findings from the collected data will be presented. The first one is lack of commitment to impart digital literacy skills to children in conflict with the law, the second one is the teachers' lack of technology skills, and the last being the lack of appropriate computer use for youth in juvenile facilities.

Lack of Commitment to Impart Digital Literacy Skills to Children in Conflict with the Law

Despite the realization of the importance of technology in the delivery of a curriculum among stakeholders, inability to incorporate this is due to lack of proper training. Muwanga-Zake (2004) reports that most teachers in South Africa are products of dismal education practices under the Bantu Education Act of 1953, which rarely considered Science as a necessity for Black South Africans. In addition, Brown et al. (2009) also emphasize the tendency of many correctional schools employing under-qualified teachers who have no experience of dealing with children in conflict in law. During the interview, teachers said:

"Our school has seven teachers but I am the only one who teaches digital skills, other teachers cannot teach it. Our computers are not connected with the Internet for obvious reasons of security—their security and our security as teachers (Teacher 6).

There was also a visible fear that teaching digital literacy skills to the children in conflict with the law could lead to them using those skills to commit more crime. As Teacher 1 attested below that:

"... Don't undermine these learners, some have very high IQ and you may find they know about computers more than us. So, it sometimes it becomes a challenge to teach them" (Teacher 1).

The lack of commitment mixed with negative attitudes towards children in conflict with the law pose challenges in the correctional and rehabilitation effort. Platt, et al. (2015) also identified the gap in programs that aim to reduce re-

civism amongst juveniles. They argued that there is a need to make effective use of technology and professional development approaches in order to provide efficient juvenile justice.

Teachers' Lack of Computer Skills

The analysis of data revealed that teachers experienced both a pressure to utilize computer and a desire to use technology, but at the same time there is a set of constraints on that use. In this digital era, meaningful education has to consist of science education and exposure to technology. By meaningful education, what is meant is equipping children in conflict with the law with necessary skills for their livelihood and successful reintegration into the society.

Teachers in youth centers are required to conform to both correctional safety measures as well as the external requirements of traditional assessment. A requirement to use technology to enhance teaching and learning of science without compromising safety is a matter of concern. The following extracts were taken from interviews with the teachers:

"There is no special curriculum for juvenile facilities to follow, so we in the SMT [School Management Team] had to restructure this curriculum (mainly Adult Basic Education and Training) and come up with our own of teaching and learning programs based on our experience and the kind of learners we have. But most teachers do not have any experience with teaching computers" (Teacher 3).

Most teachers in the study found it time-consuming to evaluate each learner according to their respect cognitive levels using computers, even though assessment is an important aspect of any teaching. Since they use a multi-grading teaching approach, they all experienced problems setting up rubrics and found that they have too much marking to do. In a multi-grade approach, one finds, for example, an orientation group comprising children in conflict with the law who have never been to a classroom before and some who are so advanced. For example, Teacher 1 said:

"Our school is divided into three groups that is, orientation, literacy section and vocational section. Before they could be accommodated into classes, they spent orientation of two weeks where we teach them how to behave in front of a teacher, and what is expected of them.

After the two weeks they go to literacy section where they are taught spelling and how to write their names. Here we do multi-grading teaching because you may find in the same group you have diverse learners, that is, those who had never been to a classroom while others have been attending some form of schooling. Lastly, they go to the vocational division where they are taught woodwork, beads, auto mechanics, and digital skills (Teacher 1).

Teachers in the study indicated that some learners do not progress between groups as with in their planned school calendar. This is due mainly because of the multi-grading teaching approach. T2 adds:

"One biggest challenge to our school is that the learners' admission is on daily basis. There are those who are awaiting trial. Those who can be acquitted tomorrow and those who arrive today, so how do I as a teacher structure my computer lessons with such mixed groups?" (Teacher 2).

Lack of Appropriate Computer Use for Youth in Juvenile Facilities

The use of computers could provide children in conflict with the law with a chance to obtain digital literacy, which would enable them to be rehabilitated after their release. Anene (2013) makes a compelling argument that rehabilitative programs that give practical skills to the offenders have high chances of preventing recidivism. She further posits that due to the high rate of unemployment in Africa, there is a need to provide offenders, in this case children in conflict with the law, skills that would enable them to be self-sustaining. Being able to generate some income for themselves could deter them from engaging in criminal activities. Bracken (2011a) and Lockett (2011) point out the link between reoffending and lack of relevant skilling of children in conflict with the law. However, Bracken (2011) does not give a concrete decision on whether the two have an impact on each other. It is clear from the foregoing discussion that digital literacy can make a positive contribution towards reducing the susceptibility of children in conflict with the law to crime. Computers can be used as an informal approach to create interest in learning on children in conflict with the law, who had no interest in the formal schooling. To avoid technology being perceived

as a security risk, it should be introduced as a necessary tool that will provide opportunity for independence and career and job-related skills that will increase their employability or self-employability after release. Technology should be used together with assessment approaches that allow the children in conflict with the law to obtain certification for what they have learnt for further education, training and employment purposes. It transpired during the interviews that the teachers have limited skills for dealing with aggressive behavior. This limitation poses a risk of the computers and other learning resources being damaged. Damage to property should not be tolerated and this can be done through negotiating with the learners to take ownership of all learning materials.

"... The children in conflict with the law can be very moody! ... In such cases, you don't teach. Just allow them to play in class...the presence of computers in class is not a good idea because they can break them when they are angry" (Teacher1).

In addition, when teachers are unsure of how to use technology, they may feel the potential for loss of authority. It is thought that digital literacy should be used more effectively when used in conjunction with learner-based teaching and learning (Becker and Ravitz 1999). Learner-centered teaching and learning changes the role of the teacher in the classroom, and thus changes the related power and control over the classroom. Teachers who are more invested in a didactic approach that reinforces their position of authority may choose not to attempt pedagogies that promote the role of learners and challenge the status quo. Webb and Cox (2004) refer to a number of factors related to control, including how teachers organize their classrooms, how they structure learning activities, and how much autonomy they give learners.

The findings revealed that not enough effort has been made to equip the children in conflict with the law with digital literacy skills; teachers do not have adequate technology skills to impart to the children in conflict with the law, and there is insufficient use of computers for children in conflict with the law. It is recommended that digital open distance learning approaches are explored as prospective modes of promoting digital literacy among children in conflict with the law. Peer learning could also be used to enable the learners to learn from each

other, respect and trust each other. Open Educational Resources (OERs) have a potential of improving digital literacy skills among the children in conflict with the law. Moreover, the computer lab should be easily accessible so that the children in conflict with the law can explore with technology and teachers should be afforded an opportunity to receive technological training to enable them to integrate technology in their teaching, hence familiarizing the children in conflict with the law with technology.

The data in this study further shows patterns in an under-researched population of teachers, secure care and or custodial teachers. The findings point to the need for refined tools and analytic methodologies to address the broader traditional and social dimensions of custodial context. Future research should be conducted across a variety of settings to confirm or disconfirm these findings and to deepen the understanding of why custodial teachers and mainstream teachers for that matter, still experience barriers to technology integration. Further research is also needed in order to better understand the role of technology for the socioeconomic inclusion of children in conflict with the law.

CONCLUSION

Globally, the introduction of technology into schools often started with the rationale that learners needed to learn how to use technology and to develop 21st century skills. The focus is now changing to technology becoming a tool for teaching and learning. Computers are also seen as having a transformational effect. It is important that custodial teachers adapt technology according to their own context and needs and do not just blindly follow examples from other people outside the correctional facility. Digital literacy with a specific contextual flavor and utilizing local technology has the potential to be exported to the rest of the world.

There is a need for changes to teachers' beliefs and values in order for their pedagogical approaches to lead into planning of appropriate digital ODL driven learning opportunities. Digital literacy as a subject in correctional facility schools is not widespread. In a physically and economically constrained context, decisions about teacher professional development should be guided by research about the teachers' be-

liefs and pedagogic practices. Further research needs to be conducted on juvenile facility teachers' beliefs, how these beliefs impact on the juvenile justice system, and how technology and ODL approaches can be best integrated into the juvenile education delivery.

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