

Can Adoption of ICTs in Schools assist in the War against Poverty and Underdevelopment in Namibia?

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Abstract

This article is part of a large study that investigates the issue of ICT and innovation adoption in Namibian schools. The main aim is not only to bring into focus the convergence of information and communication technologies (ICTs) for development and education, but also to highlight some of the major barriers to successful ICTs integration by schools. On the basis of a critical review of literature, claims about the role of ICTs in education are discussed and the synergies concerning ICTs for development interventions that can be identified are discussed. With the advent of ICTs, many people have claimed that ICTs have a pivotal role in development. Indeed, these tools are useful for different applications. However, there are certain factors that can prevent a country from utilising ICTs even if the devices and technologies exist. The challenges of considering educational institutions as development players and their preparedness to actually 'throw decisive blows' on poverty are emphasised and a conceptual framework encompassing critical success factors is mapped out. Reference is made to Namibian situation.

Key Words: Information and Communication Technology, Innovation Education, Development

Background

For close to two decades now, information communication technologies have continuously been placed in a position where they are considered an effective pro-poor tool in achieving the Millennium Development Goals (MDGs) (Roe and Urguhart Khanya, 2001). This placement stems from recognition of the fact that economic backwardness in any given geographical area is typically characterized by poor access to information, outdated know-how and low levels of productivity (Rogerson, 2000) and that poor or lack of access to information is a key barrier for people to realize their potential. This high regard for ICTs is understandable, given that studies have shown that ICTs do indeed offer realistic opportunities for people to redress this situation (Castells, 1999). At the same time, some have cautioned that this benefit can be elusive (Nadkarni, 2008) and at times highly political (Sussman, 1997; Wade, 2002). In fact, some have argued that the existence of digital divides, are not entirely 'access' questions (van Audenhove 2001), rather they are political questions because there is a "revolving door" in every nation, where executives form businesses and move over to administrative positions in government and vice versa (Sussman 1997, xiii).

That said, world-wide, policy makers, international development agencies and partners, and the academia have acknowledged the potential ICTs have to "alleviate a wide range of obstacles for economic and social development in the developing world" (Galperin 2005, p. 47). Out of this recognition, ICTs has thus emerged as a sphere of interest to the movement of stakeholders engaged in poverty alleviation and development interventions (Nadkarni, 2008). Given that 70% of the world's poor live in rural areas that depend on agriculture to support their livelihood (UNDP, 2007) the domain of education has been strongly linked to ICTs as a weapon against underdevelopment. This consideration of schools as a platform for fighting poverty through integration of ICTs is in fact a construct, which argues that there is a relationship between schools and the production of labour power suited to the capitalist mode of production (Webster, 2002). This paper discusses the complexities surrounding this assumption.

Change and ICTs Integration as an Innovation

From the point of view of implementation, change in schools, be it curriculum or policy application may be considered as an innovation, particularly if it is

targeted at addressing a problem. Rogers (2003, p. 12) defines innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption”. As Johannessen, Olsen & Lumpkin (2001, p. 21) conclude, in order to understand innovation better, we must ask questions such as what is new, how new, and new to whom? By derivation, innovation should be defined in reference to object, time, and the adopting subject. According to this definition, efforts aimed at the adoption of ICTs by schools for the purposes of strengthening mechanisms of fighting poverty, for example, as a new ideology or a new policy instrument, can be described as an innovation provided that the adopting part (schools) views it as new – in the sense of adding some value or uniqueness to the unit of adoption. In other words, reference is not made to something necessarily ‘new in the world’ but specifically new when perceived as such by a locality, a nation state, and communities or by individuals in the unit of adoption. Perception is of course a subjective measure of newness, which means that the objective age of the innovation does not count – what counts is the judgment an adopter makes.

An innovation may also be *Process-based*, which concerns reorganization in the amount, combinations, quality or types of inputs required to produce the same kind of product. Alternatively, it can also be *Product-based* that pertain to modification in the nature of the product without changes in the process of production (van Dijk and Sandee 2002, 1). On one hand, product-based innovations, which are primarily about creation of new products, can be measured through the number of accepted patents and product announcements (Feldman, 2000, p. 374), but such innovations rarely come out of schools. On the other hand, process-based innovations, the more difficult ones to measure, are usually measured in terms of labour-input, competencies and information exchanges and networks within and between development players (Amidon, 2003). Schools create foundations upon which competencies needed for development are built.

Both forms of innovation, when applied to schooling systems are important for the purposes of fighting poverty because they are indicative of the entrepreneurship capabilities in a nation. In this sense, innovation is defined as the process through which social and economic value is extracted from knowledge – through the creation, diffusion and transformation of knowledge – to produce new or significantly improved products, processes or services.

The education system stands somewhat uneasily between these frameworks, even though there is no doubt it is the foundation for both processes. From

my understanding, schools belong more to the process-based innovation because their role is essentially about producing certain competences in individuals who go on to work in institutions. Yet, the system that runs schools should and must have a capacity and a comprehensive understanding about schools and its constituents in order for innovations to be implemented with the intention of fighting poverty. Innovation, from this perspective is the outcome of a knowledge-intensive process within the network of actors and, therefore, process and product innovation should be considered as pillars that simultaneously reinforce one another. The question then to ask is: are schools capable of functioning as development hubs in the war against poverty? The answer to the question is quite simple – it depends on a number of factors and how well-thought such factors are, before an attempt is made. Certain questions must be asked and sufficiently answered. What is the Rationale for Using Schools as Hubs for Development? A rationale is the reason why. It is the thing that brings *meaningfulness* to the intended innovation. The assumption in the *ICT4Development* movement is that, broadly speaking, schools can, through ICTs, function as a development hub, although not to the extent to which other organs may.

The Need for ICTs Adoption by Schools

It is important to establish the need before any effort for integration of ICTs in the school is considered. This requires making a distinction between felt need and perceived need. What is the *need* for infusing ICT4development in schools? *Need* is described as “the degree to which there is a formal recognition within the school system of unmet needs” (Rosenblum & Louis 1979, p. 12). Accordingly, not only should a problem be perceived to exist but stakeholders (teachers and education officials, and so on) themselves must recognize and admit that there is indeed a need to conduct teaching and learning differently, that by using ICTs to do so, they may play their part effectively in fighting poverty. In this process differences are undoubtedly likely to surface due to competing priorities, but the question of how a mutual recognition of need might be achieved is not that easy. A study of adoption of a New American School Model notes that “in spite of the fact that the majority of teachers voted for the change, this was not a genuine vote, nor was it based on a process of critical inquiry into current practices at the school and what might need to change” (Datnow 2000, pp. 167-168). Change takes time, and the position of teachers and students about the solution to the unmet need even if it is known might change with time.

A much bigger problem, as Fullan (1991, p. 69) observed, is that “many innovations are attempted without a careful examination of whether or not they address what are perceived to be priority needs”. Need has two sides, *perceived need* and *felt need*. In Namibia it has been stated that *equity, quality, democracy* and *relevance* are priority areas for the education system in the country (GRN, 1999, pp. 26 – 37). These four areas combined may represent developmental needs. The background to the Ministry of Education’s consideration of these four issues as important needs was in fact a result of the inadequacy of the Apartheid education system that was replaced by the Cambridge Education System in 1991. Apartheid education architectures advocated and implemented a system that, in brief, treated people’s access to education on the basis of color and on those grounds different education systems were implemented in one country (Amukugo, 1993).

To return to the issue of ICT infusion in schools, I have seen no Namibian studies that show that ICT really makes students learn better, that they increase performance or that the quality of education is improved to a greater degree. In the same way, Namibia has not conducted systematic studies that show that poverty can be defeated by integrating ICTs in schools. Nevertheless, studies that link technologies and computers in particular, to learner performance (e.g. Wenglinsky, 1998) and school competence do exist elsewhere (e.g. Sinko and Lehtinen, 1999). Regardless of this, it is important that felt need is established. *Felt need* may be experienced at all levels or at some level of authority, and therefore trigger a search for innovation. Thus *felt need*, can be said to exist, which Fullan says is necessary to successfully implement an innovation to solve the existing problem. This felt need is not one related to the role of ICTs in school; it is rather a consequence of international emphasis on the value of ICTs in education and development for the purposes of competing internationally. The implication then is that schools should indeed be functioning as a hub for development. For this to be effective, a variety of policy instruments is critical.

ICT Policy for Education

A recent (GRN, 2005, p. 1) policy document in Namibia acknowledges this reality by stating that the purpose of the ICT policy in education “is to prepare all Namibia’s learners, students, teachers, and communities of today for the world economy of tomorrow”. From this point of view, the Government of Namibia seems to recognize the need for ICTs in the fight against poverty and underdevelopment. The problem currently, is that schools themselves do not see themselves playing this role (Matengu, 2006). In other words, fighting

poverty is not their direct battle; theirs is to fight high failures, diminish the number of drop-outs and to reduce class repetitions. Given such position, the emphasis schools place on ICTs is different from the mode pursued by popular belief in the ICT4Development movement. The problem is that should this need be perceived as nonexistent by schools, teachers and administrators may not recognize that teaching and learning need to be conducted differently in order to fight poverty. Given that there are multiple competing priorities in schools; failure to absorb the philosophy of ICT4D is understandable. Nevertheless, the question of how a mutual recognition of need might be achieved is important although not easy to tackle.

The reason for this is that integration of an innovation in schools rarely clarifies what a teacher should do differently from current practices. Fullan (2001, p. 76) notes that while the importance of perceived or felt need might be obvious, its role in implementation is not without difficulties. That is because while the need for ICTs is perceived as important it might not be significant enough when compared to other priorities of schools and teachers. One definite competitor of ICTs is the issue of lack of textbooks and the much-reported high failure rates. Thus, in the attempt to make schools allies in the fight against poverty, as Huberman and Miles (1984) remind, the people involved must be convinced that both the needs being addressed are real, significant and that they are making some progress in meeting those needs; tangible outcomes such as those related to student performance, and entrepreneurship of graduates must be seen to be taking place – soon. The absence of significance is often a result of lack of clarity and by consequence; it clouds the innovation project into uncertainty. Thus, the infusion of ICTs in schools should have a clear developmental agenda complimentary to that of education and the promotion of science and technology. This leads us to the clarity factor.

Clarity of Innovation Agenda

How clear should an agenda to make schools as hubs for fighting poverty be? Clarity refers to “greater specificity of objectives and contents” (Fullan, 2001, pp. 76-77). It is about clarity of goals and means of innovation implementation. Fullan contends that lack of clarity is a perennial problem in the process of change – the more complex the reform agenda the greater the problem of clarity. The temptation often then is to look for oversimplified reform agenda, but the outcomes with such attempts are poor results, in the sense of not

achieving implied goals (Huberman and Miles, 1984). Another result is false clarity, which is that “the proposed change has more to it than people [who are to implement it] realize” (Fullan, 2001, p. 77). For example, in many of the ICT projects that are being implemented in Namibia, when considering what type of ICTs initiative to infuse in schools, there is no consideration about teachers’ beliefs and behavioral issues which in fact might be critical to the achievement of the intended outcomes, as was shown in a recent study (Matengu, 2006). Technological and managerial innovations bring change in individuals and organizations. Change, as has been observed, not just in organizations and institutions but also in schools, is “riddled with paradox” (Evans, 2001, p. 4). It is paradoxical because though change as innovation has been studied in great depth, and in as much as change can be planned for, it is also full of unpredictable barriers. To actually try to get a school “do something new, the result is often painful and futile” (ibid.) and may lead to institutional instability through staff anxiety.

Beliefs and attitudes are essential when talking about ICTs integration because teachers who believe that direct impartation of knowledge, one of the characteristics of traditional teaching, is the most effective method of educational delivery are less likely to incorporate ICT tools than those who operate in frameworks where greater student independence is required (Zorfass, Morocco and Lory, 1991). Correspondingly, de Acosta (1993) concludes that teachers who believe that they need to be an authority figure in the classroom generally disapprove of the use of computers. This has been also confirmed in several Namibian schools (Matengu 2006, Soule 2003).

Moreover, the philosophy behind ICTs integration must be clarified from a policy and rationale point of view, as well as, how such program(s) may be financed and researched not only from the perspective of authorities but also from the real user viewpoint – teachers and students. Certainly, when it comes to educational innovations it is schools that must implement the innovation in question. Moreover, teachers do not have any uniquely privileged position in deciding what important educational innovation issues to focus on and how those must be used to fight poverty. It is the administrators who decide on teachers and students’ behalf. Yet, according to the surveys conducted in 2003 and 2004, both teachers and administrators are not sufficiently prepared to adopt and develop the use of technologies in a manner that fights poverty, contributing to economic growth and knowledge creation

Not surprising, the debate about the value of ICTs and how they can be used for development is mainly amongst planners and NGOs, not teachers. Yet teachers ultimately are the ones expected to integrate ICTs in the classroom. More recently, attention on access and emancipation has begun to shift toward the question about the 'worthwhileness' of education itself. The former Minister of Higher Education, for instance, when asked about what the major educational challenge for Namibia is, replied, "we are not able to use knowledge to turn it into a product for the good of society, that is what we need to solve" (Hon. Nahas Angula, Interview, Windhoek) (cited in Matengu, 2006). His remarks can be interpreted as meaning that the rationale for educational reform in Namibia, which has been based on increasing access and enrolments and on redressing the injustice of the past in its various forms, now needs to change. What this change entails is an important issue, although not the subject of this article. Nevertheless, Namibian teachers themselves are asking: what is meant by ICT integration? (Suole, 2003)

Generally, when teachers are asked to integrate ICT in the classroom for development, they understand the term 'integration' as meaning they should "do something, do what you can, do what you want, just use it" (Porter, 1999), which often results in a technology emphasis rather than a curricula one. Some have contended that ICTs are like pencils and users need to not be taught pencil usage. This form of argument is however oversimplified because the function of ICTs is greater than mere usage. How then should technology be used to support the fight against poverty? Should there be consensus-building between teachers and authorities on what precisely is meant by integration and what step-by-step procedures to follow? Who needs to change? Is it the education system or the planning of it? Is it the way we train our teachers? What about the infrastructure? Do we need to give more autonomy to regions, to educational districts and to schools, teachers and students? All these questions need clarification and I pose these questions to indicate that technology integration and its role in schools when fighting poverty is quite multifaceted an issue. It is a very complex matter.

Complexity of Innovation Implementation

Complexity is a commonly used term without much definition. It is normally a scientific label used to refer to a combination of large-scale systems with interacting components. In everyday life, when we use the term, we mean

that something has many sides, and that in order to understand it, one must 'disassemble' the phenomena and get into details. In this article, complexity is defined as a function that describes the degree to which an innovation implementation eludes understanding of the process through a variety of networks and components interacting.

The process of implementing ICTs innovation in schools has many components and networks, which means that in order to be successful, it requires both a hindsight and foresight on the application of critical factors of educational skills, namely learning skills, creative skills, critical skills, perceptions that enable teachers and their students to continuously facilitate and assess their own technological competencies (Zain et al. 2004, p. 203) and apply them against local social and economic realities. However, schools themselves are as complex as the communities in which they are found, and this is an important element that innovation implementers need to pay attention to. Fullan (1991, p. 37) described complexity as the "difficulty, skill required, and extent of alteration in beliefs and teaching strategies, and use of materials" necessary for successful implementation of an adopted innovation. The complexity of educational technology can be reflected in the rationale of change itself: whether transformation is honed to reflect needs in an education system or in national goals in general, and whether those changes indeed have real positive impacts on the economy of the country. If they do not show positive impacts in processes and products, then the innovation has failed – and where it might have been successful, it has failed to diffuse to other localities and institutions.

In the United States of America, researchers (Ohio SchoolNet Commission Educational Technology Evaluation, 2000) note that scientific and policy investigations regarding technology integration in education systems revolve around two aspects of implementation: that technology impacts teachers and that teachers' pedagogical beliefs drive the degree to which technology in the classroom is integrated. In Namibia, researchers have focused on the system-wide issues pertaining to how training institutions prepare teachers on integration of ICTs in schools and on standards and norms of implementation (lipinge 2010). Furthermore, theorists also suggest that ICTs are much needed in education because of the role schools must play in preparing students for the work life (Maddin, 2002, p. 16). Another consideration is the perceived role technology can play in providing quality instruction that is better suited to the needs of individual learners (ibid). In today's work-world, Jones et al (1996, p. 5) remarks, "the new workplace requirements for learning are incompatible with

instruction that assumes the teacher is the information giver and the student a passive recipient”.

For schools to function as a development hub effectively fighting poverty, it must enable students to achieve greater skills, but schools themselves need capacity to do that. Thus, certain things need to be clarified. Questions such as why do we train or educate our students the way we do? What is the purpose of education in this country? Is it to be internationally competitive or is to have a society of educated people? By asking these questions and providing answers to them, complexity of innovation implementation can be ‘unpacked’. Nevertheless, in view of the established impact (although also controversial) of ICTs in education and on society, the Namibian Government intends to “promote the work of national science and technology institutions and facilitate their advancement to Centres of Excellence in respective areas of service, production, teaching, testing or research” (Ministry of Higher Education, Vocational, Training, Science and Technology, 1999, p. 33). Since this policy was announced, the government has not specified exactly how this will be done. Still, it is worth remembering that learning and skill attainment do not only occur in formal educational institutions. One can be skilled on something without having to go to school. For entrepreneurial individuals for instance, locating ICTs in school and allowing them access might in fact allow them to fight poverty.

Thus, it is vital that the government does not implicitly or explicitly restrict ICT learning activities to teacher-assisted and classroom-oriented activities. Instead, they should take into account the diversity of interests the communities around the schools have and on how those interests can be turned into implementable development projects. This includes the fact that students are individuals; some are easy and others have the potential to be difficult. Huberman (1992, p. 18) argues that this ‘individuals’ element in educational institutions that are faced with adopting an innovation poses a challenge because students and teachers are “garden variety ones — with weaknesses and strengths, with a few virtuoso and many more humdrum staff, along with some fairly problematic people”. He alludes to the fact that the nature and process of adopting and implementing change when perceived as an innovation, is a complicated business. Hinting at the role of external forces such as pressure groups, Huberman claims that decisions to adopt and put into practice an innovation is something that has many faces.

Adoptions and implementations processes, he notes, have a political nature with potential conflicts. Education, though seemingly a politically mediated and controlled activity, has this aspect of social processes and economic reproductions that tend to aid itself into force. As a philosophy and as an activity, education and its outputs are seen in the society itself. This is important when we start to talk about the function of schools in development. It means that innovation implementation may have to be directed together with wider efforts in nation-building – a greater challenge. In this effort, issues of quality and practicality become more demanding.

Quality and Practicality of Innovation

The concept of quality refers to how good or bad something is. It also refers to standards and measures that are both means from and means to an end. In order to know and determine quality, one must not only be able to measure it according to set acceptable standards but also control and monitor those standards. Since the characteristics of things labeled as 'of quality' change over time, quality is also time bound. For example, in order for someone to say that a certain school has quality students that have an impact on the economy of the locality where the school is, it means that those students are competent or better still, that the teachers there regularly receive up-to-date professional development. One clear issue regarding the function of Namibian schools in poverty alleviation and development is that there has never been a clear-cut existing policy that puts quality education and ICT adoption parallel to a poverty reduction strategy.

The assumption has been that by adopting ICTs quality is eminent; that goals of educating will be achieved. However, "to say that the importance of the quality of the change is self-evident is to underestimate how initiation decisions are made" (Fullan, 2001, p. 79). Again, as Fullan remarks, "when adoption is more important than implementation, decisions are frequently made without the follow-up or preparation time necessary to generate adequate materials" (ibid). The inbred assumption in ICT advocacy for schools is that by adopting technology schools and their students will be better; that they will be more informed and therefore more productive institutions of society. Put differently, to say that an ICTs integration project or programme is of quality, it is to say that the project is more serious, and that it gives more detailed accounts about what, why, how, who and when the objectives of that project will be achieved.

Much of this advocacy is advanced by NGOs and also through politically driven projects and does not always contain aspects of quality.

So we must ask: what evidence is there to suggest that ICT supports learning and teaching? Cuban and Kirkpatrick (1998) report that in their 30 years of research in instructional technology, they have found that technology integration in schools has a) relatively moderate gains; b) minimal impact and c) no impact of student achievement in learning. To the contrary (Kulik, 1994) concluded that students learn more in less time in classes that integrated ICTs in teaching. Research has also shown that the learning process can be improved not only in terms of teaching itself but also in the subject course being taught (Hassell, 2000, pp. 80-92).

What should be kept in mind, however, is that ICTs are tools that depend on what the user knows about what ICTs can do. If the user is unfamiliar with what a technology is and its potential, then the device to that user is not helpful. Yet, knowledge about a technology alone is not the main drive to adopt it. Even practicality of something does not mean that it is easy. Ongoing support, inward and outward assessments are needed. Indeed, “many judgments can and should be made during the implementation as long as they are based on evidence linking teacher practices with student performance” (Fullan, 2000, pp. 23-24) and development. So far there is no or little evidence that show clearly the influence that infusing ICTs in schools may have in their role as allies in the fight against poverty.

Conclusions

In summary, what we find here is that there can be many factors attributable to innovation failures and those that promote ICT adoption at schools. According to educational practitioners reviewed so far, it is evident that for any technology integration at a school level to succeed the following conditions must be met:

A) Likelihood of technology adoption:

- Technology should be seen to be relevant to academic and developmental activities in terms of the local context;
- Teachers must have interest and access in the technology also during their own free time;
- They should consider it as enhancing the subject-matter learn-

ing for themselves and their students and ultimately, as having economic sense on their community;

- Teachers' expectation that their skills will be more valued by administrators, and a boost to the teaching career should be present (teachers will work only to the extent that they think they are valued);
- Teachers' interest in trying new things with the technology should exist.
- And that there should be practical economic community initiatives that are seen to be benefiting from ICT usage.

B) Institutionalisation:

- Coordination and communication between decision-makers about technology in an educational district (at all levels) and how such will make significant contribution to local development should exist;
- A powerful business advocate on regional and school levels will ensure a balance between financial support *to schools* and administrative pressure *on schools* is maintained;
- Student enthusiasm, to the degree that teachers judge them as self-motivated, is crucial;
- Teachers should see that their learners are really learning and are having an impact on their community;
- Enthusiasm among teachers themselves should also be present;
- And the community and stakeholders that are part of the school system must experience *felt need* over which poverty battles are seen to be won – at least partially.

C) Capacity:

- Schools should have sufficient and reliable amount of technology infrastructure and support to sustain motivation of role players;
- Teachers need training, particularly of a pedagogical nature, linking the role of schools to development;
- Skilled-technical support staff can minimize frustrations and can serve as a source of inspiration for potential entrepreneurs.

Based on the results of this review of literature, when these conditions are met, the introduction and implementation of technology at school is likely to succeed. Blending ICT in teaching geography, for example, means a range of ICT applications are needed in order to enable a student to not only learn activities such as logging weather forecasts on databases but also to learn the use of remote sensing and geographical information system (GIS) software and to be able to apply geographic enquiry into the local challenges to the extent that that individual's capacity to process this information into knowledge is achieved. However, as other researchers point out (e.g. Ferrier, 1998), it is not the hardware and software that are essential ingredients in the learning processes and for the fight against poverty, but rather it is the purposes for which the technologies are used for as well as the preparedness of teachers which by consequence are also influenced by the quality of the education system. This is what matters most.

A pool of technically skilled human resource does not exist in Namibia, although it is slowly increasing. Moreover, even if a highly technical skilled human resource base existed, as Katz, Rice and Aspden (2001, p. 408) have shown, it is difficult to measure the improvements in the quality of life among the citizenry that can be or have been brought about by ICTs. This brings up the argument hinted at earlier, that ICTs are merely tools. If they are tools, then people should not only be equipped with them but also be able to master them to take full advantage of development opportunities. ICTs can help raise real economic returns to investments but "they are being touted in the [developing world] as though they can leapfrog over the more familiar development problems" (Wade, 2002, p. 443) of most developing countries. We have said earlier that without education ICTs are meaningless.

As Wade put it, touting ICTs in the African context is like "saying cheap books can cure illiteracy... but giving illiterate people cheap [ICTs] books do not solve [computer] illiteracy" (*ibid*). Creation of adequate capacity of ICTs in Namibia is clearly important in agriculture, mining, banking, fisheries and municipal services (Matengu, 2003, p. 42-78). The real challenge in the fight against poverty is the issue of 'digital divides' in communities' access to diverse forms of information. For all the current and future debates on the benefits, costs and problems in adoption of ICT for bridging the 'digital divide', this much is clear: information communication technologies (mobile phone and the Internet)

are important tools for poverty reduction, but the battle against poverty and underdevelopment cannot be won when divides exist in basic needs before they become digital. For instance, it is generally accepted that the reading culture in Namibia is weak and that existing digital content is not in local languages.

From an observation standpoint, the gap between the haves and have-not is not likely to be closed soon in Namibia (Wresch, 1996). The digital divide, is likely to be experienced differently among the 'haves' and 'have nots' of rural and urban regional systems. Furthermore, it also seems that the issue of using schools as hubs for development in the fight against poverty has not received due attention from Namibian policy makers and researchers. Arguably, this has not been the case because there is no evidence locally that shows that poverty indeed can be fought and won this way. In fact, many times it is NGOs who are advocating for the integration of ICT in schools rather the government or indeed the schools themselves. It is possible that ICTs are considered a luxury and they may be indeed luxuries when viewed against more pressing needs in basic education, health and social services. Nevertheless, given the intensity of information flow in the world today, applying modern technologies in education systems and connecting schools more firmly to development must be a primary goal of the government. So far, although there is no evidence to indicate that infusion of ICTs in schools is not playing a significant role in fighting poverty; opportunities for service-based industries remain noteworthy. I have raised questions in this paper to which I did not give answers. Other researchers can take up the flame. Time will tell whether schools indeed can function adequately as allies in the fight against poverty and underdevelopment.

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