

MEDIA LITERACY AND HEALTH EDUCATION: EMPOWERING TEACHERS IN THE REPUBLIC OF MOZAMBIQUE

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Abstract

Currently, the Ministry of Health of the Republic of Mozambique (MISAU) is developing a Project to strengthen the technical and pedagogical skills of health teachers at the training institute (FORSA-MZ), supported by the Japan International Cooperation Agency (JICA). The aim of this project is to prepare teachers for a decentralization process. In this context, Media Literacy is recognized as an essential area to promote the critical view of citizens to be able to contribute to the assessment of a democratic society. In this society, citizens should be able to access the mass media critically and to express themselves via this media, as producers. In this context, an educational program was designed to support the teachers' improvement of skills in using different media in the classrooms in the Republic of Mozambique. This program was developed in 15 different health training institutes by JICA and MISAU. Data were collected for the analysis of pre and post questionnaires, interviews and the materials produced during the courses (comics, photonovels, videos, for example). The results showed that the decentralization of pedagogical tool production and teachers' empowerment were an important achievement of this educational program, and the media literacy is supporting them to develop their autonomy.

Key words: media literacy, teachers' empowerment, autonomy, Africa.

Introduction

During the past two decades many changes in educational practices, both globally and locally, have been observed. Even though this may be the case, many of the teacher training centres in the Republic of Mozambique are still developing educational programs based on older technologies like books and writing activities. They are not using contemporary recognized technology approaches, which are more and more present in our daily lives. These new technologies offer a huge potential to be explored since the end of the 20th and the beginning of the 21st century (UNESCO, 2010), and there is no doubt about the improvement in education when it is adequately supported by the new technologies.

In this contemporary context, the media literacy is recognized as an essential area to promote the critical view of citizens. It is able to contribute to developing a democratic society in which citizens are able to access the mass media critically, but also to express themselves by these media as producers. Currently, Media literacy is an important part of education for this society, and it cannot be denied (UNESCO, 2010).

“Current advance in information technologies and propagation of new digital media and learning environments stipulate the increasing importance of media literacy, which is today recognized almost universally as one of the key competences in the educational system (UNESCO, 2010, p. 5).”

On the other hand, the literature on education has shown that an approach that considers the context of the students’ lives contributes significantly to their understanding, mainly because the students’ engagement is favoured, and this makes their learning more meaningful.

“Media literacy is the capacity to access, analyse and evaluate the power of the images, sounds and messages with which we are faced everyday and which play an important role in contemporary culture. It includes the individual capacity to communicate using the media competently (UNESCO, 2010, p. 5).”

It is appropriate to envision the 21st century as a technological civilisation, subjected to an extremely fast process of evolution, which is supported by the digitalisation of information and a media culture organised around the media and its convergence. A major concern in this context would be to take advantage of this direction and to use ICTs to improve access and quality of education for different contexts.

Moreno (2005) proposes a model of learning from multimodal design, which was named CATLM (Cognitive-Affective Theory of Learning with Media). According to this model, the receptor is a stimulated sensory agent with verbal and nonverbal instructions. Part of this information is selected for the working memory where multiple representations are organized, integrated and recycled, i.e. where mental models are formulated.

The long-term memory is where the new knowledge is introduced and it causes the effects of motivation and metacognition in the viewer. It is classified into two parts, the semantic (structured record of facts) and episodic (emotional context of the event). In this way when diversified instruction modes are used to stimulate sensory memory in more than one pathway (auditory and visual), the researcher can better understand the information provided by the student from their pictorial and verbal productions.

Problem of Research

The Republic of Mozambique, after a civil war that lasted 16 years and resulted in approximately 900,000 deaths and injuries, and independence in 1975, seeks reconstruction. There is an extremely urgent need for improving the capacity of the human resources network involved in training, so as to adequately contribute to the country’s identified shortages and training needs in general. Beyond the cost, the major constraint for the increase of human resources is the capacity to train new workers in different areas. For this main reason, one of the major focus areas of the Human Resources Development Plan 2008-2015 (PNDRH) is to improve the capacity of the training institutions under the Ministry of Health. Currently, the training institution of health has 15 centres that are located in 11 provinces around the country. The situational analysis identified a shortage of qualified staff to teach the courses of the training institutions and centers (Ministry of Health, National Directorate of Human Resources / National Plan for Health Human Resources Development (NPHHRD) 2008-2015, Maputo-Mozambique).

Mozambique is among the countries with the largest deficits of human resources for health services (HRH). The lack of health workers in Mozambique is a major barrier to fully attaining World Health Organization (WHO) goals. In 2011, the country had 5 doctors and 38 nurses per 100,000 people (NPHHRD). This means that the Republic of Mozambique not only lacks an adequate number of health workers, but also that the distribution and competencies of these health workers is uneven.

Historically, pedagogical materials employed in the classes by teachers for the health training institutions were centralized in the Ministry of Health, as part of its reconstruction. Despite having Portuguese as the official language and viewing it as the country's unification

process, the Portuguese language is used by only 40 % of Mozambicans, and just 6.5% have it as their mother tongue, with more than 40 languages spoken in the country.

The verbal transfer of power to the teachers does not really promote their empowerment. To accomplish this, they are expected to fully exercise their responsibility, and develop autonomy, i.e., act as entrepreneurs and as if they were “owners” of their practices, taking responsibility and independence of thinking. In this perspective, centralization does not make sense, it is necessary to implement decentralization, hoping that after this process of decentralization the health training institutes would be able to organize themselves.

An educational program of about 30 hours related to Media literacy in Health Education, and to empower teachers to take part in the decentralization process, was designed to support this change. This program aimed to improve the teacher’s skills in using different media in the classroom at health training institutes in the Republic of Mozambique.

The project focused on the use of ICT both to support the enhancement of pedagogical teachers’ skills to improve their classes in the Health training centres, and also to empower them to produce their own pedagogical tools according to their real needs and demands. Empowerment involves power and responsibility, as two sides of the same coin. These centres used to receive some computers from different non-governmental organizations to improve the quality of education. But, the main problem is that they just received these materials and there was no training on how to use it. Sometimes there are some technical training courses to manipulate the material, but nothing related to the pedagogical use of the computer in the classes. In this sense, the Ministry of Health of the Republic of Mozambique (MISAU), supported by Japan International Cooperation Agency (JICA) and Faculty of Education – University of São Paulo (FE-USP) developed a project related to methodology of teaching to use ICT tools in health education as a part of the project to the strengthening of technical and pedagogical skills of health training institute teachers (FORSA-MZ).

Research Focus

The research focus is to study the implementation of this project to support teachers from these 15 centres to develop their pedagogical materials according to their needs, based on ICT in a media literacy approach. Considering the Mozambican context, for the sustainability of the project, it was necessary to implement low cost projects. So these pedagogical materials were produced with basic equipment like personal computers and a digital photographic camera.

To understand the role of media literacy in health education, in the Mozambican context, some instruments were used to collect data on the process of implementation of this educational program.

Methodology of Research

General Background of Research

According to a literature review by Bingimlas (2009), the use of ICT in an educational context brings advantages of teaching and learning processes, but also some barriers to the successful integration of ICTs into classes. It was highlighted that “*While new technologies can help teachers enhance their pedagogical practice, they can also assist students in their learning.*” (p. 236). Cited by Bingimlas (2009), Grabe and Grabe (2007) pointed out that ICT can support teachers presenting information to students and also students to do learning tasks, but the major contribution is related to the promotion of students’ skills, motivation and knowledge.

Becta (2004) systematized the barriers of using ICT in educational context into some categories: teacher-level barriers (individual), such as lack of confidence, lack of time and resistance to change and also in school-level barriers (institutional), such as lack of effective training

in solving technical problems and lack of access to resources. In accordance with the aim of this study, to empower teachers by media literacy, the training approach will be discussed. The most common barrier to integrate ICT in education, according to the literature is the lack of effective training.

Considering that until five years ago, some of these health training institutes did not employ computers in their classes, this situation is not unexpected. Then, it is important to consider a new scenario in health education in the Republic of Mozambique, for opportunities to improve the training of these students with more emancipatory practices. There are also some problems that were experienced during these changes.

Sample of Research

This program was developed in 15 different health training institutes around the country. It was not possible to involve all the 1000 teachers in the research because the majority of them are not permanently employed. So, 273 effective teachers, almost 50% were prioritized and the number of enrolled participants was 150. The educational program was carried out at the same time that the courses were in progress because it was expected to involve students in some activities.

Data Collection Methods, Instruments and Procedures

Pre and post questionnaires, interviews and an analysis of comics and photonovels developed and produced by Mozambican teachers during the training courses developed were used to collect data.

Initially, the steps to produce the comics were presented and discussed with the trainees, as well as how to organize ideas to express information to be used in accordance with their needs and demands. Later participants were requested to develop the comics in paper and pencil to express their ideas, thoughts, desires, needs, etc. After that they were taught how to use the computer to produce the comic. The next activity was to develop photonovels also according to their needs and demands. They were requested to prepare the storyboard on paper and pencil and later the scenarios to take pictures necessary to tell the narrative according to their prepared storyboard. After that, the computer was employed to produce the photonovels. Although they had access to personal computers and laptops most of them had difficulties with manipulating the equipment. They were initially oriented in the software utilization, scenarios' choice, characters, balloon's insertion and external images captions to help in their stories (narrative) composition. They were also well oriented in the comic chart's language, narrative texts made outside of the balloons, characters speech, kind of balloons, charts design.

They were requested to add callouts using the world editor by windows system, to prepare the comics. The majority of them had never used this function before. Basically, they only knew how to open a file, type and save it, nothing more than this. So, it was necessary to spend more time on teaching and helping them to create a table using word and to add picture and callouts to prepare the photonovels.

In some Mozambican provinces teachers had difficulties to save files on the external memory drive. So it was necessary to discuss basic instructions on how to use the word editor and then to discuss the pedagogical use of this equipment.

Data Analysis

The data were analyzed in accordance to content analysis (Bardin, 2000). It was chosen this qualitative approach highlighted by Lüdke and André (1986) that allow using the natural setting as primary source data, i.e. the teacher enrolled in a training program.

Bogdan and Biklen (1997) pointed out that the use of interviews is the best approach-

ing tool to study people that share a particular feature. What they share between them will be revealed when they talk about their perspectives rather than when they are watched during their activities.

Results of the Research

Based on some reports from Mozambican teachers that attended the educational program, they pointed out the relevance of taking part in this training. Because of the situation and conditions of missing equipment in general, they stated that just to have access to a computer could improve the quality of education. But, it was noticed that even though computers were allocated in these centres, the quality had not changed. It is necessary to improve the technical skills of teachers to support them in using the computer in a pedagogical approach in their classes. So it can be noticed that they are recognizing the importance of the training to use the computer in their practices. This is stated in some teachers' reports:

"I wish the training program for teachers on teaching with alternative means were always encompassing more participants at all levels of training"

"Hopefully with training, to obtain a formidable power that would allow discharge the duties of teaching using the various methods of teaching. Hopefully a strong process and produce a satisfactory result"

"I liked it and I like this type of training because it is creating interest in me. This type of formation should continue to motivate teachers. I need more time to participate in these formations to increase my level of motivation and happy to use these resources"

"I never had any kind of training since I was graduated in nurse, I need pedagogical training"

"So it is not so complicated, with a basic computer we can do a lot of things. But we need some support from the ministry, because if we have problems or difficulties we can ask some help"

Some examples of the comics and photonovels are presented to discuss these results.



Figure 1: Comics produced in Beira city, Sofala' Province in Mozambique (Prevention of tuberculosis) – part I.

In analysing some pedagogical materials it is possible to observe the local needs. In this Figure 1, a narrative about the problems related to the prevention of Tuberculosis is presented. This disease is not a problem in many countries and also in other Mozambican's provinces. According to WHO (2009) Tuberculosis kills over 1.7 million people worldwide every year and nearly 40% of patients with active previous tuberculosis remain undiagnosed because of the poor sensitivity of the current, century old diagnostic method: sputum microscopy. Tuberculosis causes 3% of the deaths in the country. In Beira city it is still a serious health problem. So, this kind of material can be produced by low cost and used during classes to communicate this publicly to the society about the tuberculosis' prevention campaigns.

The tuberculosis is a serious problem in this city, as it is possible to notice that another teacher elaborated a different narrative related to treatment of this disease. Figure 2 a presents a narrative showing a student from school the treatment of tuberculosis. So, it is noticed that the problem is still the same, prevention and treatment of tuberculosis.



Figure 2: Comics produced in Beira city - Sofala' Province in Mozambique (Tuberculosis' treatment).

It is clear that, for these teachers from this centre in Beira city, one of the major health problems is the tuberculosis as presented in Figures 1 and 2. These results show how important is that the process of production of pedagogical material occurs locally. It is not possible to keep the production process centralized into the Ministry of Health, as each province has their local problem as cholera, under nutrition, open defecation, sexually transmitted diseases, HIV.

The results showed indicate that after the training these teachers are able to produce their own pedagogical materials in each health training centre according to the reality of each province. As in Figures 1 and 2, the main issues are the same, but in one case it was focused on prevention and on the other, it was on treatment.

To this implementation of ICT in health education is necessary that teachers fell confident about the domain in using this ICT tools. Therefore, the training developed with these Mozambican's teachers had displayed very positive results as it was pointed out by them.

"I need to cultivate in me a culture and habit of using these materials, many people do not use it because they do not know how to do it, so they do not have the habit and it is not part of their culture"

“You must have the practice on the subject thought to be useful to teach, practicing more often; it will be easier to develop the themes to teach”



Figure 3: Photonovel produced in Beira city - Sofala' Province in Mozambique (Amputee costumer).

In Figure 3, it is possible to see some instructions recommended to apply to victims of amputee, in a region of the country where there are still many people who are victims of land mines from the civil war period. So, in this centre it is an important issue to prepare health professionals that will be faced with this situation in hospitals. For these students, from the younger generation that were born after the war, it is important to know how to deal with this situation and offer a humane treatment for these patients that were war victims, and respecting them.

Another aspect noticed is that the guides and materials received by donation are based on written text even for example, the procedure to manipulate medical instruments. As in Figure 4, a pedagogical material related to practical instrument manipulation is presented. The use of images seems to have a strong impact for students to realize the correct way to prepare and manipulate these medical instruments. The previous materials based on the text were just images of the equipment and descriptions. But here it is more than that, it is possible to recognize students doing it and ethical characteristics are presented in these productions. The identification processes with the materials produced are immediate and motivate them. It is possible to see on the bottom of the pictures the name of authors and students involved in this activity. They were requested to study the content to represent it.



Figure 4: Photonovel produced in Beira city - Sofala' Province in Mozambique (medical instruments manipulation).

Discussion

In accordance with the outcomes, a wide and creative variety of pedagogical materials were produced by Mozambican teachers. The comics produced report different realities according to their needs, while in some provinces the main issues were about tuberculosis and for others it was about some epidemic as diarrhoea and cholera. It was pointed out that they recognized their local cultural characteristics of these materials based on pictures and videos, but they had never produced any kind of material based on media. Their habits and culture had never been represented in the materials that in general they received by donation, from foreign countries.

According to their reports, as presented here, there are some examples of how a professional development program can begin to reshape a teachers' identity forever as it was highlighted by Mokhele (2013) in a South African research about teachers' empowerment.

An important aspect to keep the sustainability of this practice based on the media is the costs of production. For Mozambique to produce pedagogical materials with lower costs and more appropriate to their needs and demands is an essential achievement. They can be more independent from foreign aid, and take the responsibility to make their choices.

An important aspect to consider is that if they did not know how to use the computer, they would still be dependent and they would not be able to explore the potential of this tool to support the improvement of the education' quality. So, if they are not able to use the computer it would not be possible for them to prepare students to use it. As Bolam (2000) argues that professional development of teachers is an essential part of improving school performance, to achieve a better education.

The practice of empowerment is fundamental to free up teachers from the vices of centralization of decisions, which makes it slow and bureaucratic. In this way they can become more autonomous, they are able to develop materials according to their needs supported by simple equipment such as a personal computer and digital camera. In this perspective, they are producers of content, not just consumers, they are able to access, analyse and choose what they need.

It can be noticed in these pedagogical materials produced that some teachers find it dif-

difficult to express their ideas. But also some of them had stated what they called “basic difficult” as typing accents for words, for example. For some people it could be a simple task, but when you consider their context, the accelerated changes in the country, it is not easy or simple to be requested to develop pedagogical materials using a computer. In this sense, this task is crucial and can be really hard for some of them. So it shows how important and relevant it is to associate pedagogical and technical training when computers are available for teachers.

Wertsch (1998) highlighted cultural tools are able and useful to mediate the learning processes by appropriation of social and cultural elements where they are used as a comprehension and meaning mechanism of significance.

The autonomy of Mozambican teachers to develop their own pedagogical materials according to their local needs and demands were shown as a very positive contribution from this training course. Another positive aspect was the engagement of these teachers in preparing their classes; they felt as authors or producers. Before this training they used to present the classes prepared by the Ministry of Health and now after the training they are developing according to their local needs. The decentralization of pedagogical tools production was really an important achievement from this educational program, as the media literacy is supporting them to develop their autonomy to face this situation. These results indicate the improvement of their practices as in a previous research developed by Borko (2004) that provided evidence related to intensive professional development programs can support teachers to improve their practices and also increase their knowledge. As it can be noticed this experience promoted teachers’ autonomy on elaborating pedagogical materials.

Another positive outcome related to photonovels produced by teachers, besides the benefit of ethnical identity, the portability is fundamental. As informational pamphlets it can be used by a large audience for spreading messages. Also to promote health education for local communities using local languages that makes photonovels an effective vehicle for health promotion and health education. Schlichting (2007) states that photonovels as used to be designed specifically for general audience with low health literacy are a very helpful instrument to communicate with them. Remembering that in the Republic of Mozambique there are more than 40 languages, it seems the development and production of this kind of material locally according to the real demands and based on different languages could have a great impact on promoting health for them.

Conclusions

In accordance with these results it can be noticed that media literacy could be used to support Mozambican teachers. It seems that ICTs in health education are able to communicate content issues to the students or community in a motivational way.

And it is also clear that teachers should be supported to produce their own pedagogical materials according to their real needs and demands. Promoting their autonomy to prepare these materials seems to be really important. Another important issue is that health teachers should be prepared to manage with the production of narratives, as it could be seen that some of them had some difficulties.

The Mozambican teachers’ imagination was stimulated by the ICT as a cultural tool to mediate the process of fiction creation. Besides the teaching health content, it is also important to prepare students to communicate, this is an essential aim. They must be able to communicate orally and in a written form also. It is relevant in the humanization process on health education. Both skills require practice, and thus, the health science curricula should provide opportunities for settings media literacy in which speaking and writing skills can be enhanced by ICTs.

It is believed to soften the naïve vision that these tools can only make classes more pleasant, and so it is clear that the training had a positive and relevant impact and it contributed in making them more reflexive when using ICT in health education.

As it can be noticed, the empowerment of teachers is an important and crucial aim that it is necessary to keep in mind for developing countries.

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