

A Critical Discourse Analysis of e-Learning Policies in Education and Training in Zambia

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June 2012

Abstract

This paper focuses on the analysis of e-learning policies as implemented in open and distance learning in Zambia by using tools of policy analysis. The paper also analyses text produced by respondents in a survey on the use of mobile technologies in education and training using **critical discourse analysis (CDA)**. It is not easy to understand the views of policy-makers and practitioners by merely reading e-learning policies even if they have contributed to the development of those policies. Analysis of the text may lead to better policy implementation by technical and vocational education and training (TVET) practitioners as they will be better able to interpret national e-learning policies and develop their own institutional policies. The study argues that using mobile applications to mediate interaction of human agents and gather traits of interaction (ie text/artefacts) reproduces the social practices and views of TVET practitioners. A study of four teachers and policy-makers in TVET from Choma, Lusaka and Ndola districts in Zambia who use the mobile application Winksite and social practices found in the artefacts is analysed using CDA. The analysis used the three dimensions of CDA - description (text analysis), interpretation (processing analysis), and explanation (social analysis) - to gain a better understanding of TVET practitioners' social practices. The study concludes that CDA is a useful analytical tool for analysing human social interactions in an online environment created by a mobile application.

Keywords: critical discourse analysis; e-learning; policy; policy analysis.

Introduction

The Ministry of Science, Technology and Vocational Training (MSTVT) is currently developing an open and distance learning (ODL) policy guideline with assistance from the Commonwealth of Learning and the United Nations Education and Scientific and Cultural Organisation (UNESCO) Cluster Office in Harare. The purpose of the policy guideline is to guide the provision of ODL in technical and vocational education and training (TVET). The overall goal of the policy guideline is to enhance provision of ODL

in the TEVET sector as a supplementary or alternative path for citizens to access training and acquire skills, and overall personal development (Ministry of Science, Technology and Vocational Training, 2011:15).

The policy proposes the development of an ICT infrastructure by aligning ODL policy guidelines and the strategic framework with the draft National e-Learning Strategic Plan that is being developed by the Ministry of Education and promoting the development of an ICT infrastructure in TEVET institutions. Some of the objectives outlined in the National e-Learning Strategic Plan are to make an ICT infrastructure available, fully integrated and functional throughout Zambia. Another objective is that e-learning should be applied in all learning and socio-economic activities in Zambia with the government explicitly committed to establishing e-learning throughout Zambia (Ministry of Education, 2010:9).

This paper focuses on an analysis of e-learning policies in Zambia by using tools of policy analysis. The paper also analyses text produced by respondents in a survey on the use of mobile technologies in education and training. The paper starts with a background that highlights the global context of ICTs before focussing on the local context. The paper then discusses the interaction between the socio-economic and organisational factors and the pedagogical and technology factors of ICTs in education in Zambia. A mobile application using the Winksite mobile website builder was created to mediate interaction of human agents and gather trails of interaction such as text and artefacts. The text produced in the interaction as a result of the research instrument is then analysed using the three dimensions of critical discourse analysis (CDA). These three dimensions include the text, discursive and socio-cultural levels. The paper seeks to establish the views on ICTs for development especially in the education and training sector.

Background

Global context of ICTs

The use of ICTs in education and training is driven by the changing nature of work, the realities of the information age, new global partnerships and an awareness of the need for equal distribution of educational opportunities (Department of Education, 2003:8). At global level a number of initiatives aimed at increasing the development and use of ICTs have been developed. The major drivers include the United Nations, the World Trade Organization, the African Union and its specialized agencies such as the African Telecommunications Union, and the Pan African Postal Union, regional economic groupings such as the New Partnership for Africa's Development (NEPAD), Common Market for Eastern and Southern Africa and the Southern Africa Development Community. Zambia has participated in a number of global and regional events that are focusing on ICTs as a tool for sustainable growth and development. Among others, Zambia participated in the Declaration of Principles and Plan of Action from the World Summit on the Information Society and the NEPAD E-Africa Commission (Ministry of Communication and Transport, 2006).

NEPAD identifies ICTs as central in the struggle to reduce poverty in Africa. ICTs provide hope for overcoming barriers of social and geographical isolation, increase access to information and education, and enable the poor to participate in the making of decisions that have an impact on their lives. Within education and training specifically, NEPAD recognises the pivotal role of ICTs in the establishment of regional distance learning and health education programmes to improve the situation in the health and education sectors. In order to realise the benefits of ICTs, Africa must develop and produce a pool of ICT-proficient youth and students from which the country can draw trainee ICT engineers, programmers and software developers. In pursuit of this objective, a network of training and research institutions that build high-level personal knowledge needs to be established and existing projects need to be accelerated to connect institutions and youth centres (Department of Education, 2003).

African context of ICTs

In Africa, a number of African countries have developed ICT policies. Some of these are Cameroon, Kenya, Namibia, South Africa, Uganda and Zimbabwe. In Cameroon the ICT policy seeks to:

- give universal, equitable and financially affordable access to ICT infrastructure and services;
- enable each citizen to build their capacities to gain access to information, ideas and knowledge and contribute thereto; and
- make the most benefit of ICT opportunities to combat poverty and promote development (National Agency for Information and Communication Technologies, 2007:85).

In South Africa the goal of the e-education white paper is that “every South African manager, teacher and learner in the general and further education and training bands will be ICT capable (that is use ICTs confidently and creatively to help develop the skills and knowledge they need as lifelong learners to achieve personal goals and to be full participants in the global community) by 2013 (Department of Education, 2003:17). The vision of the Zimbabwean ICT policy is to transform Zimbabwe into a knowledge-based society by the year 2020. The mission of the policy is to accelerate the development and application of ICTs in support of sustainable socio-economic growth and development in Zimbabwe. Some of the objectives of the national ICTs policy framework are to:

- promote and support the systematic, relevant and sustainable development of ICTs;
 - embark on extensive educational and training programmes to provide an adequate supply of qualified ICTs personnel and knowledge workers in all sectors;
- establish structures for effective implementation of ICTs strategies; and
- encourage the development and use of, and ensure equitable access to benefits offered by ICTs across gender, youths, the disabled and the elderly (Ministry of Science and Technology Development, 2005:13,15).

Zambian context of ICTs

The ICT sector in Zambia is governed by a national information and communication technology (ICT) policy that was launched in 2006. The policy recognises the opportunity to make a difference by adopting and using ICT as a tool available to reduce the development divide thereby increasing the chances of improving the quality of life of Zambian citizens. ICT is an enabler by means of which an information-centered society can be created where everyone can create, access, utilize and share information and knowledge leading to greater productivity, greater competitiveness and sustainable economic growth - a pre-condition for the reduction in poverty. The ICT policy highlights the potential of ICTs to improve quality of education and training through e-learning and online learning. The ICT policy identifies some challenges that are faced in the educational system:

Zambia is currently facing a shortfall in critical ICT skills required for developing its information and knowledge economy at managerial, professional and technical levels in order to facilitate the development, deployment and application of ICTs in both the private and the public sector. It is acknowledged that Zambia faces a number of challenges in the educational system.

Some of these include:

- (a) general financial and technological resource constraints that the government faces in its efforts to develop and improve the educational system including efforts directed at integrating ICTs in education;
- (b) insufficient awareness of the benefits of integrating ICTs in the administration of the delivery chain in the education sector;
- (c) lack of a coordinated approach in the adoption and implementation of initiatives targeted at the deployment of ICTs within the educational system;
- (d) high opportunity cost of deploying ICTs in the educational system - it is difficult to justify spending scarce and limited resources on ICTs when many institutions are still lacking basic amenities and educational supplies; and
- (e) a shortage of teachers with ICT skills to meet the requirements of schools, thus limiting ICT penetration within the education system (Ministry of Communications and Transport, 2006).

Pedagogical artefacts

At Mpelembe Secondary School, a private school in Kitwe in the Copperbelt Province, students have been using ICTs to interact with students from other countries on issues faced by teenagers and how they handle them (Koopman, 2008). This is part of the Global Teenage Project in which Mpelembe and 14 other schools in Lusaka and Kitwe are participating. The Global Teenage Project is funded by the International Institute for Communication and Development (IICD) and which is managed by Trio Consult. The project brings together about 350 schools from 29 countries to conduct online

discussions on various world concepts. Mpelembe Secondary School has developed a strong science and ICT background since it was established in 1982. ICT as a subject is offered from grades eight to form six. The school has two computer laboratories mostly used for ICT studies with each department having at least two computers used for administrative purposes. The majority of students (who can be regarded as “digital natives”) at the school come from homes where they use ICTs such as computers, mobile phones, televisions, radios and video cassette recorders. The students come from middle-income to high-income households.

Chawama Youth Resource Centre, a vocational training centre in Chawama township in Lusaka, has been using ICTs for teaching and learning purposes. The students come from the surrounding community in Chawama, one of the largest high density residential areas in Lusaka. Most of the students come to the centre with little or no prior experience in the use of ICTs such as computers. The centre uses computers and the internet in its daily activities such as teaching subjects like tailoring, carpentry and auto mechanics. In the car mechanics course, for instance, teachers use a computer to prepare their lessons more effectively.

IICD has been co-operating with Chawama Youth Resource Centre in ICT support and activities with the aim of assisting the Zambian Skills Training agenda of producing employable youths that meet the national labour market requirements of flexibility and high work standards. This contributes to the livelihood opportunities for vulnerable youth through building capacities and encouraging aspiring youths to develop their entrepreneurship skills and talents, ultimately contributing to the reduction in poverty among the Chawama community members (IICD, 2011:1)

Synergies of policies

The synergies in the national ICT policy, TEVET ODL Policy Guideline and the Strategic Plan for the e-Learning Development in Zambia can be seen in the ministries of communication and transport, education, and science, technology and vocational training having identified the need for working with each other and other stakeholders in the development of ICTs in the various sectors. The policies also have strategies to address disadvantaged groups so that they can have access to ICTs. Increased and better access to education is also seen as contributing to national development. It should be noted that e-learning policy (in terms of goals, values and resources being allocated) is linked with critical mass and appears to provide a generally more enabling environment making it possible for ICTs to be used (Czerniewicz & Brown, 2009:130).

Contradictions in the policies

While a national ICT policy is in place, there is still a lack of institutional and sectoral policies on how ICTs can be integrated into education and training. For example, while ODL policies have been developed by the ministries of education and science, technology and vocational training, no ICT is being developed in education/e-learning policies which makes it difficult to set proper guidelines and standards for the

development of ICTs in education and training. The policies also do not highlight an ICT competency framework for educators which is critical in bringing about change in the use of ICTs in education and training. Moreover, although the policies mention the various forms of ICTs available, more emphasis is placed on personal computers at the expense of other ICTs such as mobile technologies, radios, televisions, CD-ROMs and DVDs. Though the policies speak of the contribution of ICTs to national development and the need to include disadvantaged groups in rural areas, the policies which are written in English only and not in any of the local languages make it difficult for those who cannot speak or write English to contribute towards the debate and point out areas in the ICT policies that need to be addressed in order to meet their needs.

The e-learning policies can be analysed using policy analysis tools. Policy analysis is an umbrella term indicating a range of techniques and tools that can be used to dissect, break down, organise, evaluate and analyse policy. It can also be defined as “determining which of the various policies will most achieve a given set of goals in light of the relations between the policies and the goals”. A number of policy analysis tools are used. One of the tools is the 6Cs of policy options. These are concentration, clarity, changeability, challenge, coordination and consistency.

1. Concentration: This considers whether resources are concentrated on the truly decisive aspects of the problem. This can be answered by looking at the national budget allocations to various programmes in the ICT and e-learning policies.

2. Clarity: Clarity has to do with whether the goals are clear and the steps to their attainment straightforward and whether the goals are well known by all implementers (FIDA, 2006). The goals of the national ICT policy are clear. The policy goal is to develop a competitive local ICT industry supported by a clear policy roadmap; fair and transparent regulatory framework and pro-investor market conditions resulting in the effective participation of the private sector in value-adding, export-oriented services; serving as the main engine for accelerating the development of the local economy (Ministry of Communications and Transport, 2006:31). The government has made a number of commitments to support this goal. These range from creating an ICT enterprise development fund to support Zambians in joint venture partnerships to creating an open and transparent forum/environment for consultation/dialogue on matters of interest for policy-makers, regulators, operators, consumers and other stakeholders in the ICT sector (Ministry of Communications and Transport, 2006:32). The policies have also addressed the issue of clarity in a section on the implementation framework which spells out the roles of key stakeholders (Konayuma, 2010:296).

3. Changeability: This refers to the policy being flexible so that it can be adjusted to changing conditions. Most policies have five-year expiry periods and are subject to annual and mid-term reviews. However, most policies are rarely adjusted to suit changing conditions. This is partly due to financial constraints and inertia that comes about when members of staff feel a sense of achievement when policy has been formulated. Launching a policy is only the beginning in policy-making. It is important to review and adjust the policy so that it remains up to date with changing conditions.

4. Challenge: This refers to whether the goals challenge the organisation and at the same time remain realistic, and how realistic the policy is in terms of its scope. The scope of the policies is large enough and realistic. However, this needs to be further analysed as the policy is implemented (Konayuma, 2010:296).

5. Coordination: This looks at the effectiveness of intra- and inter-organisational communication. The national ICT policy has identified the key stakeholders in the implementation of the policy. The Ministry of Science, Technology and Vocational Training which is responsible for the ODL policy for TEVET has an inter-ministerial committee which meets at least twice a year to share issues of concern in TVET.

6. Consistency: This is concerned with looking at whether the goals are consistent with the objectives, and the objectives with actions (FIDA, 2006). The e-learning policies are not completely consistent in terms of the objectives.

Problem statement

Though TVET teachers appreciate the need to use ICTs in education in order to improve their teaching and improve learning by students, they do not fully appreciate how some ICT technologies such as mobile phones, radios, televisions, podcasts and video recordings and social networks can be effectively used in a learning environment. Lack of adequate ICT competence is likely to have a negative impact on learners in TVET. The purpose of this study is to identify strategies that will strengthen the ICT competence of teachers in TVET so that they can become effective teachers.

Objectives of the paper

The objectives of the paper are to:

1. demonstrate a critical understanding between the macro and the micro factors at social interaction level;
2. mediate interaction of human agents and gather trails of interaction using a mobile application;
3. provide a detailed description of the conditions of both production and interpretation of text/artefacts; and
4. analyse the relationships between the artefacts created, and analyse them from micro to macro.

Literature review

The literature review looks at discourse theory as it relates to the analysis of policies. This is done by using critical discourse analysis (CDA). The leading authors in CDA are Fairclough, Wodak and Van Dijk who are cited throughout this paper in terms of the topic under discussion.

Discourse theory

A number of techniques have been used to analyse policies. One such technique is critical discourse analysis. Critical discourse analysis (CDA) is an interdisciplinary approach that views language as a form of social practice and focuses on the ways social and political domination are reproduced by text and talk. The single shared assumption uniting CDA practitioners is that language and power are entirely linked (Wikipedia, 2011:1). The strengths of CDA over other text analysis approaches lie in the connections that can be made between social and cultural processes on the one hand, and the properties of the text on the other (Fairclough & Wodak, 1997:277). Fairclough developed a three-dimensional framework for studying discourse, where the aim is to map the following three separate forms of analysis onto one another: analysis of (spoken or written) language texts, analysis of discourse practice (processes of text production, distribution and consumption) and analysis of discursive events as instances of socio-cultural practice.

In particular, Fairclough combines micro-, meso- and macro-level interpretation. At the micro-level, the analyst considers the text's syntax, metaphoric structure and certain metorical devises. At the meso-level the text's production and consumption are studied, focusing on how power relations are enacted. At the macro-level, the analyst is concerned with intertextual understanding, trying to understand the broad, societal currents that affect the text being studied. (Wikipedia, 2011:1). Other writers have noted that it is not what people say but how people say it. It goes beyond who uses the language to include the how, why and when (van Dijk, 1997). In applying this approach to the subject of this paper it can be inferred from discourse theory that the process of production and interpretation of online artefacts is not free from the social conditions of production and the social conditions of interpreting such text. Interaction is a product of social action, and the traces of its interactive processes left on the human mind reproduce social practices (interaction) (Ng'ambi, 2008:33).

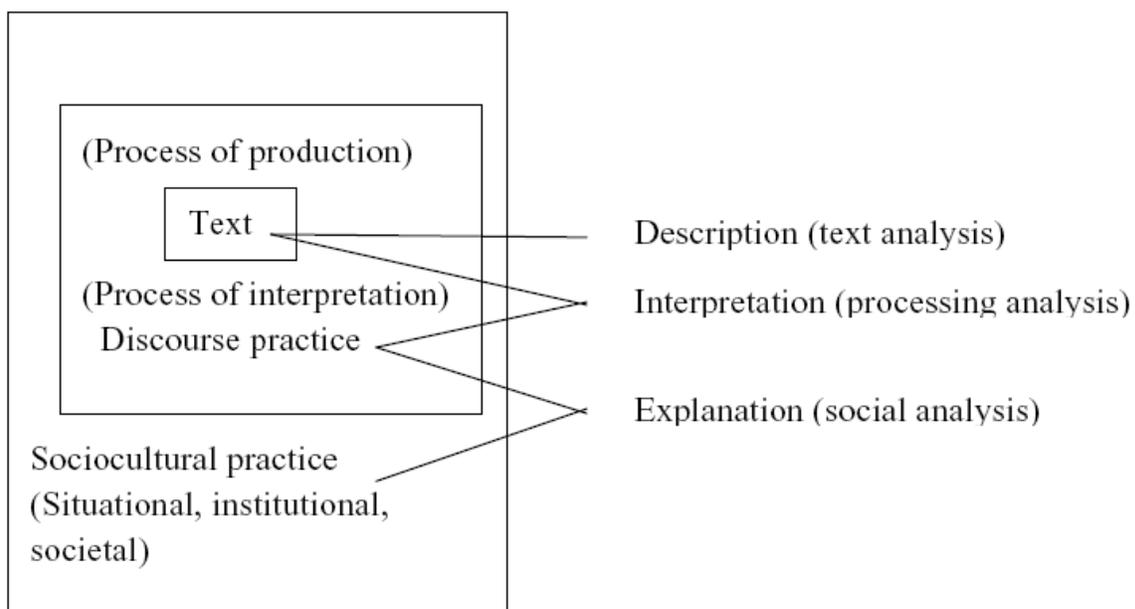


Figure 1: Fairclough's three levels (Fairclough, 1989)

Research methodology

Initially the researcher collected the institutional, pedagogical and technological artefacts over a period of two weeks. The artefacts were mostly published as well as draft ICT and e-learning policy documents and strategic plans. Other artefacts were interviews in audio and video-recorded formats. These artefacts were presented at a postgraduate diploma education class at the University of Cape Town on 17th June 2011. The artefacts were documented in Wikispaces, a free web hosting service, where other students in the class could easily access them. The researcher also presented a mobile application solution which was created using a free mobile website builder, Winksite, to address the problem of inadequate information on mobile learning. In order to engage TVET lecturers and policy-makers on how ICTs (especially mobile technologies) can be integrated into education and training, a mobile forum was created and lecturers were invited to make contributions to discussion questions that I raised. A total of four lecturers and policy-makers were chosen from TVET institutions in Zambia. The respondents were from Choma, Ndola and Lusaka. They were invited by SMS and by email generated from the mobile website to join the discussion forum available on the mobile site and to respond to the following two questions:

- (a) How do you use mobile phones in your teaching/learning?
- (b) Do mobile phones improve teaching and learning?

A screenshot of the questions in the forum can be seen in figure 2 below.

In order for the respondents to effectively participate in the discussion, they were required to join the Winksite mobile site and, secondly to respond to the above questions. The respondents were then requested to respond to the questions in the forum by adding their comments in the comments section as can be seen in figure 3.

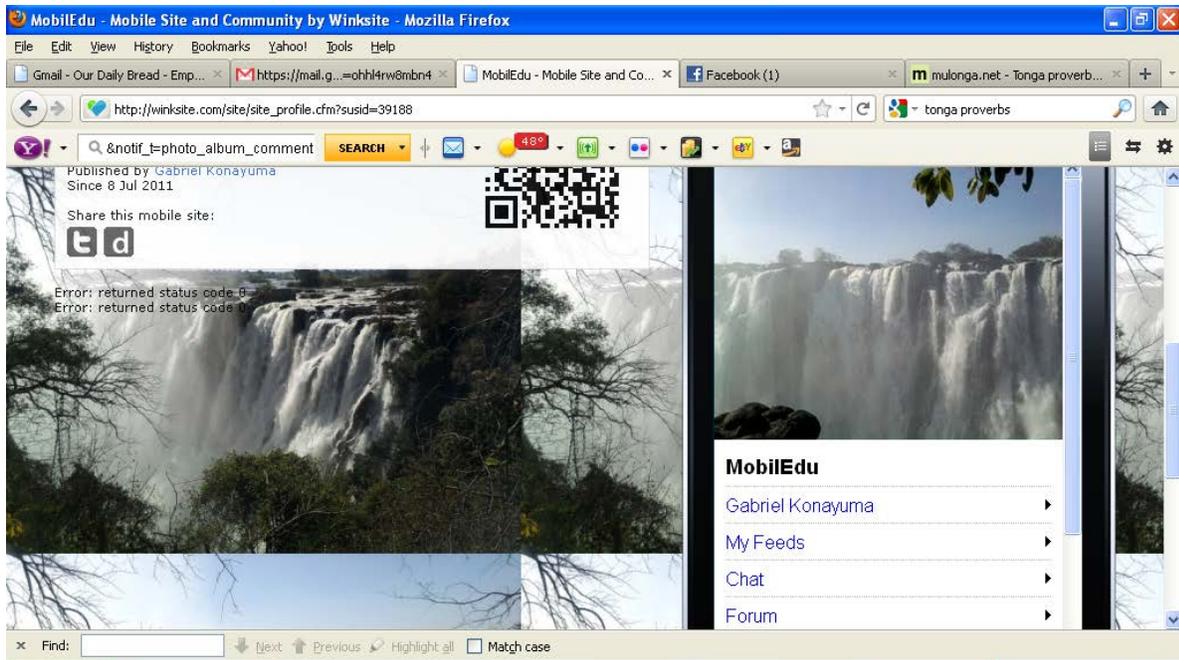


Figure 2: Screenshot of MobilEdu website showing how to enter into the Forum page

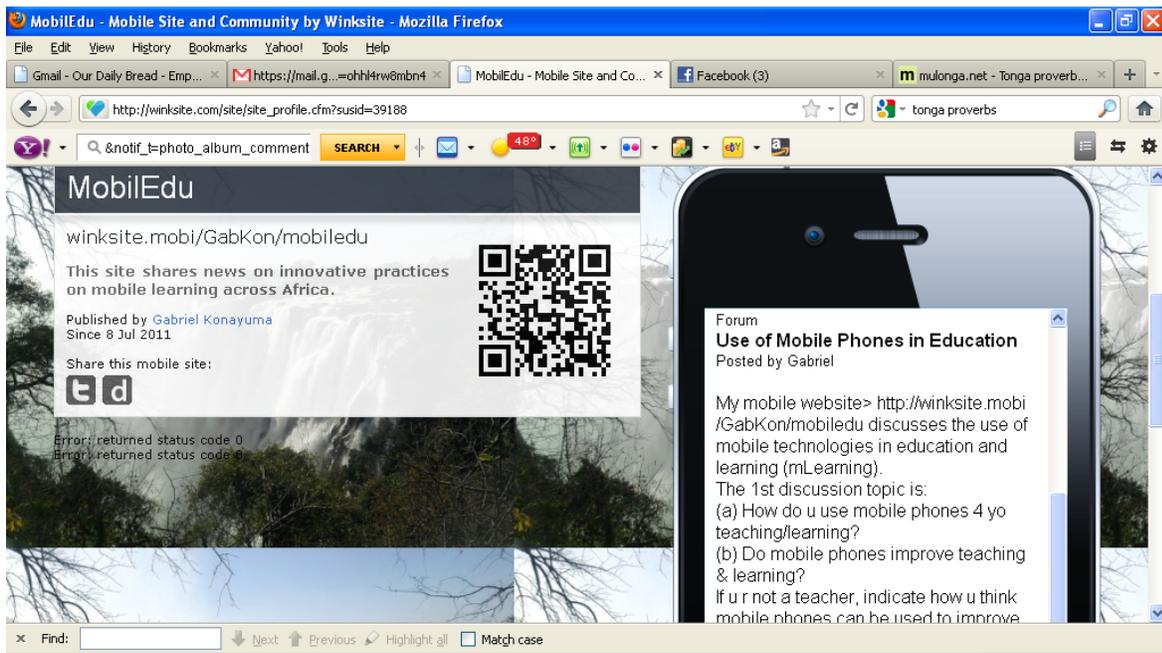


Figure 3: Screenshot of MobilEdu website showing discussion questions on the Forum page

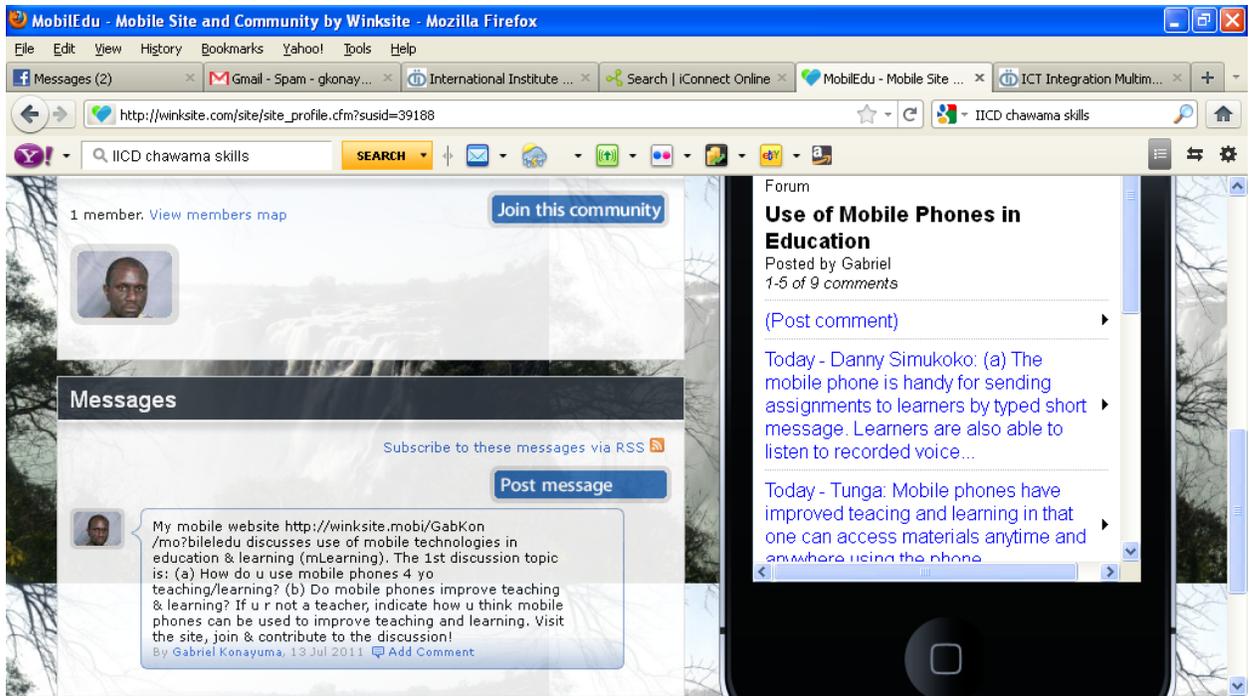


Figure 4: Screenshot of MobilEdu website showing comments regarding the forum discussion questions on the Forum page

Analytical framework

An analytical framework seeks to express an evaluation of someone's work - in this case text that has been produced by respondents to the mobile application. The data analysis was undertaken on artefacts (online comments) on a website created by the author using CDA. Although CDA is sometimes mistaken to represent a "method" of discourse analysis, it is generally agreed upon that any explicit method in discourse studies, the humanities and social sciences may be used in CDA research, as long as it is able to adequately and relevantly produce insights into the way discourse reproduces (or resists) social and political inequality, power abuse or domination. That is, CDA does not limit its analysis to specific structures of text or talk, but systematically relates these to structures of the sociopolitical context (Wikipedia, 2011:1).

This is useful in this paper as the analysis is carried out on text produced on the views of teachers and policy-makers on the use of mobile phones in learning and teaching. Education, under which learning falls, is part of the humanities and social sciences field. The table below shows some text genres and the communicator's intent for each genre.

Text Genre (TG)	Communicator's Intent (CI) is to
Narrative	tell about a sequence of events
Procedural	give instructions on how to do something
Expository	explain something

Hortatory	encourage someone to do something
Descriptive	list the characteristics of something

*Table 1 Text genres and the communicator's intent for each genre
(Source: Larson, 1984:365-366)*

From the responses made by educators on the mobile application that I developed, it can be noted that text is an outcome of an online interaction. Text is both a medium and an outcome of mental constructs (intentions). Thus, an author transforms intentionality into ostensive text messages. The reader of text messages interprets (attempts to deconstruct the author's intentions) the message and responds through another text (an iterative cycle). The focus of the description phase is to help identify text genres (Ng'ambi, 2008:34).

Findings

A total of four respondents made a combined total of eight postings on the discussion forum. There were five responses to the first question:

(a) How do you use mobile phones in your teaching/learning?

1. *The mobile phone is handy for sending assignments to learners by typed short message. Learners are also able to listen to recorded voice lessons on their phones. (Dan)*
2. *For learning I use a mobile phone to connect to the internet and research on different study topics. (Dick)*
3. *Mobile phones are used for teaching by sending notes and assignments to students via email, text massaging, conversation. (Dick)*
4. *I just realised that there are some features on my phone that I have never used to date. I may be missing out on something. (Cleo)*
5. *Having been a student not too long ago, I found a mobile phone very important in improving learning. I used my phone to communicate with my lecturer and peers on issues that needed clarification. As a part-time lecturer now, it helps me keep in touch with my distant students to communicate important information and also enables me to search information and benefit from open education resources as access to the latest reference materials is still a challenge at my school. (Cleo)*

There were three responses to the second question:

(b) Do mobile phones improve teaching and learning?

1. *Mobile phones do improve teaching and learning in that learners interact with their learning materials even as they relax. (Dan)*
2. *Mobile phones have improved teaching and learning in that one can access materials anytime and anywhere using the phone. (Dick)*
3. *I am not a teacher, but I think and believe that mobile phones have become an important tool with potential to aid learning. Most schools/colleges do not have adequately stocked libraries and the internet provides access to resources that both learners and teacher could refer to. Distance should no longer be a factor in the teaching and learning process. Let's take advantage of these handy devices. (Cleo)*

The respondents further made comments on each other's postings. Some of the comments are noted below:

1. *It appears there is consensus that mobile phones are an important tool that can improve teaching and learning, then why do we still find many learners, and teachers alike who continue complaining about lack of reference materials while they are always carrying sophisticated phones with facilities that can enable them to access open educational resources. Is it an issue of costs? Technical know-how? (Cleo)*
2. *I concur with my colleagues that there are a number of ways in which mobile phones can be used in teaching and learning. There is need to share with others how mobile phones facilitate teaching and learning. (Dan)*
3. *Mobile phones can improve teaching and learning as my friends have stated before. (Dan)*

Analysis of findings

Comments posted by teachers and policy-makers on the Mobyedu mobile website were analysed. There were a total of 12 responses. Using the analytical framework (refer to Table 1), a total of five responses were analysed:

[Question 1] How do you use mobile phones for your teaching/learning?

The following comment was posted by a lecturer:

Text 1

[2] For learning I use a mobile phone to connect to the internet and research on different study topics.

The following comment was posted by a manager/student:

Text 2

[5] Having been a student not too long ago, I found a mobile phone very important in improving learning. I used my phone to communicate with my lecturer and peers on issues that needed clarification. As a part-time lecturer now it helps me keep in touch with my distant students to communicate important information and also enables me to search information and benefit from open education resources as access to latest reference materials is still a challenge in my school.

[Question 2] Do mobile phones improve teaching and learning?

The following comment was posted by a lecturer/manager:

Text 3

Mobile phones do improve teaching and learning in that learners interact with their learning materials even as they relax.

The following comment was posted by a manager (and recent student):

Text 4

I am not a teacher, but I think and believe that mobile phones have become an important tool with potential to aid learning. Most schools/colleges do not have adequately stocked libraries and the internet provides access to resources that both learners and teacher could refer to. Distance should no longer be a factor in the teaching and learning process. Let's take advantage of these handy devices.

The following comment was posted by a lecturer/manager:

Text 5

I concur with my colleagues that there are a number of ways in which mobile phones can be used in teaching and learning. There is need to share with others on how mobile phones facilitate teaching and learning

Analysis 1

Description (Text Analysis)	Interpretation (Discursive Type)	Explanation (Social Practice)
<p>Narrative: The teacher is describing the sequence of events when he uses the mobile phone for teaching.</p> <p>Procedural: The teacher is explaining how the mobile phone is used, ie connecting to the internet and researching different study topics.</p> <p>Expository: The teacher has explained how he uses the mobile phone for learning purposes.</p> <p>Descriptive: The teacher has listed the characteristic of the mobile phone as being able to connect to the internet</p>	<p>Procedural: By explaining that a phone can be used for connecting to the internet and research the teacher implies a mobile phone can be used for teaching and used for more than just making voice calls and sending text messages.</p> <p>Descriptive: The student knows the characteristics of the mobile phone that can facilitate his teaching.</p>	<p>Most teachers generally have mobile phones and a number of them do use them for teaching, though this comment was made by just two teachers in this study and therefore cannot be generalised.</p>

Analysis 2

Description (Text Analysis)	Interpretation (Discursive Type)	Explanation (Social Practice)
<p>Narrative: The student describes the sequence of events when he uses the mobile phone for learning.</p> <p>Procedural: The student explains how the mobile phone is used, ie communicating with the lecturer and peers on issues that need clarification.</p> <p>Expository: The student has explained how he uses the mobile phone for learning purposes.</p> <p>Descriptive: The student has</p>	<p>Procedural: By explaining that a phone can be used for communicating with lecturers and students the student shows that further understanding of issues learnt in class can be sought from peers and/or lecturers because they (students/lecturers) have something to offer.</p> <p>Descriptive: The student knows the characteristics of the mobile phone that can facilitate his teaching such as making voice calls and sending text</p>	<p>Most students normally seek clarification on topics that they are not clear on. This is because they realise that learning is not only individual but collective and therefore they can use technology to engage with other students where they are unclear.</p>

listed the characteristic of the mobile phone as being able to communicate with others.	messages.	
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Analysis 3

Description (Text Analysis)	Interpretation (Discursive Type)	Explanation (Social Practice)
<p>Narrative: The lecturer is describing the sequence of events when learners use the mobile phone, ie relaxing and interacting with learning materials.</p> <p>Expository: The lecturer has explained how the mobile phone can be used for learning purposes at any time and in any place.</p> <p>Descriptive: The lecturer has noted the characteristic of the mobile phone as enabling students to interact with their learning materials.</p>	<p>Expository: By explaining that a phone can be used for interacting with learning materials anywhere, the lecturer is showing that learning can take place outside the classroom and that a mobile phone facilitates such learning even when students are relaxing.</p> <p>Descriptive: The lecturer knows that because the mobile phone is mobile, the student can use it to learn at any time and anywhere.</p>	<p>Students generally like learning while relaxing (eg listening to music and chatting with peers on social networks). This enhances their social presence and at the same time they can still seek to engage in learning activities.</p>

Analysis 4

Description (Text Analysis)	Interpretation (Discursive Type)	Explanation (Social Practice)
<p>Expository: The manager explains how mobile phones can improve teaching and learning but wonders why there are still complaints about the lack of learning materials even though teachers and learners always carry sophisticated phones with facilities whereby they can access open educational</p>	<p>Expository: The manager identifies a mismatch between having sophisticated phones with access to a lot of internet resources and complaints about the lack of learning materials.</p> <p>Hortatory: The manager is convinced of the wide availability and usefulness</p>	<p>The manager identifies the tendency of people to complain about a lack of resources when they have the resources at their fingertips. If they interacted with others who are knowledgeable about the facilities on the phones they would be able to access these learning and teaching</p>

<p>resources.</p> <p>Hortatory: The manager encourages students and lecturers to take advantage of the features that are available on their phones. He also encourages learners to realise that a mobile phone can take away the feeling of 'loneliness' in learning as they can at a click of a key or touch of the screen access useful learning materials.</p> <p>Descriptive: The manager lists the characteristics of mobile phones as an important tool with potential to aid learning.</p>	<p>of the learning and teaching resources available to teachers and learners and he encourages them to take advantage of these resources. He also believes that the availability of the internet on mobile phones enables learners to access useful learning resources, no matter how distant they are.</p>	<p>materials.</p>
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Analysis 5

Description (Text Analysis)	Interpretation (Discursive Type)	Explanation (Social Practice)
<p>Procedural: The lecturer explains that there are a number of ways in which mobile phones can be used for teaching and learning and that it is important to share with others how convenient mobile phones are for learning and teaching</p> <p>Hortatory: The lecturer encourages students and lecturers to share with others how mobile phones facilitate learning.</p>	<p>Procedural: The lecturer identifies the convenience of a mobile phone in the learning and teaching arena and believes that mobile phones can be used for teaching and learning.</p> <p>Hortatory: The lecturer notes that there is value in people sharing their experiences about the usefulness of mobile phones in facilitating learning and teaching with others who have not yet experienced this technology.</p>	<p>Though the mobile is an individual tool, its affordability enables teachers and learners to interact with each other, other learners and other people in their social networks. Even in this particular study the mobile phone enabled lecturers to interact socially with each other on the Mobicedu website.</p>

Conclusion

The paper has demonstrated a critical understanding between the macro and the micro factors at the social interaction level. The paper then went on to mediate interaction of human agents (lecturers, students and managers) and gathered trails of interaction using a mobile application. These trails were comments posted by the participants and further comments posted by respondents on other respondent's comments. An analysis of the relationships between the created artefacts was carried out. A detailed description of the conditions of both production and interpretation of text/artefacts was also provided. In this paper I used policy analysis tools to analyse the e-learning policy documents in education and training in Zambia. I further used CDA to analyse the postings made by lecturers, students and managers using the mobile application Winksite. The interaction of the respondents has shown that the text genres and discursive types are useful in analysing social interaction in an educational setting. "Discourse analysis challenges us to move from seeing language as abstract to seeing our words as having meaning in a particular historical, social, and political condition. Our words are never neutral" (Fiske 1994 cited by McGregor, 2003) (cited in Chigona, Mjali, & Denzl, 2011:2).

This study is useful for policy-makers in order to understand how certain readily available technologies such as mobile phones can be used more effectively to enhance teaching and learning in educational institutions. The findings of CDA are very useful in the development of learning interventions that seek to improve the access of learning for students within a community or who have certain disadvantages in terms of learning. The study is also useful for lecturers who struggle to find teaching and learning resources for their classes and who wish to improve their interaction with learners.

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