
MOBILES FOR SUSTAINABLE LEARNING ENVIRONMENTS: MOBILE PHONES AND MXIT WITHIN A SOUTH AFRICAN SCHOOL CONTEXT

Communitas

ISSN 1023-0556

2012 17 (Special edition): 161-182

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ABSTRACT

This article reports on a pilot study harnessing mobiles for sustainable learning environments (M4SLEs) in the context of school learning. The notion of M4SLEs in this case has to do with leveraging mobile technologies such as mobile phones and Mxit as instances of sustainable learning environments. In this article, both short message services (SMSs) and mobile instant messages (MIMs) are viewed as the main drivers and enablers of M4SLEs. More specifically, the article sets out to investigate the use of these two mobile applications for writing short paragraphs in the context of English as a first additional language (EFAL) by a group of grade 8 learners at a junior secondary school in one township in Mthatha in the Eastern Cape. This hybrid mobile learning occurred outside the normal school time. Against this background, the article demonstrates that the two mobile applications could be used for asynchronous and synchronous paragraph writing purposes. In addition, the article argues that the two mobile applications tend to promote a form of social communication that operates as a discourse for engaging in school-based learning and for challenging a school discourse.

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INTRODUCTION

Instead of using it, we block it. What are we afraid of? It's a problem to us, but not to them. And who hasn't heard about it? No one except our suspicious and non-accommodating adult selves! (A quote modified from McBride 2010: 1).

Both short message services (SMSs) and mobile instant messages (MIMs) are used primarily for mobile communication purposes. On the one hand, SMSs have a usage across a wide spectrum of mobile phone users ranging from young users to adult users. Besides communication, they are utilised for notification and alert purposes. On the other hand, MIMs (as delivered through social media platforms such as MXit) are used largely by young users in the 12 to 20 year age group. This is particularly because MXit serves as a mobile social network within this user segment. However, unlike SMSs, MXit-driven MIMs have certain value-added user and usage benefits: they facilitate real time text-based chatting between users at the cost of between one and two cents per instant message, as opposed to SMSs that could cost up to 80 cents per message (Ford & Botha 2010: 2; cf. Chaka 2010a: 18). This is made possible by two related factors: MIMs are deployable across a broad mobile phone spectrum as MXit is installable on any of the mobile phones owned by the existing South African-based mobile operators; each MIM can consist of 2048 characters as opposed to the 160-character quota for SMSs; and, most importantly, MXit offers a low-cost ubiquitous Internet connectivity (Chaka 2010a: 18).

So in this case, SMSs have served as an area of investigation for several initiatives in the field of mobile learning in the last few years. In the main, these initiatives have been undertaken as pilots, trials or experiments involving young students or young adults in the higher education sector (Guy *et al.* 2010: 60). Examples of such initiatives include Brown (2001); Thornton and Houser (2003); Kiernan and Aizawa (2004); Markett, Arnedillo-Sánchez, Weber and Tangney (2006); Viljoen, Du Preez and Cook (2006); Cooney and Keogh (2007); South African Institute for Distance Education [SAIDE] (2008); Cavus and Ibrahim (2009); Oyinloye (2009); Chaka (2010a); Chaka and Ngesi (2010); and Chaka, Ngesi and Ramothea (2010).

In contrast, MIMs are a relatively new form of mobile technology. As such, they have not been used extensively for teaching and learning purposes in the South African context. However, recently there has been a move to use it as a medium and vehicle for teaching and learning. Typical examples in the South African context are Butgereit (2007; 2009a; 2009b), Butgereit and Botha (2010), Chaka (2010a), and Ford and Botha (2010).

Against this background, the article sets out to demonstrate that the two applications could be used for asynchronous and synchronous paragraph writing

purposes. Additionally, the article argues that the two mobile applications facilitate a form of social communication that tends to operate as a discourse for engaging in school-based learning and for challenging a school discourse. In this regard, the article perceives both mobile phones and MXit as instances of mobiles for sustainable learning environments (M4SLEs), and both SMSs and MIMs as drivers and enablers of these M4SLEs. The latter are part of the mobiles for learning (M4L) paradigm falling within the broader canvass of mobile educational technology. In this respect, M4SLEs need to result in a meaningful pedagogy and teacher-learner transformation if they are to have any value-added benefits for learners (cf. Chaka 2010b: 18; Chaka *et al.* 2010: n.p.).

SMSs AND MIMs AS DRIVERS AND ENABLERS OF M4SLEs

SMSs have been utilised for a variety of purposes in the domain of mobile teaching and learning. These purposes span the following areas: evaluating the effectiveness of SMSs (Stone & Briggs 2002); supporting teaching and learning (Viljoen *et al.* 2006; Van Rooyen 2010); conveying course information (Kovalik & Hosler 2010); collaborative learning (SAIDE 2008); enhancing writing skills in essay writing (Oyinloye 2009); and writing short paragraphs (Chaka & Ngesi 2010). For example, Stone and Briggs' (2002) pilot study required students participating in this study at Kingston University to receive SMSs about their teaching schedule (and changes to it), examination dates and venues, and their marks. After registering for the SMS system, students were divided into five groups. Three groups received SMS announcements, one group received email announcements, and the last group received web-based announcements. This pilot study concluded that in certain instances students preferred SMSs as a means of communication to both email and web-based announcements.

In relation to enhancing and supporting teaching and learning, Viljoen *et al.*'s (2006) project involved some 300 adult distance education students at the University of Pretoria's Unit for Distance Education and consisted of two pilot studies. The two pilot studies were conducted between October 2004 and April 2005, and between April 2005 and October 2005, respectively. This dual pilot project employed SMSs to provide academic support to students. The SMSs deployed were categorised as follows: academic – instructional; quiz – interactive; student questions – interactive; interactive voice response (IVR) – mini-lectures; and lecturer response – instructional. Also leveraging SMSs to support and enhance teaching and learning, Hagos' (2008) project took place at New Era University's College of Engineering and Technology. Involving 90 College of Engineering and Technology students enrolled in mathematics during the first semester of the 2006-2007 academic year, the objective of this project was to promote and encourage learning on the part of mathematics students when

their lecturer was late or absent. Mathematics lectures and/or problems confined to 160 characters were prepared and validated. They were then transformed into text messages and sent to students over a one-month trial period whenever their lecturer was late or absent.

In the same vein, Van Rooyen's (2010) study focused on enhancing students' learning and studying of a distance education accounting module (second-year accounting, ACN202R) at the University of South Africa by integrating SMSs into the module. Its overriding objective was to determine how mobile phones could be integrated into ACN202R so as to effectively guide students through their studies, communicate with them on a regular basis, motivate them, and ensure that they receive important information at the right time. The study consisted of three pilot projects and was conducted during a three-semester period in 2006 and 2007. There were 2197 students, 2669 students, and 2426 students registered for the module in each of these three semesters, respectively. In all the three semesters, students were sent the first SMS a week after registration had closed and the last SMS a few days before the examination commenced. There were three types of SMS messages that students received: informational, motivational and academic support messages.

Regarding conveying course information, Kovalik and Hosler's (2010) study involved 52 students in six graduate-level courses taught online at a Midwestern university in America during two consecutive academic semesters. Students were divided into two random groups: one which received text messages and the other which did not receive such messages. There were five types of messages students could receive: 1) reminders of due dates for assignments; 2) important vocabulary items; 3) short feedback on discussion postings; 4) notification about assignment grading; and 5) course related teasers (e.g. quality websites related to the course content, links to online videos related to the course content, and relevant research articles). About half of the students chose to receive all five types of messages. There was no limit concerning how many of the five types of messages the students could choose to receive.

In respect of collaborative learning, SAIDE's (2008) initiative is related to the Dunia Moja Project in which both undergraduate and postgraduate students from three African universities leverage mobile phones to collaborate with their counterparts or with experts at Stanford University. Here students can, inter alia, SMS, send images and make phone calls while their classes are in session, thereby being in a position to interact with renowned experts in other parts of the world. Finally, both Oyinloye's (2009) and Chaka and Ngesi's (2010) projects deal with a similar focal area – harnessing SMSs in a learning situation for writing purposes, albeit in varying degrees. For instance, Oyinloye's project investigated whether the use of mobile phones would enhance students' writing skills in essay

writing at selected Nigerian senior secondary schools. It focused on aspects such as expression, content generation, organisation, tenses, and punctuation. For its part, Chaka and Ngesi's (2010) project set out to investigate, inter alia, whether SMSs could be used as a form of a supplemental writing platform by students to write short paragraphs outside their normal tutorial class. Undertaken at Walter Sisulu University, the project had 50 undergraduate students registered for the English for Academic Purposes (EAP) module in the first and second semesters of 2008 as its participants. Over one week in each semester, students were given a supplemental tutorial SMS essay writing task. They were then required to write each task as a short text message and send it to their tutor's mobile phone as part of submitting it (cf. Chaka *et al.* 2010).

With reference to the use of MIMs for teaching and learning purposes, especially in South Africa, the following collective and related initiatives are worth briefly commenting about: Butgereit (2007; 2009a; 2009b) and Butgereit and Botha (2010). These initiatives entail employing MIMs to tutor mathematics and are aptly called Dr Math. The latter started as a joint venture between the Meraka Institute and the University of Pretoria (UP) in 2007. It was deployed on MXit as both a mobile instant messenger and a mobile platform. Its founding objective was to help primary and secondary school learners learn maths from home and source information about it from volunteer tutors based at the UP. In this context, primary school learners were assisted with basic arithmetic skills such as additions and multiplications, whereas secondary school learners were assisted with, inter alia, algebra, geometry, trigonometry, and financial mathematics (Butgereit 2007; 2009b; Butgereit & Botha 2010; cf. Chaka 2010a). Besides mobile maths tutorial sessions, Dr Math also runs mathematical competitions, games and static lookups for learners (Butgereit 2009a). Dr Math has since migrated to a new generic platform, called Chatter Call Centre/Tutoring Online, or C³TO, that caters to learners using other chat systems such as Jabber, Google Chat, and Nok-Nok (cf. Butgereit & Botha 2010).

THEORETICAL FRAMEWORK

This section draws on a theoretical framework comprising the following theories, views and approaches: conversation theory; presence learning; relationality; new media writing; and mobiles for sustainable learning environments (M4SLEs). Conversation theory encompasses the view that mobile learning, especially as leveraged through SMSs and MIMs, is a form of ongoing conversation. It is about learners learning through conversations. Both SMSs and MIMs as employed in this article, serve as instances of conversations (cf. Chaka & Ngesi 2010: 186). For its part, presence learning is learning based on virtual tele-presence as mediated by SMSs and MIMs.

It is grounded on perpetual presence – the view that someone would always be there (be virtually present) in a given mobile learning environment. Thus, in this case, both mobile phones (together with SMSs) and MXit (including MIMs) serve as instances of mobile presence technologies (cf. Chaka *in press*; Chaka *et al.* 2010). On this score, relationality has to do with how learners relate to and how they harness their mobile presence technologies such as mobile phones and MXit for learning purposes.

New media writing refers to writing influenced by new mobile media applications like SMSs and MIMs. These mobile tools not only have the potential to render writing both transient and incomplete, but can foster a multi-modal form of writing as well. Therefore these tools facilitate writing that is in a perpetual beta, or forever in a state of flux (Chaka & Ngesi 2010: 185; Chaka *et al.* 2010: n.p.) as is the case with SMSs and MIMs. Finally, mobiles for sustainable learning environments (M4SLEs) refer to the fact that mobile phones and MXit offer learners the possibility of sustainable mobile classrooms. That is, these mobile technologies lend themselves well as mobile learning environments to learners, and these environments are sustainable and viable since these technologies are easily accessible to learners. In addition, the mobile learning environments mediated by these two technologies are sustainable and viable in that mobile phones and MXit can be leveraged by learners anytime and anywhere. In this case, these two mobile technologies can offer learners sustainable *anytime*, *anywhere* mobile learning as there is no additional infrastructure needed to mount such learning.

RESEARCH METHODOLOGY

The research methodology adopted for this study is grounded in a qualitative research paradigm. As such, it is qualitative and interpretivist in nature. The choice of this research paradigm is informed by the types of data collected: stretches of written conversations or chunks of short written paragraphs. In keeping with this research methodology, the research design suitable for this study is a descriptive and case study research design (cf. Henning, Van Rensburg & Smit 2004: 1; Trochim 2006: n.p.). This is particularly so as the study focused on participants at a case study level and analysed data using a descriptive framework.

Problem statement

Both short message services (SMSs) and mobile instant messages (MIMs) have become some of the preferred modes of personal communication and chatting among learners in South Africa (cf. Chaka 2010c: 35; Chaka *et al.* 2010: n.p.; Kreutzer 2009a: 1; 2009b: n.p.; Vosloo *et al.* 2009a: 1). This is particularly the

case with grade 8a learners at one junior secondary school (henceforth OneJSS) in one of Mthatha's townships in the Eastern Cape. Here a majority of learners own low-end mobile phones which they use for, inter alia, personal communication and chatting. This communication and chatting is encoded primarily through SMSs and MIMs. While the former are deployed directly from mobile phones, the latter are accessed via MXit with mobile phones serving as both deployment and platform devices. In some instances learners become so addicted to MXit that they are dubbed Generation MXit. Here it is worth mentioning that MXit is anathema not only to teachers at this school, but also to many other teachers, parents, and adults at most schools in South Africa. This has resulted in mobile phones being banned from schools or being confiscated from learners in schools. The school under investigation here is no exception.

Moreover, as learners appropriate SMSs and MIMs for personal communication and chatting purposes, they simultaneously indulge in their own SMS and chat language characterised by its unique shortenings, contractions, acronyms, initialisms, clippings, phonetic abbreviations, phonological approximations, alpha-numeric words or letter/number homophones, and stylistic variations (Cook & Stevenson 2009: 71; Tagg, Baron & Rayson 2010: n.p.; Thurlow & Poff 2009: 1; Vosloo *et al.* 2009b: 1). Such language is also typified by coinages and a reduced grammar. As a result, teachers, and especially language teachers, blame mobile phones, SMSs, MXit, and MIMs for an apparent deterioration in writing competence of most learners. However, what cannot be denied is that when learners employ SMSs and MIMs for social communication and chatting purposes, they engage in a new form of writing. For this study, this new form of writing as mediated through SMSs and MIMs for teaching and learning purposes represents a mobile digital discourse employed by learners within sustainable mobile learning environments. Against this background, this study set out to answer the following questions:

- ♦ Can mobile phones serve as instances of mobiles for sustainable asynchronous learning environments (M4SALEs) for grade 8a learners at OneJSS outside the normal school time?
- ♦ Can MXit serve as an instance of a mobile for a sustainable synchronous learning environment (M4SSLE) for grade 8a learners at OneJSS outside the normal school time?
- ♦ What are some of the features of the language in the paragraphs produced by grade 8a learners at OneJSS as mediated through SMSs and MIMs in this pilot study?

Participants

The pilot study involved 20 grade 8a learners who were doing English as a first additional language (EFAL) in 2010 at OneJSS located in one of the townships in Mthatha. The 20 participants consisted of 12 female learners and 8 male learners with an average age of 15. All 20 participants were chosen by their teacher (who was a research assistant in this pilot study) for convenience purposes: they were close to her and she knew that they were regular MXit users (they liked *mixing*) when they were at home.

Instrumentation, materials and procedures

Both mobile phones (together with SMSs) and MXit (including MIMs) were the main instruments through which the data in this pilot study was collected. This data was collected in two distinct phases during the last week of August 2010 and the first week of September 2010. In the first phase, participants took part in an SMS activity in which they had to write a short paragraph on the topic “self-esteem”. The teacher SMSed the topic to the learners’ mobile phone handsets and the learners in turn SMSed their paragraphs to the teacher’s mobile handset. In the second phase, learners participated in three instant messaging sessions on MXit in which they were required to write an MIM paragraph on one of the following three topics: “Why I like MXit most”; “Can MXit be used for language teaching and learning?”; and “What you liked and didn’t like about the teachers’ strike”. These two SMS and MIM activities took place outside the normal school time or at learners’ respective homes.

Model of analysis for SMS and MIM texts

The model of analysis of both SMS and MIM texts for this project is informed by the aspects of the theoretical framework outlined above. These are conversation theory, presence learning, relationality, new media writing, and M4SLEs. It also incorporates elements of discourse analysis. The latter, as used here, entails identifying units of analysis such as words, sentences and paragraphs as applied in the context of learners’ SMSs and MIMs and treating these as instances of discourse. Thus, this model comprises a typology of both classical writing features and new media writing/new mobile literacy features as mediated by new mobile media technologies such as mobile phones and MXit within M4SLEs as represented and outlined in Table 1:

TABLE 1: TYPOLOGY OF WRITING FEATURES

| Language Use | Classical Writing Model | New Media Writing/ New Mobile Literacies |
|---------------------------------------|--|---|
| Language or grammar usage | Formal and prescriptive | Conversational, informal and relational |
| Sentences | Formal and complete | Casual, incomplete, relational, and utterance-like |
| Linking words or transitional markers | Highly required | Not applied or occasionally used |
| Ideas/thoughts | Unified and coherent | Fluid and incomplete |
| Paragraphs | Unified and coherent | Incomplete, unpunctuated, and conversational |
| Tenses | Conventional, consistent and not to be mixed | Tense-shifting |
| Spelling | Formal and prescriptive | Relational and shortened spelling forms or forms of spelling peculiar to mobile devices |
| Punctuation | Formal and systematic | Not fully observed |

FINDINGS AND DISCUSSION

This section presents and discusses the findings of the study. Its structure follows and is intended to respond to the main research questions of the study as cited above. As such, the section comprises three sub-sections: mobiles for sustainable asynchronous learning environments (M4SALEs); a mobile for a sustainable synchronous learning environment (M4SSLE), and school discourse versus learner discourse. In addition, the section assumes a descriptive framework. However, it is worth pointing out that the findings presented and discussed here are both tentative and contextual.

M4SALEs

The findings presented and discussed in this sub-section stem from learners' SMS data (SMS paragraphs). The following research question, as framed below, informs this sub-section: Can mobile phones serve as instances of mobiles for sustainable asynchronous learning environments (M4SALEs) for grade 8a learners at OneJSS outside the normal school time?

After they had been requested to participate in an SMS paragraph writing activity, learners produced several paragraphs. Table 2 contains examples of learners' SMS paragraphs on the topic "self-esteem".

TABLE 2: SMS PARAGRAPHS ON TOPIC ‘SELF-ESTEEM’

| Sent from | Response | Number of characters | Time sent |
|------------------------------------|--|----------------------|-------------|
| EXAMPLE 1 | | | |
| Learner 1 | Self-esteem is a term used in psychology to reflect a person. Over all evaluation or appraisal of his or her own.it is the opinion you have of yourself and your value as a person self confidence also. Test quickly and easily evaluate your level of self-esteem and confidence.improve self-esteem and gain much greater confidence and happiness in your life | 384 | 08:50:41 PM |
| Teacher (in response to Learner 1) | Very Good Piece! Keep it up! Your score is 8/10 | 62 | 08:53:10 PM |
| EXAMPLE 2 | | | |
| Learner 2 | Self Esteem Is when you believe something. When someone is telling you something and you understand if that is truth.If you deserve something is good or important enough for something.When a person have right to something be worthy.When you are having great merit, deserving respect or supporting a worthy cause,Like a quality that deserve praise | 371 | 09:50:33 PM |
| Teacher (in response to Learner 2) | Good response! Your score is 6/10 | 48 | 09:52:10 PM |
| EXAMPLE 3 | | | |
| Learner 3 | It is good for a person to have self esteem. Respect for yourself and your own worth. For a person to have self esteem she must first have self respect. You must believe in yourself and never give up on your dreams. You must never allow anything or anyone to let you down. Don't do things that you are not allow to do it.... | 350 | 07:06:04 PM |
| Teacher (in response to Learner 3) | Good response! Your score is 6/10 | 48 | 07:08:08 PM |

| EXAMPLE 4 | | | |
|------------------------------------|--|-----|-------------|
| Learner 4 | Self esteem iz hw u feel abt ur clf and u dnt need peaplz talk.self esteem needz u 2 control it coz if some1 cyz a bad thng e.g u ar ugly ur slf esteem wl get low and u dnt need it coz it iz nt gud 4 u jst dnt take it serious jst take as if u heard nthng jst listen 2 ur clf | 302 | 11:01:01 PM |
| Teacher (in response to Learner 4) | Disappointing response! Avoid shorthand! Your score is 2/10 | 74 | 11:03:30 PM |

As pointed out earlier on and as depicted in Table 2, these SMS paragraphs were a response to the topic “self-esteem”. In this regard, these learners’ SMS paragraphs were sent to the teacher’s mobile phone handset during the evening (examples 1, 2, 3) and during the day (example 4) from wherever the learners were. Similarly, the teacher’s feedback (comments and grades) was sent back to learners’ mobile phone handsets minutes after receiving the SMS paragraphs from wherever the teacher was. Based on the time of the day when SMS paragraphs were sent to the teacher, and the teacher’s feedback was sent back to the learners in this pilot study, it is clear that mobile phones allowed both the teacher and learners to send SMS texts at any time of the day. This means that in this study, mobile phones offered the teacher and learners a possibility of *anytime, anywhere* learning and teaching.

Additionally, learners’ SMS paragraphs and the teacher’s feedback as shown in Table 2 reflect a lapse of a few minutes – a delayed response – between the uploading time of SMS paragraphs on the teacher’s mobile phone handset and the teacher’s actual responses. This highlights the fact that SMSs facilitated a delayed interaction between the teacher and learners: they enabled the teacher and learners to engage in asynchronous learning and teaching. Moreover, SMS paragraphs as displayed in these figures are fairly long when judged against the standard 160-character quota to which conventional SMSs are limited by South African mobile operators.

Given these points, three main observations can be made in this context concerning mobile phones. In this pilot study, mobile phones managed to serve as instances of M4SALEs. Firstly, at a micro-level, mobile phones enabled learners to participate in an asynchronous SMS paragraph writing activity (Chaka 2010d: 628; Chaka & Ngesi 2010: 191; Chaka *et al.* 2010; cf. Oyinloye 2009: 39) outside normal school time in which the teacher provided learners with asynchronous feedback. Secondly, at a macro-level, mobile phones allowed the teacher and learners to engage in an asynchronous *anytime, anywhere* learning and teaching

process (Chaka & Ngesi 2010: 191). Similarly, in real-life situations learners are expected to engage in learning activities and be provided with feedback by their teachers. Thus, thirdly, unlike real-life fixed, location-embedded and time-bound physical classrooms, the borderless, ubiquitous and timeless nature of mobile phones tends to make mobile phones more sustainable and flexible learning environments. Above all, the sustainability of mobile phones as learning environments lies in the fact that they are perennially and pervasively available to users: they are with learners on a 24/7 basis. This implies that they can be 24/7 mobile learning environments.

M4SSLE

In relation to this sub-section, the findings presented and discussed in it emanate from learners' MIM data (MIM paragraphs). In this context, the points discussed in this sub-section attempt to respond to the following research question: Can MXit serve as an instance of a mobile for sustainable synchronous learning environment (M4SSLE) for grade 8a learners at OneJSS outside the normal school time?

In the course of their participating in this MXit activity, learners produced various MIM paragraphs. Figures 1 and 2 are screenshots of portions of learners' MIM paragraphs on the topic "What you liked and didn't like about the teachers' strike", as well as the teacher's feedback:

FIGURE 1: EXAMPLE OF A LEARNER'S MIM PARAGRAPH

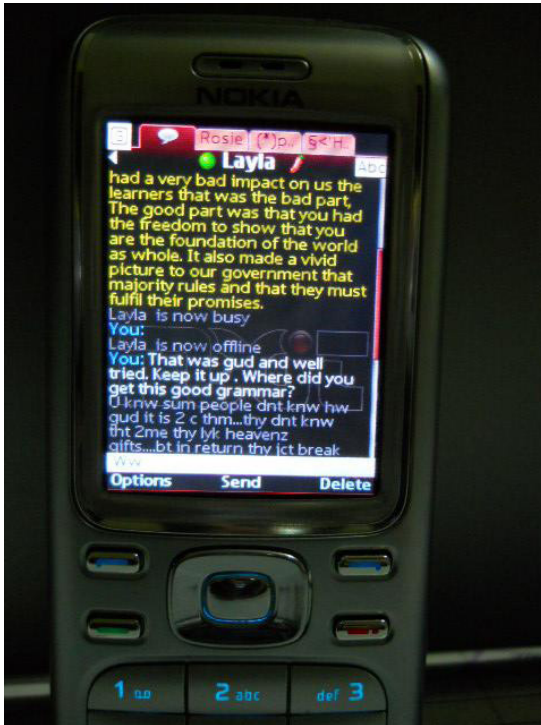
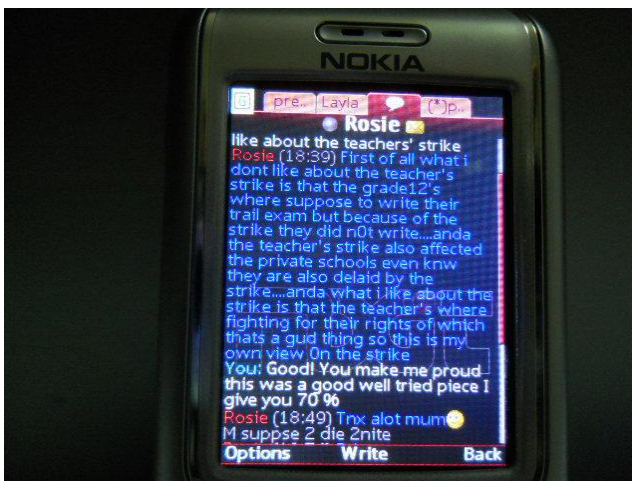


FIGURE 2: EXAMPLE OF A LEARNER'S MIM PARAGRAPH



Figures 3 and 4 are screenshots of learners' MIM paragraphs on the topic "Why I like MXit most", as well as feedback from the teacher:

FIGURE 3: EXAMPLE OF A LEARNER'S MIM PARAGRAPH

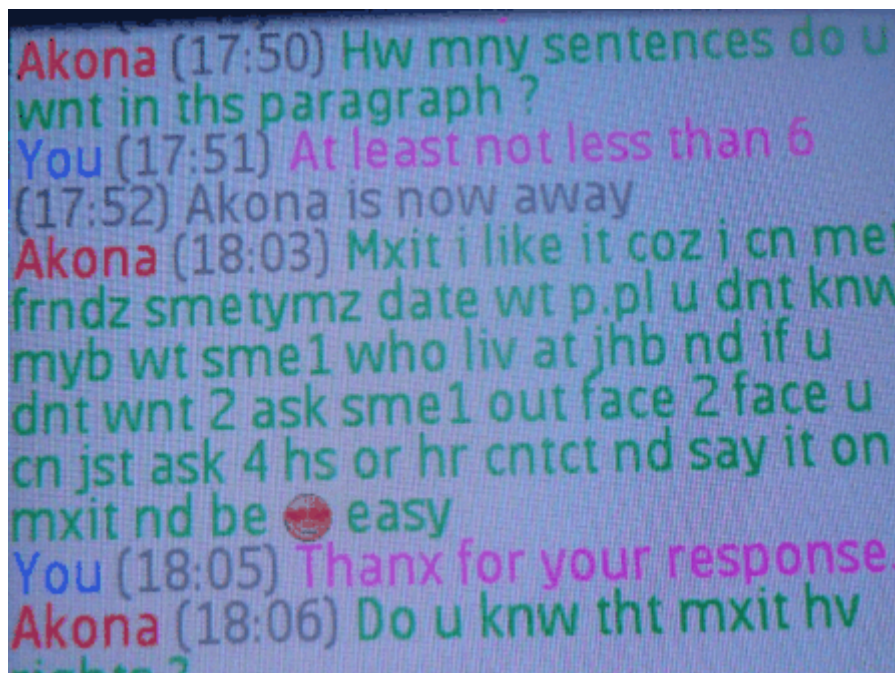
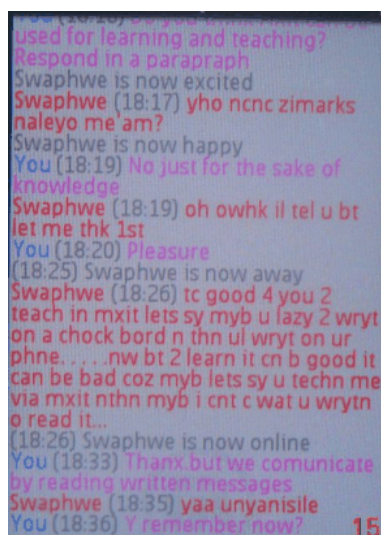


FIGURE 4: EXAMPLE OF A LEARNER'S MIM PARAGRAPH



From these figures it is clear that learners' MIM paragraphs were sent to the teacher in the evening as recorded in the teacher's MXit screenshots. In this case, learners received their teacher's feedback (comments and grades) in real-time as

opposed to the feedback encoded through SMSs which is asynchronous. This means that learners were able to interact with the teacher synchronously through MXit using mobile instant messages (MIMs). At the same time, this particular form of interaction facilitated a synchronous MIM paragraph writing process on the part of learners, and a synchronous feedback mechanism on the part of the teacher. A major prerequisite for this type of interaction to take place is that both the teacher and learners have to be online simultaneously for it to occur. Hence, it is in this study regarded as presence instant writing.

Based on the above points, four observations are worth making about MXit. In the context of this pilot study, MXit managed to operate as a M4SSLE for grade 8a learners at OneJSS outside normal school time. Firstly, on a miniature scale MXit allowed learners to engage in a synchronous MIM paragraph writing activity that incorporated a teacher's real-time feedback. Secondly, on a bigger scale MXit enabled the teacher and learners to participate in synchronous *anytime, anywhere* mobile learning (Chaka 2010d: 628; Chaka in press; Chaka *et al.* 2010: n.p.; cf. Thorne 2008a: 1; 2008b: 419). As is the case with mobile phones, this type of learning is sustainable and flexible on the one hand, and borderless, ubiquitous and timeless on the other hand. Thirdly, MXit-powered learning is even more affordable and convenient than SMS-driven learning since users need only two cents to access MXit online and to transmit one MIM comprising 2048 characters at any given time wherever there is a General Packet Radio Service (GPRS) connectivity. Finally, as with SMS-mediated learning, MIM-encoded learning can be offered on a 24/7 basis.

School discourse vs. learner discourse

This sub-section seeks to explore briefly the nature of language and discourse used by learners in their SMS and MIM paragraphs. It does so by attempting to respond to the following research question: What are some of the features of the language in the paragraphs produced by grade 8a learners at OneJSS as mediated through SMSs and MIMs in this pilot study?

In terms of their language use and writing style, the first three SMS paragraphs (see Table 2, examples 1, 2 and 3) display the following features: formal and conventional language use; formal and well-punctuated sentences; fairly acceptable spelling; and unified and coherent thoughts. These language and writing features resemble classical real-life paper-based formal writing models, especially formal school-based writing models. In this context, these paragraph features highlight the fact that mobile phone-based SMS writing by learners approximates a real-life classroom writing practice. This type of formal language and formal writing produced by learners in their SMS paragraphs is part of school discourse (cf. Chaka 2010d: 631) and may have been influenced by the fact

that their paragraphs were going to be formally assessed by their teacher. Thus, learners employed formal language and writing (a formal school discourse) in their SMS paragraphs despite the fact that often when they communicate among themselves using SMSs, they do so by employing their own SMS-style language or discourse (see Table 2, example 4). In the first three examples we see learners trading their usual SMS-style language or discourse for the school-based language and writing style (the school discourse) so that they can participate in a school-based learning, and probably for fear of being marked down by their teacher. This is the case of a learner discourse capitulating to a school discourse.

However, example 4 in Table 2 displays a learner's SMS paragraph that reflects some of the orthographical features typical of SMS language used by most learners. This SMS paragraph is one instance of the type of language and writing style commonly used by most learners when engaging in personal and social communication with one another. On the one hand, it typifies a form of learner discourse that sometimes makes its way into formal school work (as is the case here as well). On the other hand, it represents an instance of learner discourse making inroad into (and thereby colonising) a school-based writing environment. It is a form of counter-discourse that is frowned upon by schools and teachers (Chaka *et al.* 2010: n.p.). In this regard, SMSs tend to promote a form of social communication that operates as a discourse for learners to engage in school-based learning and to challenge school discourse.

On this score, the first MIM paragraph (see Figure 1) exhibits the same formal language and writing features as those depicted by SMS paragraphs shown in the first three examples in Table 2, although to a lesser degree. In this case, its language and writing style, too, approximates real-life classroom writing conventions even though it is characterised more by elements commonly found in speech or in oral conversation. These blended features, comprising both writing and speaking, reflect the hybrid nature of this MIM paragraph as an instance of spoken writing or written speech. In the context of this pilot study, it was an attempt by a learner to respond not only to a learning activity but also to a classical school discourse which occurred outside of school.

In contrast, the last three MIM paragraphs (figures 2, 3 and 4) display the following language and writing conventions reminiscent of real-life speech: informal, casual, and conversational language use; relational shortened spelling forms; and fluid, incomplete, run-on, and unpunctuated sentences in certain instances. These specific features underpin the spontaneity and instantaneity of these MIM paragraphs. Moreover, these three MIM paragraphs themselves tend to represent instances of a learner discourse making its way into a formal school writing domain. This particular learner discourse they typify is a form of counter-discourse that most schools and teachers detest as it is seen to corrupt

learners' conventional formal school language and writing practices (Chaka *et al.* 2010: n.p.) Here, too, MIMs, like SMSs, tend to facilitate a form of social communication that functions as a discourse for learners to both engage in school-based learning and challenge a school discourse.

FUTURE RESEARCH DIRECTIONS AND RECOMMENDATIONS

This pilot study was an exploratory and experimental case study confined to one school. In addition, its participants constituted a very small sample and were drawn from only one grade. Its findings are preliminary and highly tentative and contextual in nature. However, its findings may be replicable in different but related learning contexts. Moreover, all participants were close to their teacher. So, their participation in the pilot study and their willingness to carry out certain tasks could have been influenced by this familiarity. Most critically, the pilot study explored the usability and deployability of mobile phones and MXit as instances of M4SLEs outside normal school time. In this regard, it is necessary that future research initiatives focus on the use of these two mobile technologies as instances of M4SLEs during normal school hours. Furthermore, the pilot study explored the usability and deployability of MIMs and SMSs with respect to writing short English paragraphs, and in relation to learner feedback. However, its primary concern as embodied in the three questions it set out to answer is important and relevant in the context of the broader school teaching and learning.

So, future research needs to focus on other areas of English and on other learning areas. This is more so since the overcrowding of classrooms in a school such as the one studied here, and in many other public schools in South Africa, tends to render such schools non-sustainable learning environments. That is, overcrowding impedes effective teaching and learning and tends to hinder instant learner feedback on the part of teachers. Thus, the deployment of readily accessible and relatively cheaper user/learner mobile technologies like mobile phones (and SMSs delivered on it) and MXit (and MIMs it offers) on a support basis is pivotal in addressing school overcrowding, in facilitating instant feedback, and in striving towards sustainable learning environments. Based on this pilot study, there is a need to explore and trial these mobile technologies as sustainable learning environments and for teaching and learning purposes not only to a group of learners at the school under investigation here, but also to other learners in other grades and in other learning areas. There is also an added need for trials at schools beyond the confines of Mthatha.

CONCLUSION

This pilot study has explored how mobile phones and MXit could be harnessed as instances of mobiles for sustainable learning environments (M4SLEs). It has also highlighted how both short message services (SMSs) and mobile instant messages (MIMs) could be employed as drivers and enablers of M4SLEs. In particular, focusing on three research questions, the pilot study has demonstrated the manner in which mobile phones (through SMSs) and MXit (through MIMs) could serve as spaces for M4SLEs in varying but complementary degrees. For example, through SMS paragraph writing, mobile phones have proven in this pilot study to be mobiles for sustainable asynchronous learning environments (M4SALEs) for grade 8a learners at OneJSS outside normal school time. That is, at a micro-level, mobile phones enabled learners to participate in an asynchronous SMS paragraph writing activity outside school time in which their teacher offered them asynchronous feedback. At a macro-level, mobile phones allowed the teacher and learners to engage in an asynchronous *anytime, anywhere* mobile learning and teaching process.

Similarly, deploying MIMs, MXit managed to function as an instance of a mobile for a sustainable synchronous learning environment (M4SSLE) for grade 8a learners at OneJSS outside normal school time. In this case, on a miniature scale, MXit allowed learners to engage in a synchronous MIM paragraph writing activity that incorporated a teacher's real-time feedback, while on a bigger scale, MXit enabled the teacher and learners to participate in a synchronous *anytime, anywhere* mobile learning. Finally, the pilot study has illustrated that both SMSs and MIMs promote forms of social communication that tend to operate as a discourse for learners to engage in school-based learning and to challenge a school discourse.

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