Original Article

Enhancing collaborative online learning in higher education: using Google Docs to analyze Literature texts by teacher trainees

Rebecca Nambi[1]*

[1] Makerere University, P. O. Box 7062, Kampala - Uganda.
* Author for Correspondence ORCID ID: https://orcid.org/0000-0001-8973-1640; Email: gyagbecca2004@yahoo.com

ABSTRACT

The purpose of this project was to explore how collaborative learning can be enhanced through Information Communications Technology in the critical reading and analysis of Literature texts in a particular teacher training course at a selected university in Uganda. The study undertook an interventional research approach whereby critical literacy principles provided the basis for formulating online tasks that would provoke higher order thinking skills such synthesizing, analyzing, reasoning, comprehending, application, and evaluation during the discussion of the play *The Lion and the Jewel.* A conversational framework was adopted to design a collaborative learning environment by which face-to-face sessions were combined with technology in form of Google Docs. Some of the steps of engagement included identifying the eight participants, sharing of initial content on critical literacy with them, face-to-face sessions and uploading of tasks. The findings reveal that with systematic instructions and guidance Google Docs can provide a collaborative learning platform whereby students can continuously comment about Literature texts in a conversational manner; the intervention proved the possibilities of flexibility in the learning environment; and dialogic teaching especially when discussing Literature texts was greatly enhanced during this intervention. This study was carried out in a real time learning context during the teaching of one of the researcher's courses. The finding thus can offer some useful guiding steps as benchmarks for actual take up of other ICT tools in teaching and learning in higher institutions of education.

INTRODUCTION

Collaborative learning is associated with learner-centered pedagogy which emphasizes that for effective learning to take place the teaching environment should encourage different levels of collaboration since learning is viewed as a sociocultural engagement (Vygotsky, 1978). The argument is that upper cognitive skills among learners are developed when there is collaboration at different levels in relation to content. However, teacher education institutions still widely use lecture methods to give ideas and theories when teaching large numbers of students (Fransen *et al*., 2011). Collaborative learning involves various activities in the classroom whereby students engage in group work to find solutions to particular aspects of a given topic and share their findings with the rest of the class (Laal & Laal, 2012). Information Communication Technology (ICT) can foster collaborative online learning in higher education through tools such as Google Docs, video conferencing, email, social media and many others (Kirschner, 2001; Chatterjee & Correia; 2020). As a teaching and learning tool ICT has been adopted variously depending on the contextual affordances. Anderson (2004) elaborates on the different echelons of educational interactions that can be useful lenses when applying ICT in education that can relate to teaching at higher education in Uganda. Hence, this paper explores how collaborative learning can be enhanced through ICT in the critical reading and analysis of Literature texts in a particular course at a selected university in Uganda.

BACKGROUND AND CONTEXT

ICT has been operational in education in Uganda at different levels since 1998 (Ndawula, 2016). However, although institutions of higher learning appear to make steady effort to integrate ICT in their pedagogical practices, reports still indicate gaps in the uptake of the same (Bakkabulindi & Ndibuuza, 2015; UNESCO, 2014). The current approaches to training pre-service teachers in general and those of Literature in English in particular pose an educational challenge because they still focus on the lecturer methods of teaching (Nambi, 2018). In the case of Literature in English, the emphasis is mainly on the generic expectations of novels or plays.

Trainees are taught how they can guide their future students to explore the traditional aspects of the novel or plays such as themes, character and characterization, style, plot and storyline. This implies that learners are equipped with lower-order-thinking skills that encourage them to remember events and characters and interpret themes in texts that will help them answer examination questions or what is termed as rote learning (Nystrand *et al*., 1997).

Teaching to pass examinations promotes a lone-ranger mentality among learners in their singular focus on reading in the case of Literature, privileges one correct answer over the rest. Yet, the very nature of Literature presupposes that meaning in a text is generated as readers interact with the text depending on their prior experiences and is enhanced by critical analysis (Cliff-Hodges, 2016). It is also in direct opposition of learner-centeredness and the demands of reformed curricula in Uganda. For this study and intervention, a course titled 'Methods of Teaching Literature (Novels, Plays)' for finalist secondary school teacher trainees of English and Literature was chosen. The course is allocated a total of 30 hours in a 17 weeks semester. For a course that is meant to develop trainees' higher-order-thinking-skills (HOTS) to function as expert peers (Vygotsky, 1978) in future, the 30 hours of theoretical teaching (in the entire 3-year span of undergraduate studies) deny the trainees the opportunity to hone their skills of critical analysis. Moreover, the course is intended to cover two prominent Literature genres, novels and plays that are mutually exclusive in many literary aspects such as setting, voice and characterization. Also, the rigid sitting arrangement in lecture rooms offers limited scope for learner-learner interaction but instead dictates teacher-centric transmission of content.

The scenarios described above illustrate the limited collaboration affordances available to trainees and hence this undermines the intended multiplier effect of nurturing critical skills among their prospective secondary school learners. For instance, the curriculum that they are expected to deliver emphasizes the "Development of the learner's literary skills of comprehension, interpretation, analysis, evaluation, application and organisation which can be used in other disciplines" (NCDC,

2020, p. vi). And one of the aims of teaching Literature at 'A' Level in Uganda is to enable learners to "develop interdependent personal life skills like problem-solving, critical thinking, decision-making and researching and managing information systematically" (NCDC, 2013, p. 151).

THE INTERVENTION

To address the challenges described above, the study designed an intervention process whereby some of the pedagogical affordances that exist within the study context were capitalized on (Wang et al., 2010). The purpose of this intervention was to create a safe and non-judgmental space using Google Docs where trainees could engage with Literature texts using the Critical Literacy (CL) lenses to evaluate the traditional truths and collaboratively create alternative meanings.

Critical Literacy

The CL approach to reading is premised on perceptions relating to power, class, gender and ethnicity (McLaren & Lankshear, 1990; Morgan, 1997; Janks, 2010; Dixon, 2011). Advocates of critical literacy argue that texts are not innocent and that there is no such thing as literacy for literacy's sake. Authors are influenced by particular cultural, political or social beliefs and in turn position readers in specific roles (Morgan, 1997). Hence critical readers should not wholly agree with the writer without engaging in reflective questioning about the purpose and position of the writer.

Secondly, CL pays attention to how the socio-political environment influences texts and the need to create awareness among readers about this influence. CL involves critiquing society's inequalities and injustices. In the classroom context the learners should be able to critique and evaluate texts with the aim of suggesting some positive change apropos to their own experiences (Morgan, 1997; Janks, 2010). Janks (2010) suggests that learners could be encouraged to write about the world from their own perspective and things that are important to them. This may raise concern in a school context where learners are expected to learn within a specific curriculum and syllabus. However, using an interactive tool like Google Docs offers room outside the rigidity of the curriculum where

learners' personal thoughts towards the perceived injustices can be aired and this in turn strengthens their understanding of the text.

Thirdly, CL interrogates the question of power in literary language use. They argue that language is a social tool that has the power to create, destroy, maintain or change the status quo. Morgan (1997) states that literary language is laced with the sociocultural background of the writer. At the same time language can be used to cause change by questioning the position of the writer against that of the reader and interrogating issues relating to social injustice (Janks, 2010).

The Intervention Framework

The paper was based on the CL principles discussed above to formulate tasks that required active collaboration as learners analyzed selected sections in Soyinka's (2005) play *The Lion and the Jewel*. The purpose was to use CL to provoke the HOTS as opposed to simply recalling events in the book for examination purposes as it wa described earlier. The HOTS are the complex skills in the learning process and they are arrived at systematically as the student attempts more difficult tasks. The skills under the HOTS category include: synthesizing, analyzing, reasoning, comprehending, application, and evaluation (Churches, 2008). CL has affordances within the 'Methods of Teaching Literature (Novels, Plays)' course because it is one of the topics in the course outline. Kirschner *et al*. (2004) argue that it is important to consider the pedagogical affordances along the technological and social prerequisites when one is designing online collaborative environments. In the current paper it is clear that although CL is one of the approaches that are suggested to guide learners to analyze texts it is taught in isolation of the content that trainees actually teach.

The study based on Laurillard's (2002) conversational framework to design a collaborative learning environment whereby technology in form of Google Docs was introduced during face-to-face sessions. The framework is built on four pillars namely: teacher's conception, student's conception, teacher's constructed environment and student's actions. This framework was particularly appealing for this intervention because firstly, it views learning

as dialogic in nature and hence it rhymes with learner-centeredness. Secondly the framework enabled several opportunities for educational interaction which helped to augment participants' understanding of CL and its application in literary analysis as learners discussed on the Google Docs platform (Anderson, 2004). Laurillard (2002) argues that learning is "discursive, adaptive, interactive and reflective" (Laurillard, 2002, 86-89). These actions make learning a conversation where different parts of the dialogue are assigned to the teacher and the students. Laurillard (2008) suggests that for the conversational framework to be effective the teacher has to: 1) create a working environment, 2) design appropriate goals, 3) provide space for learner actions, 4) give meaningful feedback, 5) encourage learner revisions and 6) relate theory to experience.

In light of the framework above, the study interrelated CL to the topic of 'what to teach (in) and how to teach plays, by introducing the theory to learners and inviting their ideas and views about the same using a Google Docs platform. Depending on the trainees' description and initial understanding of the CL theory relevant tasks that required trainees to apply their knowledge of the theory to Soyinka's play *The Lion and the Jewel* were set. In particular, the study borrowed the action verbs from Bloom's revised Taxonomy by Anderson and Krathwohl (2001) to encourage the development of the HOTS among the participants.

The different levels (starting with 'remembering' at the bottom to 'understanding', 'applying', 'analyzing', 'evaluating' and 'creating' at the top) helped me to monitor learners' achievement levels as we moved through the different skills starting from the fundamental Lower Order Thinking Skills (LOTS) to the more complex HOTS. Most of the action verbs such as interpreting, exemplifying and inferring under the 'understanding' level were put into practice as students used examples from their own background to make comments about the Literature extract. However, we used Google Docs as a tool to facilitate online interaction, we found Andrew Churches' (2008) digital verbs which are an addition to Bloom's taxonomy quite useful when working online with students. For instance, trainees

were tasked them to 'comment', 'collaborate', 'edit' and 'share' as per some of the digital verbs suggested by Churches (2008).

Steps of Engagement

The study worked with eight trainees and two colleagues from my department. All the trainees were undertaking the course 'Methods of Teaching Literature (Novels, Plays)' and they were in their final year at the University. I started by introducing CL as one of the topics on the course outline to the class of 200 students at the beginning of the semester. During the lecture, students raised some questions about the relevance of CL to the teaching of Literature texts since the normal practice required that they simply teach the contents of the texts in terms of theme, characterization, story and literary devices. The class was divided into groups of ten for easier management. One group was conveniently sampled since at least six of the members were among the students who continued to ask questions about the application of theory after the lecture. During the tutorial hour the discussions continued to focus on the applicability of theory in the Literature classroom – especially in secondary school. Students requested for lecture notes and hardcopies of the power point presentations. This was no different from the traditional teaching practices where students cram notes provided by teachers without much input. Given the fact that we had limited time for detailed discussions because they had to attend to the requirements of different courses and also the fact that I had to teach on other courses I suggested working with them on a central forum (Google Docs) that could be accessed any time.

The students were already working online with a colleague (Mary[1]) who was collecting data for her PhD research project using a tool called Wikispace. This was regarded as a technological and social affordance (Kirschner *et al*, 2004) and we tapped into their ICT knowledge to introduce a discussion forum using Google Docs. Mary offered one hour of her interaction time with the group to allow me discuss with them on the procedure of engagement.

During the face-to-face session it was established that the teacher trainees who participated in this

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[1] Pseudonym (Mary) is used here for my colleague.

study had difficulties in understanding the CL theory and its application to Literature texts. They argued that CL seemed to require them to disagree with the contents of Literature texts and this seemed to oppose the requirements of the curriculum. They thus welcomed the idea of sharing ideas about the theory using Google Docs. The facilitator suggested sharing some of the lecture notes about CL online as long as they agreed and make comments when prompted. They provided their Gmail addresses and with the help of Mary, we briefly oriented the trainees to how Google Docs works. At this point the major instruction was that they should often check their emails for any information and follow the prompts as required.

During the next step the notes on CL were summarized on one page to make reading easier and we were also mindful to the fact the trainees already had an idea about the content since this was a remedial online class. The facilitator created a new file named Google Docs through her Gmail account. In the new browser brief notes were inserted learners were invited to the page via their Gmail addresses. The first task was partly under the LOTS section of Bloom's revised taxonomy (Anderson & Krathwohl, 2001) as learners were asked to read and give their comments about CL. However, the task was also mind provoking to some extent because they were required to think about the theory using their lenses as 'teacher trainees'.

After observing some comments from learners and the two colleagues we met the students again for 30 minutes during their face-to-face session with Mary and we discussed their conceptions of CL and some of the setbacks they had faced during the first task. It was discovered that the trainees needed more guidance on how to give their online responses in a shared document. On the other hand, some students perceived it as an opportunity to receive handouts and they were requesting for more uploads of notes for all the other lectures. Mary joined me to guide students on how to give comments on Google Docs and we informed them that we are moving to a more practical task requiring them to apply CL to the reading of an extract from *The Lion and the Jewel* after analyzing it. The text, *The Lion and the Jewel*, was part of the pedagogical affordances available for this task because all the participants had read it as a

pre-requisite for the course 'Methods of Teaching Literature (Novels, Plays)'.

In addition, the text, *The Lion and the Jewel* was one of the prescribed plays that trainees were expected to teach during their school practice exercise hence this was an opportunity for them to master it. The extract chosen from the play is deeply rich in aspects that would raise concern with a CL reader. The two characters involved in dialogue are at extreme opposites of their understanding of Yoruba traditional values in relation to bride price and the role of women in society. Lakunle, the male teacher character, is courting Sidi, the village belle, but he is not ready to pay the bride price which according to him is a backward cultural practice. Sidi on the other hand insists that she would only marry him if her bride price is paid. Sidi is clearly the spokesperson for cultural values while Lakunle is agitating for change to 'modernity' notwithstanding his seemingly confused jabber. The extract was uploaded and students were prompted to check the new addition on our Google Docs file through the WhatsApp group platform they had formed for Mary's work. The trainees' comments were monitored they were often prompted to relate them to CL and to their own experiences in a bid to tap into the HOTS.

The final step involved the upload of another task requiring them to relate some key issues such as bride price shown in the text to their own personal contexts. The reason for this was that we realized from their prior reflections that they tended to limit their comments to the surface meaning of the text and CL. The trainees were also tasked to be more critical and recreate at least some phrases from the extract as per the expectations of CL to illustrate their understanding of equality and justice. The last question was about their experience with working together using Google Docs as a forum for collaborative learning. The trainees were also prompted to write briefly using outlines in a bid to guide them to make spontaneous comments whereby they utilized the immediate extract available to them and their own experiences.

THE ONLINE TOOL: GOOGLE DOCS

The goal for this intervention was to create a platform where trainees could collaboratively use

CL theory to engage with extracts from the play *The Lion and the Jewel* outside of the space of the traditional generic reading of texts, limited lecture time and fixed classroom arrangement that do not effectively encourage critical and interactive learning. The technological tool that offered affordance in this institutional context was Google Docs. Google Docs is part of numerous web-based software applications that are designed for collaborative communication among different users (Kennedy, Mighell & Kennedy, 2010). It allows users to create, edit, and store documents online. Google Docs was found appropriate for the current intervention because it offered several affordances:

Google Docs has similarities with the Word document. Most trainees are familiar with Microsoft Word document since a big percentage of them on the 'Methods of Teaching Literature (Novels, Plays)' course submit computer typed work. In addition, some of the students owned personal laptops, tablets and smart phones that they carried to lecture rooms. In this aspect it satisfied the usability aspect (Kirschner *et al*, 2004) because learners viewed the extracts in a format that was familiar to them.

In addition, Google Docs allows sharing of files for numerous users in different locations and around 50 people can work on the same document at the same time (Bradley, 2010). This resonated with the virtual space I envisaged to create for the trainees and it mitigated the problem of the rigid sitting arrangement in the lecture room because they could make their contribution about their understanding of CL and how it was applicable to the text from wherever and whenever they had access to the Internet. In the same way, the virtual space allowed peer-to-peer and expert-to-peer collaborations (Anderson, 2004) where participants were able to bounce ideas off each other. In Figure 1 below the trainees are making comments within the document at the same time but working from different devices. The time of posting, that is, 11.49AM, 11.50 AM, 11.52AM and 11.48AM on the 14th of March indicates that the participants were responding to each other.

Figure 1: A screenshot showing the group working together on the same document
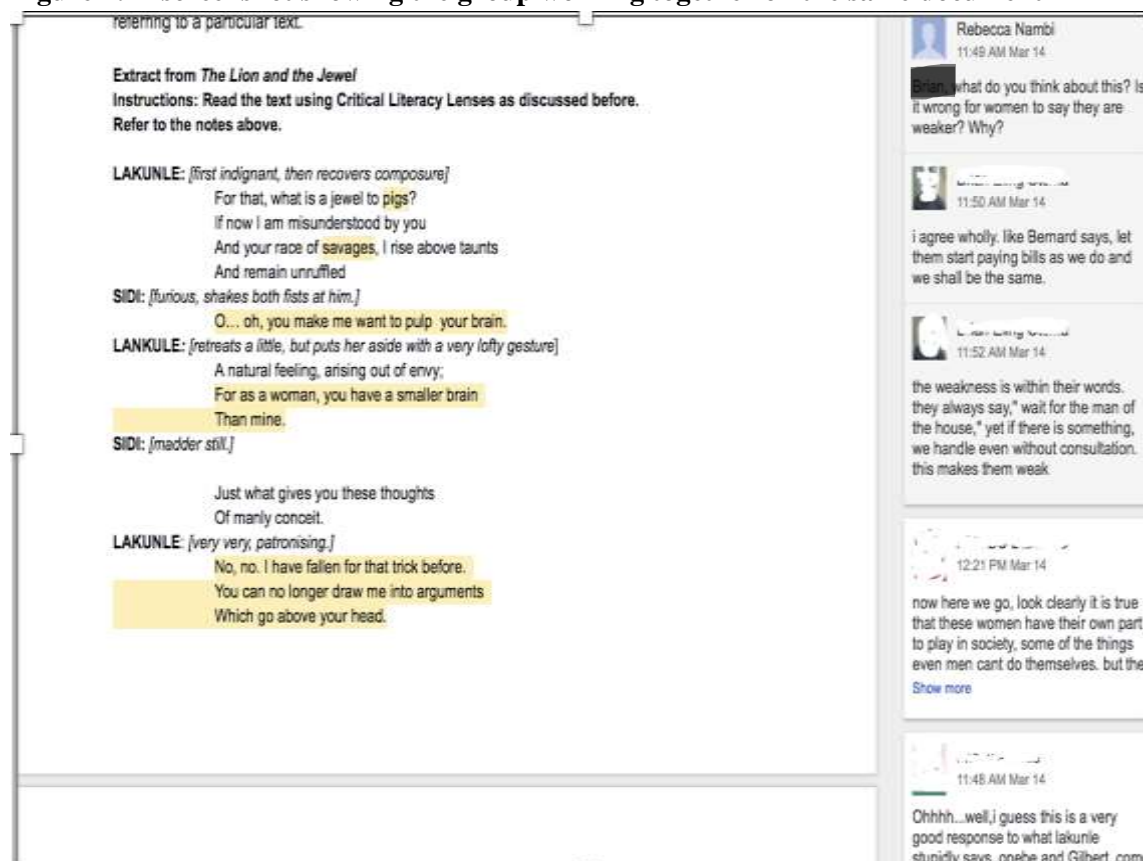
It was also possible for me as the facilitator to nudge students towards more critical analysis as shown in Figure 1 above when the researcher specifically addresses Tom[2] to explicate more about his comment about women being the weaker sex. Indeed, he responds promptly in the comments that follow.

Another affordance offered by Google Docs was that it is quite simple to install and allows free access even while offline which is a great affordance for trainees in my context because many of them work on a limited budget as private students. By providing their Gmail addresses the students consented to being invited to edit and give comments which would be visible to the facilitator and two colleagues from the department (including Mary). The two colleagues had knowledge about CL and the text and they partly played the role of facilitator hence they were invited to view, edit and comment on the platform. As the owner of the site, this meant that the researcher was able to ensure some degree of privacy of the comments given by participants thus creating a secure place for collaboration.

Writers such as Nakayama and Chen (2019) have documented some of the shortcomings of using Google Docs. In the same way, the researcher found that while Google Docs offered the affordances mentioned above, sometimes it presented challenges as shown in the analysis that follows. That said, Google Docs was found to be more applicable to this project than other emerging technologies in education. For instance, 'email' would be a usable tool here, after all the participants had email addresses and it would be perhaps easier to send the documents to their personal inboxes. However, this would limit collaboration yet it was one of the major goals of this project. Further, the structure of 'email' does not readily support a visual display of the whole document at the same time hence keeping track of the comments would be difficult. Also, it was possible for the invitations to work on the document to be ignored if everyone was working on the same thread to make comments via email.

Finally, most of the students had Facebook accounts and this would also have been a viable technology for collaborative learning. However, the initial face-to-face discussions we had with the group showed that they were not comfortable to have their classwork viewed by everyone with a Facebook account. On the whole, Google Docs appeared to give a better sense of security for collaboration within a safe environment among peers.

OBSERVATIONS AND ANALYSIS

The purpose of this project was to design a collaborative learning environment to enhance learners' understanding of the CL and its application to extracts from the play, *The Lion and the Jewel*. The other purpose was to identify an emerging technology tool that would appropriately be utilized in the context of the researcher's educational challenge and Google Docs was selected as most suitable as opposed to WhatsApp and Email. In this section observations of the project and its effectiveness are presented basing on the themes of: flexibility of the learning environment, students' improved understanding of CL, utilizing the Google Docs space and collaborative learning.

Flexibility of the learning environment

It is stated at the beginning of this paper that the rigid learning environment where students had to learn within specified time and lecture rooms was part of the researcher's educational challenge. This challenge was made more complicated by the fact that students were expected to provide the 'right' responses when reading Literature texts in order to answer examination questions. The Google Docs platform to a large extent addressed the issue of the fixed lecture time because often learners posted their comments on different days and different time. Hence, they stretched the learning time to suit their personal programmes thus taking control of their learning space in a positive way. To a small extent however it was observed that during the face-to-face sessions the number of comments shot up tremendously. This could be explained by the fact that the Internet was free and fast as it was provided either using the researcher's personal hotspot on her mobile phone or Mary's phone. The challenge of lack of or weak connectivity is often fronted when discussing the applicability of ICT in education

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[2] A pseudonym has been used here.

(Griffiths, 2010; Wang *et al.*, 2010; Greenhow & Lewin, 2016). In this case the fact that students' online participation increased during the face-to-face sessions suggests that the learning environment was still confined to a single room though the mode of operation was different. For instance, the time of action in the screenshot in Figure 1 illustrates participants working on the document almost at the same time during one of the face-to-face sessions.

Secondly, the current intervention was constrained by time since it had to be completed within four weeks. This meant that it was necessary to prompt students to post their comments within a given time and this to a certain extent contradicted the belief that students could choose when to respond using Google Docs. Nevertheless, prompting and alerting students to work on the document was a positive action because it provided useful timelines for the work to be completed. It is also important to note that in any educational undertaking content is usually covered within specified timeframes and the freedom of participation away from the fixed classroom arrangement granted by ICT may slow down coverage of the syllabus.

Another observation is that learners utilized the Google Docs space to say more about the selected extract than the usual traditional answers. They relied on prior experiences to respond to the tasks. For instance, in Figure 2 below the learners seem to shift their understanding of the text depending on what was shared earlier:

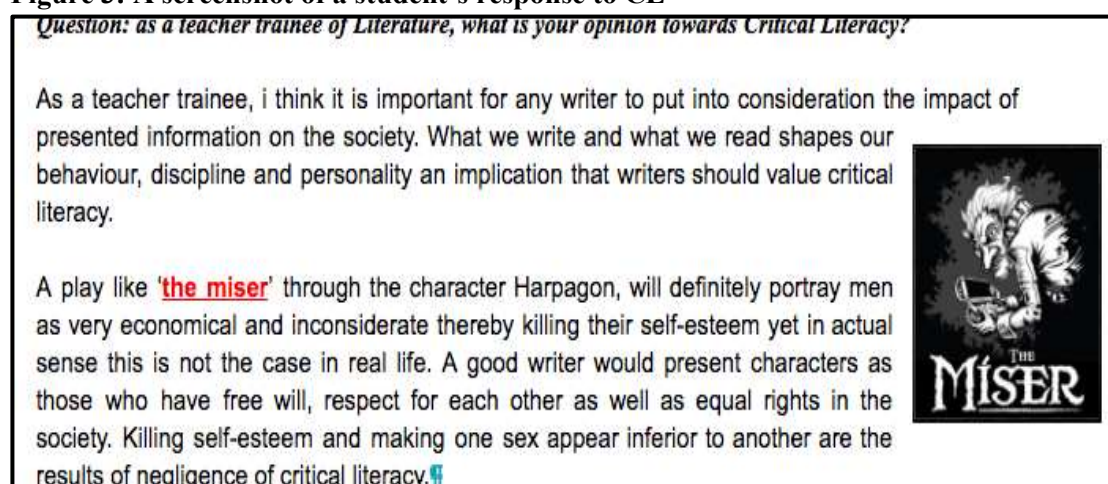**Figure 2: A screenshot showing learners' exchange about bride price**

The first student[3] is able to share her mixed feelings about bride price which would not normally be the case when answering examination questions. In addition, she relies on her personal context to cite the fact that domestic violence could be a result of bride price, whereas in the examination students are expected to rely solely on events in the text to answer questions. The comment by the second student also shows him stepping out of the rigid readings of texts to refer to his personal knowledge to explain the importance of culture. Although these students' interpretations would not be readily acceptable in the Literature class, they illustrate how Google Docs can provide space for learners to think about alternative ways of reading texts as per the paradigms of CL.

The fact that they refer to their personal experiences makes their arguments stronger because they are starting from the known to understand the unknown as recommended by the sociocultural theory towards learning (Vygotsky, 1978).

Students' improved understanding of Critical Literacy

This project also set out to help expose students to a deeper understanding of CL and its application to Literature texts. An analysis of students' comments about CL showed that some of them gained a deeper understanding of the theory. Figure 3 shows one of the responses towards CL.

Figure 3: A screenshot of a student's response to CL

Question: as a teacher trainee of Literature, what is your opinion towards Critical Literacy?

As a teacher trainee, i think it is important for any writer to put into consideration the impact of presented information on the society. What we write and what we read shapes our behaviour, discipline and personality an implication that writers should value critical literacy.

A play like '**the miser**' through the character Harpagon, will definitely portray men as very economical and inconsiderate thereby killing their self-esteem yet in actual sense this is not the case in real life. A good writer would present characters as those who have free will, respect for each other as well as equal rights in the society. Killing self-esteem and making one sex appear inferior to another are the results of negligence of critical literacy.

The student who posted the comment in Figure 3 above tries to allude to the notes provided earlier to explain his understanding of CL as a teacher trainee. He observes that Literature has the ability to shape the reader's behavior as argued by Dixon (2011) and Janks (2010). Indeed, it is important for a teacher trainee to realize the possible impact of Literature texts on their future students. The discussant in Figure 3 also argues strongly for equality especially between women and men. This speaks to the CL literacy principle of the need to front justice in any Literature work.

Google Docs was instrumental in enhancing students' understanding of CL and its application because the nature of this technological tool allows participants to continuously view thread of the discussion. This meant the initial document that was posted about the theory was viewable to them throughout the project and hence they could refer to it often. The facilitator was able to remind them to use CL lenses as shown in Figure 4 below:

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[3] The students' names and images have been to keep their identity confidential.

Figure 4: A screenshot to illustrate the facilitator prompting students to focus on CL
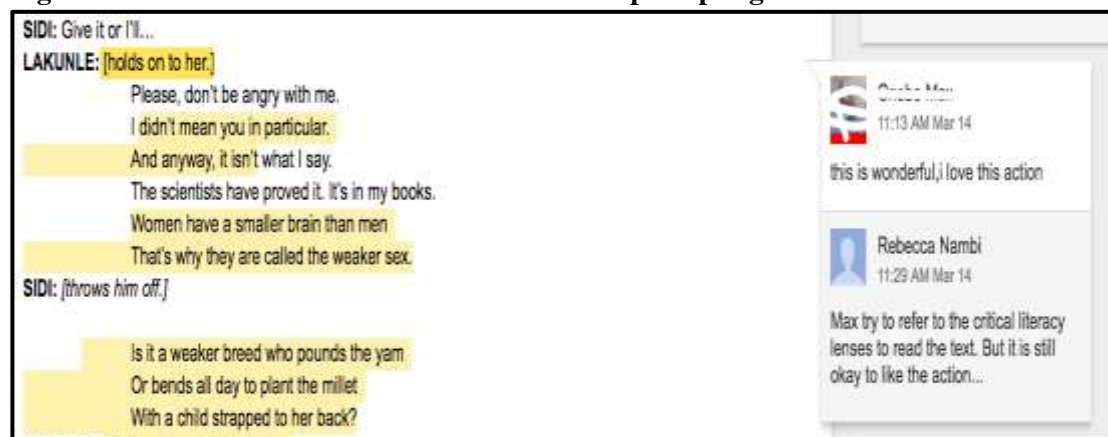
In addition, setting more complex yet specific tasks that required learners to apply the HOTS enabled the facilitator to observe their degree of understanding of CL and its use on the text *The Lion and the Jewel*. For instance, the trainees who participated in this project were tasked to rewrite parts of the extract in order to reflect equality and justice as a way of balancing the power relations in language use. Figure 5 below shows some of their responses:

Figure 5: A screenshot showing how learners rewrote some of the perceived injustices in the play
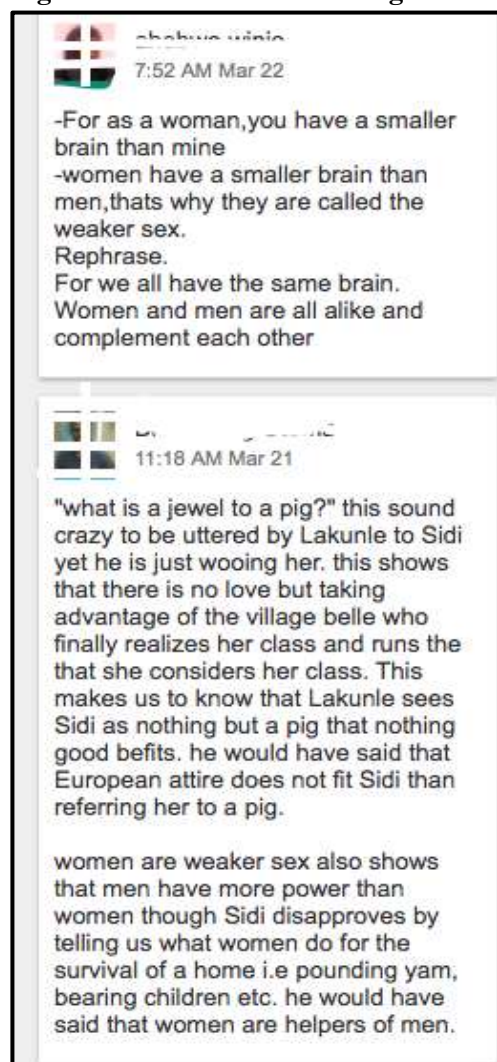
Clearly, the trainees who wrote the responses shown in Figure 5 had mastered some degree of how CL works in Literature analysis. They draw from theory, text and experience to present a more positive picture of women. The first student writes that women and men complement each other and hence avoids the assertion that one sex is above the other. There are some patriarchal implications in what the second student writes, that women are helpers of men, but still he appreciates the work done by women as seen in this submission.

On the other hand, it was difficult to ascertain whether all the participants gained a better understanding of CL because some students made casual comments as shown by the post in Figure 4 above. However, the colleagues on the forum were instrumental in guiding students further on how to engage with the theory. One example can be seen in Figure 6 below:

Figure 6: A screenshot to show comments about CL made by a colleague
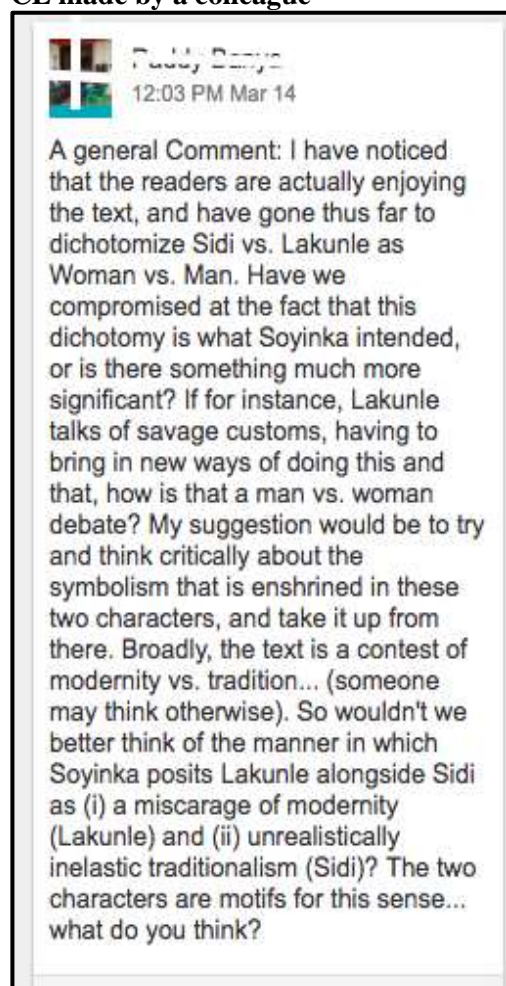
This support from Paul (pseudonym) illustrates the possibilities of using emerging technologies in education. Despite the fact that Paul was out of the country at the time he made that comment, the virtual learning space facilitated his input in real time (Bradley, 2010). In this sense he positively supplemented the facilitator as an expert peer which wouldn't probably be the case in a traditional physical lecture room.

Use of Google Docs

Google Docs was an excellent technological tool for collaboration as discussed earlier. As shown in some of the screenshots it was possible to monitor learners' progress and multiple comments could be made on the document at the same time. It was the first time some trainees used Google Docs and thus they got a chance to learn how to share and comment on documents online. Despite the advantages Google Docs presented as a tool to support collaborative learning, there were some observable challenges. First of all, some learners had to continuously be guided on how to use the tool. Some of them posted their comments within the working document just like the screenshot in Figure 3 shows. The student was creative to include images of covers of particular texts and this suggests that he was becoming more knowledgeable in the how Google Docs works. The major challenge was that some learners could not differentiate teacher's instructions from fellow learners' comments and hence they did not edit that particular section. And yet in other sections they made changes within the document and this could be misleading for other participants. For example, one participant chose to bold parts of the text and use bullets without any explanation as shown in Figure 7 below. In other words, the line between instructor and learners appeared to be blurred when students posted in wrong places.

Figure 7: A screenshot showing how learners made uncalled for changes in the original working document
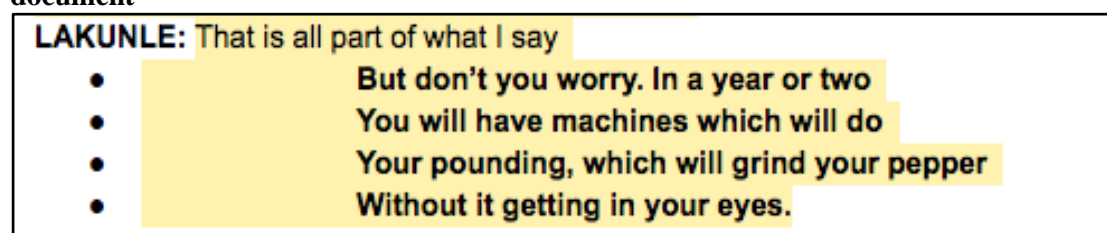
In addition, some of the comments made by learners were quite lengthy. While the content in such edits were interesting to read, they tended to overshadow other participants' contributions since some of them overflowed to the next page. The students were analytical and greatly evaluative in such posts and this indicated that they were developing some HOTS. For instance, in Figure 8 the student evaluates the character of Lakunle in relation to what he does in the text but manages to relate to personal beliefs at the end of the post (not shown here). He uses terms such as 'crush' the local jargon used for the equivalent of someone that is admired and this shows that his context is influencing his analysis.

Figure 8: A screenshot showing a lengthy comment from a student
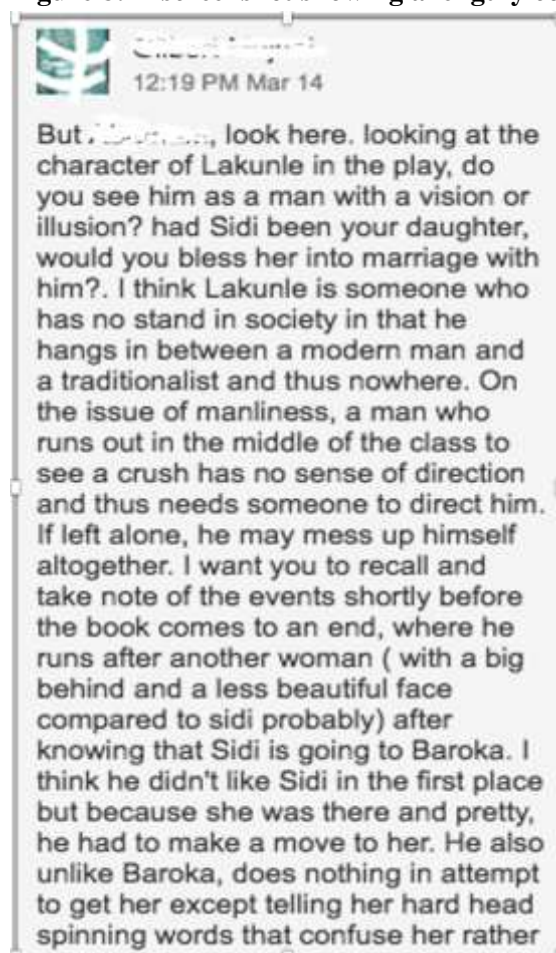

Collaboration and dialogic learning

Finally, one of the goals of this project was to design an online collaboration tool that would allow learners to develop and practice HOTS as they analyzed the selected literary text. There was a high level of collaboration among teacher trainees during this project and most of the comments they made about the text were in response to what was said by their peers. Learner to learner collaboration was observed especially when the trainees started their posts using their classmates' names as shown in Figure 8 above (covered). This implied a certain degree of partnership during the learning process

hence creating a friendly learning environment. Sometimes, they used the spaces for comments to call on each other to pay attention to a specific section of the text as shown in Figure 9 below:

Figure 9: A screenshot showing learners calling on each other
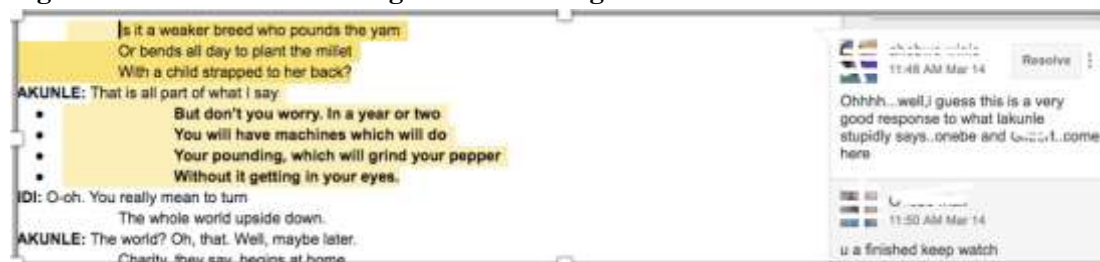
Collaboration can be seen in the ways the learners 'talk' to each other about the content. During the face-to-face sessions learners often reverted to verbal discussions about the texts and they moved from their places to consult friends from across the room. One particular student took it upon himself to help others connect to the Internet and to show them how to access the document. On the other hand, some students who appeared to be uncertain about the process called on fellow students for guidance. When some students experienced difficulties with their devices such as low batteries and low screen resolution we advised them to work in pairs and this strengthened the collaboration activity. All these were positive signs to show that the trainees were in control of their learning space and they had opportunities to learn from and with each other.

However, it was observed that there was a tendency for the discussions to become rather casual as some of the comments bordered on personal attacks. The arguments made by Greenhow and Lewin (2016) about formal and informal space when using technology in education were quite relevant during the face-to-face and online discussions. Sometimes the collaboration did not appear to be meaningful because participants resorted to trivial observations that did not help to move the discussions forward because they focused at the level of the LOTS. For example, in Figure 9 one of the participants seems to make a redundant comment 'u a finished, keep watch' that has no contribution to CL or to the understanding of the text. Regardless of these minimal gaps, it was enlightening to observe such high levels of collaboration among the students as they supported each other which is not usually the case during the formal lecture sessions.

CONCLUSION

Preparation is a key pedagogical activity if the instructor is to achieve their expected learning outcomes. If one is to adopt ICT as a teaching and learning tool as recommended by the government in Uganda (Ndawula, 2016) then they need to keep an open mind and be ready to adjust their teaching guidelines on a regular basis. For instance, the teacher may start by teaching students how to learn using tools such as Google Docs. This implies that the teacher needs to work backwards to explain how Google Docs works if quality is to be achieved in education. The teacher's role in the pedagogical process remains paramount because they have to monitor progress and set particular tasks that evoke HOTS.

Google Docs is definitely a viable and worthy technological tool that can be used to support collaboration during the teaching/learning process. The different levels of interaction can be achieved using this tool as shown in the observations above. However, it is important to note that continuous 'talking' or 'posting of comments' by students does not automatically translate into HOTS although it is a good starting point for collaboration. The instructor needs to consistently monitor the learners' posts against the objectives of the lesson. Google Docs is simply a tool that could be used alongside other materials like handouts during the lecture. It is not an end in itself. Paying attention to the different levels of educational interactions as suggested by Anderson (2004) could be a useful guideline in this matter.

Finally, it is important for educational practitioners to be mindful of the content knowledge when planning to adopt ICT for their lectures or lessons. It is quite easy for learners, especially first-time users

of emerging technologies in education, to get caught up in the excitement of using the tool just like the case with some trainees in the current study. The implication is that learners will provide inconsequential feedback and ignore the content knowledge yet it is a major factor in any educational venture. Content knowledge is usually likened to formal learning and yet there is a high degree of informality when using some of the emerging technologies in education (Greenhow & Lewin, 2016).

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