MEDIATING AUTHENTIC LEARNING:
THE USE OF WIKI'S AND BLOGS IN AN
UNDERGRADUATE CURRICULUM IN SOUTH AFRICA

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ABSTRACT

Over the past few years, the virtual landscape of South African higher education institutions has changed as a result of ubiquitous and ever-present technological initiatives that can potentially provide students with a flexible learning space. Within these learning spaces, Web 2.0 tools have transformed educators' pedagogical approaches to teaching and learning and its impact on students. To this end, emerging technologies tools such as wiki's and blogs provide a powerful opportunity to increase collaboration, and enhance student engagement. These educational technology tools has the potential to provide students who are located in resource poor institutions, the much needed digital literary skills required for the 21st century workplace. Hence, the pedagogical value of wiki's and blogs is worth further scrutiny. For the purpose of this study, a wiki task was designed to include the nine elements of authentic learning in order to improve collaboration and engagement. Alongside this, students used a blog as a reflective tool in order to document their experiences using emerging technologies in the classroom. Reflective practices in education have in many ways shown to have value and therefore blog posts were used to allow students to reflect on their learning experiences as well as a discussion forum within a blended learning environment. Therefore the aim of this exploratory study was to investigate how emerging technologies mediate authentic learning in sport science education. Participants for this study were conveniently selected from a group of students (N=88) in their second year of study towards a sport science degree which is located within a health sciences discipline. This paper drew on the students' reflective experiences after an authentic wiki-based task where a total of 67 reflective blog post summaries were analysed using a qualitative methodological approach. A thematic content analysis was conducted on the written blog reflections using the nine elements of authentic learning as an analytical framework. This paper proposes that educators be mindful of authentic learning principles when designing learning activities aimed at increasing collaboration and engagement. This paper concludes that educational technology tools transformed students' learning experiences and mediated learning, engagement and collaboration in a meaningful way.

1. INTRODUCTION

Universities in South Africa recruit students from diverse cultural and historical backgrounds (Strydom et al, 2010a; Scott et al, 2007) whose academic needs are fulfilled through the provision of mostly didactic lectures throughout the academic year. However, despite students attending lectures, there still seems to be a problem with regard to student engagement with course content (Strydom et al, 2010b). A variety of reasons could account for this, including; lack of critical thinking abilities due to under preparedness from the schooling system as highlighted by Hardman and Ng'ambi (2003) or diversity within the classroom setting as highlighted by Strydom et al (2010b). Thus, if this problem continues to exist, then Universities will never adequately equip students with the attributes required to fully function in working society after they graduate. One way this problem may be addressed is through the use educational technologies as it allows for active participation, collaboration and engagement (Gachago et al, 2013; Beldarrain, 2006). This bodes well for sport science students as they require much more flexibility in their programme as many of them are still active/professional sport participants. In addition to this, the practical nature of various sport science curricula at various institutions, locally and globally, will lend itself well to flexible learning. However, designing authentic learning activities in sport science education may be difficult to conceptualize within the classroom.

Technological applications such as the use of Web 2.0, wikis and blogs have the potential to transform the learning experience of students worldwide (Hazari et al, 2009; Siemans & Tittenberger 2009). Web 2.0 tools such as a wiki is an online authoring tool that is developed collaboratively by a group / community of users and can be used by all to publish new content or edit existing content (Hutchison & Colwell, 2012; Jobling & Moni 2004). Blogs, also Web 2.0 tools, are web sharing information technologies that often function as an online journal, but may be used for knowledge sharing or reflection (Boulos et al, 2006). These tools have become popular because of their wide scope for interactivity (Williams & Jacobs 2004). It is therefore particularly appealing because of its provision of instant, any time and any place access to a dynamic and ever building digital repository of user-specified knowledge (Wheeler et al, 2008). As an emerging technology in South African education, blogs can be valuable reflective tools in which students share or provide information about their experiences. These tools aid student engagement in much the same way as authentic learning tasks facilitates student engagement and educational outcomes (Herrington 2006). Therefore, wiki's and blogs provide a valuable space for students to engage in reflective practices whilst learning is supported by emerging technologies. Reflective practices are therefore seen as a learning strategy whereby professionals become aware of their implicit knowledge base (Herrington et al, 2010; Schön 1983). These practices in education have value in their potential to develop self-confident learners because they provide an opportunity to mirror student experiences. Reflective practices also facilitate self-examination by allowing students to look back over what has happened in practice and consider their professional growth.

Wikis and blogs are effective in fostering student engagement which is one of the elements of authentic learning (Bozalek et al, 2013). However, there is a paucity of research of wikis and blogs in sports science education globally. With regard to engagement, South African studies have shown that student engagement has been identified as an important indicator of student success and is useful in understanding students' perspective of their learning experiences in higher education settings (Council for Higher Education, 2010). To this end, student engagement is defined as the 'time and energy students devote to educationally purposive activities and the extent institutions employ effective education practices to induce students to do the right thing' (Strydom et al, 2010c:10). By increasing student engagement, there is a likelihood of minimizing apathy in the classroom and thereby improving learning and academic performance (Aronson et al, 2012). Furthermore, engagement is an aspect of teaching, learning and discovery in a way that enhances learning through its focus on knowledge enterprise. Engagement is of utmost importance as it, amongst other things, enriches students' learning experiences, broadens academic thinking and improves student development (Fitzgerald et al, 2012). In addition Angelino and Natvig (2009) indicated that engagement may be one strategy that could be used to address retention in higher education institutions. Although strategies to improve retention, academic thinking, student development and student learning create a good learning environment, it does not guarantee success and throughput. Since student engagement is central to the success of students in higher education settings, an integrated pedagogical approach that offers students the opportunity to participate in activities that allow for collaborative engagement may create a space that is more conducive for the improvement of throughput rates. However, due to the dual facet of student engagement, little research has been done on student engagement in South Africa (Warwrzynski et al, 2012).

Authentic learning is a developing strategy used in a variety of higher education programs. The tasks of this type of learning reflect the kind of activities that people do in the real world (Herrington & Kervin 2007) and it requires a classroom context that is purposeful, motivational and practical (Jobling & Moni 2004). Nine elements have been offered as guidelines for authentic learning in education: 1) Provide an authentic context that reflects the way the knowledge will be used in real-life, 2) Provide authentic activities, 3) Provide access to expert performances and the modeling of processes, 4) Provide multiple roles and perspectives, 5) Support collaborative construction of knowledge, 6) Promote reflection, 7) Promote articulation, 8) Provide coaching and scaffolding and 9) Provide for authentic assessment of learning within the tasks (Herrington, Reeves & Oliver 2010). Given the current availability of technological and electronic media advances, these elements can be fused with student-centered technological approaches that are meaningful and conducive to the ways in which today's learners engage with life-world environments (Bozalek et al, 2013; Wankel & Blessinger, 2013; Herrington & Kervin, 2007).

It is therefore important to determine the pedagogical value of emerging technologies and the impact it has on student engagement though the completion of an authentically designed wiki-based task within the South African higher education context. This paper documents a qualitative exploratory educational exercise on the use of educational technologies, using the framework of authentic learning. Therefore, the aim of this paper is to report on the extent to which emerging technologies can mediate authentic learning is sport science education.

1.1 Methodology

This pedagogical exercise was evaluated using a qualitative methodological approach. Qualitative methods typically follow a path of aggregating the words or images into categories of information and presenting a diversity of ideas gathered during data collection (Creswell, 2009).

1.1.1 Authentic Task

An authentically designed wiki task was designed for a sport psychology module. Students were required to: 1) interview a peer, in their class, who was a student-athlete to determine the psychological tools their peer would use whilst participating in sport; 2) Find relevant literature to contextualize or support their findings based on their interview, 3) based on their findings, they had to develop or recommend an activity to enhance sporting performance. The student-athlete profile was constructed on a wiki using the open access Wikispaces platform. Whilst completing the wiki, three randomly assigned class members reviewed, and gave constructive feedback on one of their colleagues' wiki page. This was done for the purposes of improving each wiki page. After completion, each student's wiki page was anonymously peer reviewed by another class member. Alongside the wiki, a class blog was available for use as a forum for discussion. The discussion forum page was used to support the blended learning environment where class discussions about topics that were not completed in the classroom, was taken up on the blog discussion forum. This also allowed the researcher to ascertain whether there were areas students may require further learning. The other purpose of the blog was for students to post their reflective experiences of engaging with the educational technologies in the classroom. To this end, students were encouraged to contribute a five-hundred (500) word reflective summary about their experiences using educational technologies in the classroom for the first time.

1.1.2 Procedure

Participants for this study were conveniently selected. A sample of eighty-eight (88) students in their second year of study towards a sport science degree at a higher education institution in the Western Cape, South Africa was invited to participate. The university is considered a resource poor institution. An e-mail was sent to all students to request permission to use their five-hundred (500) word reflective summaries as part of this study. Students, who granted permission to use their reflective summaries, did so privately via e-mail or via a Google doc's information sheet. This ensured that correct data was collected and that the participants did not feel intimidated by the researcher asking in person. Sixty-seven (67) of the 88 students agreed to participate. With respect to ethical considerations, permission to conduct this research was obtained from the Senate Research Grants Committee and the Ethics Committee at the University of the Western Cape. All information was treated with the strictest confidentiality in so far as pseudonyms were used to protect the anonymity of the participants

1.1.3 Data Collection and Analysis

Data was extracted from the class blog, captured, coded and prepared for analysis using a thematic analysis. The text in this study was coded by placing words or phrases, which are related the nine elements of authentic learning, which was used as an analytical framework. Similar or related ideas were grouped together in thematic categories that represented authentic learning activity indicators. The thematic categories were then synthesized into a narrative summary that highlighted how the elements of authentic learning were manifested in the students' responses. This narrative summary aimed at reflecting the experiences of the participants regarding their use of emerging technologies in the classroom.

2. RESULTS AND DISCUSSION

This section represents the findings of the thematic content analysis. The discussion below starts with an outline of the results. Pseudonyms have been used to protect the identity of the research participants.

2.1 Results

Reflective summaries were extracted from the class blog which documented students' experiences of using wiki's and blogs to support learning in the classroom. Themes from the 67 reflective blog posts are summarized below:

2.1.1 Authentic Context

In order to create an authentic context within a sport psychology module offered to sport science students, a flexible learning environment utilizing wikis (Wikispaces) and blogs (Blogspot) was created. Both the physical and the virtual environment reflect the way in which knowledge is co-constructed and shared.

I enjoyed that we were given a topic that allowed us to be flexible and use plenty of content such as information, pictures, video content and links to other websites (Nicky)

It is a way to train us and get us ready for the outside world when we actually start working and nowadays everything is done on the internet, so all of this is quite helpful in a way (John)

The above quotes indicate that students were able to recognize the task was flexible, and that it had a real life connotation using a medium that they would in the workplace.

2.1.2 Authentic Activity

The activity had real life relevance since students had to interview real athletes (who happened to be classmates) in order to build a psychological profile, just as they would if they were in the real world. Information was systematically gathered across an 8 week period and integrated in the subject area

The wiki assignment... I felt the assignment had real life connotation and gave us an opportunity to improve on specific skills involving the psychological tools necessary to improve sporting performance (Jamie)

The time for the assignment was long enough I think we were given two months before the due date, so anytime I had a chance I had to write some few lines (Samantha)

The above indicates that the task was authentic enough because it depicted real life scenarios. Students also report that the length of time they were given to complete the task was over a sustained period of time.

2.1.3 Expert Performance

Access to experts in the field was challenging as sport psychology is not a recognized profession in South Africa. To this end, students were able to access global experts work online and view YouTube clips. Each student was required to share their story, and for this assignment, their peers became the experts. Therefore, three peers had to comment on each student's wiki and give input based on their understanding of the content. The researcher was available to facilitate this process.

Using Wikispaces, BlogSpot, and Edmodo was fun, and it made it easier for us students to communicate with each other and with the lecturer. .. These websites provided a platform for us to interact with each other and the lecture (Bronwynne)

My favourite thing about wikispaces itself was that we could view everyone's page. Reading about everyone in class, was very interesting and informative (James)

The above quote exemplifies that the sharing of stories in an online space provided an opportunity for students to access other 'professional' opinions. Furthermore, students enjoyed the ability to interact and communicate with peers as well as the educator.

2.1.4 Multiple Roles and Perspectives

There was a cross pollination of learning as students were exposed to other areas of sport science (such as sports injuries) as a result of the activity. Students were allowed to express their viewpoints with regard to the subject area which led to deeper investigation in this and other subject areas

Seeing the different views and opinions of different students and being able to challenge what each other says made it worth blogging (Amanda)

[It] Was also a very interactive assignment made it more interesting because for once we would get to use other people's views and perspectives that we would incorporate in our assignment, other than our own (Andrew)

One assignment I read over had a video which explained how rotator cuff operations (Cory)

Students valued the idea that they were able to not only express their own views, and view those of other classmates. They were also keen to blog about their views and challenge viewpoints of their peers. Furthermore, this task allowed students to engage with content they would use for another module in the following semester.

2.1.5 Collaborative Construction of Knowledge

In order to do this assignment, students had organized themselves in pairs in order to do the interview. In addition, three different students were randomly assigned to comment and give input into their peers' blogs. There were incentives for peer group assessments as extra grades were awarded for group input and constructive comments.

I actually came into contact with people in class that I normally wouldn't be in contact with (David)

It was very interesting to engage with a fellow classmate, working together on the information and actually applying everything that we have done in class so far to a real case (Bongani)

Through this assignment, students were able to collaborate with peers they would not normally communicate with inside or outside the classroom. They valued that they were able to learn from their peers.

2.1.6 Promote Reflection

Students were given an opportunity to use blog to reflect on their learning experience. Ease of access was granted as students could access both educational technology tools via their mobile devices. Free wireless internet access was also made available on campus.

It also gave us a chance to revise our work in an actual living environment, which makes our understanding of psychology so much better (Peter)

I think having the blog is a very good idea to get us all involved in various discussions and reflections about the subject and work (Linda)

The blog provided students with an opportunity to go through the discussion forums to revise work, but also reflect on their own learning.

2.1.7 Promote Articulation

The task required students to articulate what their classmate had shared with them. Therefore, the need for scientific writing was crucial as students had to blend formal and informal spaces, yet keep their writing style succinct and academic.

Having someone interview me and ask me about the way I prepared myself, actually got me thinking and helped me to gain knowledge about other ways in which I can prepare myself (Frank)

I really enjoyed writing about the person I interviewed and it was great learning more about the person's sporting background (Jane)

Students found that articulating their story to peers required some finesse, but within the articulation they were learning new ways of improving performance as an athlete by writing someone else's story.

2.1.8 Coaching and Scaffolding

Since students were given nine weeks to complete the assignment, assistance was available for the duration of the activity. Furthermore, more knowledgeable peers served as coaches in their collaborative groups as well as in the classroom.

Lecturer was also a star in helping us with what to do and made the instructions reasonably clear on what she wanted. We were always free to go ask her questions (Thandi)

One of my classmates started to show me some of the stuff it was really nice and fun to play with the wiki (Alan)

Students were satisfied that there was assistance to do this task by not only the educator, but also from their peers.

2.1.9 Authentic Assessment of Learning

Peer comments were permitted in order for students to refine their final product before it underwent an anonymous peer evaluation process. A peer evaluation component was built into the assignment. One peer who had no interaction on another peers wiki had to anonymously assess the wiki in its complete state using a rubric.

The peer assessment was also a good part of the assignment as it allowed me to see how other members of the class approached the task and it gave me the opportunity to compare it with mine (Gary)

The assignments give me an opportunity to reflect and comment on 3 students which were part of the assignment showing my own view (Lloyd)

Students reported the value of having peers comment on their wiki as it gave them an opportunity to refine it before finally submitting it.

2.2 Discussion

The purpose of this paper was to explore how educational technologies, such as wikis and blogs can be used as mediating tools to support authentic learning in sport science education

With regard to the *authentic context*; students reported that the flexibility of doing an assignment in online spaces was valuable and at the same time they were able to learn about other classmates, and not only the one that they had to interview. Results show that the students were of the opinion that the *[authentic] activity* had real-life relevance and that it could prepare them for the working world. Students felt that the time allocated for the assignment was long enough [eight weeks] and they could use a variety of resources to complete the task. In addition, students felt that they were able to link their task to other disciplines and broaden their knowledge, more specifically to sports injuries. Sport science students would enjoy this flexibility because the nature of sport science programmes includes practical aspects that require them to be outside of the traditional classroom (McMullen et al, 2013). Much of was reported is consistent with Herrington et al's (2010) elements of authentic learning . By affording students an opportunity to engage is a real-world activity allowed them to make learning more meaningful and relevant for what they would be required to do outside of the learning environment. It appears that by appropriately structuring an authentic task, students are able to decontextualize formal learning (Hannafin, 1991) by dividing the activity into manageable tasks across an 8 week period.

Students reported that they felt comfortable expressing their opinions and share their stories and interact with fellow classmates on the blog as well as the wiki. This could be attributed to the fact that the tools were only accessible to their classmates in a closed wiki. Although students did not have access to *expert opinions* directly, they were able to access other 'professional' wiki, you-tube videos posted by experts as well as the wiki provided to model what was required. Students were however allowed to share their wiki stories with the entire class through sharing; they became experts in and amongst themselves. Students also reported that they were able to express their opinions, share their stories and interact with fellow classmates through the technology tools. This further supported *expert performance* on the authentic learning continuum. In relation to *promoting reflection* students were permitted to choose anyone in their class they wished to interview. They had an opportunity to decide the format of their wiki within the conventions of the assignment task. Students appreciated the ease of access since both Wikispaces as well as the Blogspot tool was open access and easily available on their mobile devices and they had free wireless access on campus. Students were allowed to compare their work to those of their classmates and felt that they were allowed a space to discuss subject matters with peers. This also allowed them to enter and revisit the learning spaces as they deemed fit as highlighted by Williams and Jacobs (2004)

Students in this module appreciated the fact that they were able to express their views, but more so, they appreciated the fact that classmates could give feedback on wiki's that they were able to take into account when completing their task. Students were able to use learning resources for other disciplines such as sports injuries and this allowed the task to take on a dual or *multiple roles* in that it provided an opportunity to crisscross learning environments. In addition, the blending of formal and non-formal learning spaces also assisted with this particular element. With regard to *collaborative construction of knowledge,* students were of the opinion that the interaction on the blog and wiki provided a rich opportunity for students to learn from one another. Whilst students claimed to enjoy the interaction and engagement in some elements, they also reported in other areas of the authentic elements that they've learnt from one another. When students are allowed to work in groups, they are better able to *articulate* their [learning] progress throughout completing the authentic task (Herrington & Kervin 2007). Furthermore, the engagement this task allowed students is valuable since student engagement has been documented to be critical to success (Strydom, Mentz & Kuh 2010). This assignment hinged not only on the co-operation of their colleagues, but the collaboration on the ICT tools. For this reason students appreciated the support they received from the lecturer and peers

[*coaching and scaffolding*]. This showed that this task allowed for meaningful engagement in the sharing of knowledge across the classroom. To this end, the ICT tools used in this study provided an open space for meaningful engagement and interaction. This meant that the interaction on the blog and wiki provided a rich opportunity for students to learn from one another. This study demonstrated that through active engagement and interaction, students were able to learn from one another through meaningful collaboration and in doing so constructed knowledge by learning from one another in an open space. This further demonstrates that ICT tools are extremely valuable to support learning in an authentic context within a social-constructivist learning paradigm.

3. CONCLUSION

This study was limited to one of the twenty-four higher education institutions in South Africa. One main limitation of this study is that the perceptions of students from a conveniently selected sample were used and only positive experiences as expressed by student were discussed in this paper. Although only reporting on one case, findings from this contextual data shows how the use of education technology / learning tools transformed students' learning experiences and levels of engagement within the classroom. Thus, the outcome of this pedagogical exercise has offered new insights into our pedagogical approach to teaching sport science programmes and how these tools can mediate learning and foster engagement in the classroom. With regard to mediating authentic learning in sport science education, not many academics within this discipline use emerging technologies, or authentic learning. This goes a long way to inform our teaching and learning practices using emerging and educational technologies as mediating tools, in a way that enhances student engagement and facilitates collaborative construction of knowledge in a constructive manner. By affording students an opportunity to engage is a real-world activity allows them to make learning more meaningful and relevant for what they would be required to do outside of the learning environment as it transforms their learning experience in a more tangible way. With regard to wikis and blogs as mediating tools for authentic learning, when these tools are combined, they provide valuable support for the nine elements of authentic leaning.

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