PEER TEACHING IN A FIRST YEAR UNDERGRADUATE CLASS: INDIGENOUS LANGUAGE MEDIATING THE LEARNING EXPERIENCE

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The biggest challenge with large and diverse classes is that educators spend a lot of time consulting with students outside class time. In this paper, we will report on the experience of students being knowledge drivers, using both English and isiXhosa to demystifying complex statistical concepts. The paper begins by outlying the South African student body in relation to statistics education in the country. We then highlight how a concept video project promoted collaborative learning among students as well as the importance of multilingualism. We then focus on the insights that the project provides educators on student conceptual understanding, thinking and reasoning.

BACKGROUND

The South African Higher education (HE) system comes a long way. Pre 1994, the apartheid government used education as one of its tools to separate people by race. There were distinct institutions for white and blacks, with black institutions under funded by the government. Post-1994 the number of students has increased at universities and black students' access to HE has improved. This increase has put a lot of pressure to lectures at universities as the student body is now quite diverse in terms of language, socioeconomic class, race and cultural background.

This paper starts by providing a context of the study by reflecting on language diversity in HE and thereafter discusses how a bilingual educator helped create student driven concept videos to promote collaborative learning among students, as well as integrate the use of an indigenous language (IsiXhosa) to mediate the learning experience.

LANGUAGE DIVERSITY

The country has eleven official languages and IsiXhosa is the most spoken language in the Eastern Cape (EC), consequently, most black students I teach at Rhodes University (RU) which is situated in the EC are IsiXhosa speakers. It is very common that students who come from township and rural schools were predominantly taught different subjects mainly in their home language. When comparing students by racial groups, black students tend to have very low throughput rates in South African universities due to several factors. Language has been seen as one of the factors that affect black student access and success at university (Snowball & Boughey, 2012). When looking at graduation rates, black students tend to have low pass rates compared to their white counterparts. This means that some students miss out on learning key concepts because of a language barrier as English is usually their second or sometimes third language.

As part of the RU transformation goals, the university has a mandate of removing barriers imposed by language practices. This involves aiming to introduce bilingual English and isiXhosa courses and the use of other South African languages as languages of learning and teaching (LoLT) to improve epistemological access (RU Language Policy 2014). In some cases, code-switching was used to teach various subjects.

THE INTRODUCTORY STATISTICS CASE

Introductory statistics has one of the largest numbers of students after economics and psychology at RU. Statistics 1D is a requirement for Bachelor of Commerce students but other students are able to take it as a credit. The class size is usually 400 students. The course is offered in the second semester and is usually divided into two classes.

Learning statistics can be comparable to learning a new foreign language. In order for one to be a successful statistics student, one needs to master key concepts, such as variability, and their meaning; the symbols used and also master how to "speak statistically". Phakeng & Moschkovich

(2013) argue that a task like learning a subject such as statistics in a language that is not the students' home language is challenging and quite demanding as they are using a language they are not proficient in to understand acquire new knowledge. While teaching statistics for the past four years at RU, I observed that students who spoke IsiXhosa preferred to ask statistics questions in their home language more than they did in English, especially after class and during consultation hours. In more recent cases, a student would pose a question in IsiXhosa in class. This was quite common in small foundation classes where students mainly spoke the same language but it was not as common in big diverse classes until recently. Some students would even plead that office consultation be conducted in IsiXhosa by saying *"Khawuyicacise ngesiXhosa, mem",* meaning, *"please explain it in IsiXhosa ma'am"* when they enter my office or sometimes during a consultation. Using their home language to explain statistical concepts proved to be enabling them to understand the concepts better as they did not have to worry about hurdle of understanding English before understanding the statistical concepts.

In 2016, I started a concept video to support students taking an introductory statistics course with additional learning resources. These were short videos that focused on explaining key concepts in the course and were made available to students via YouTube. In 2017, students were incorporated into the project by using them as the main knowledge drivers while I served as a facilitator. An idea to produce the videos in other languages was also introduced due to the demand students had to have concepts explained in their own home languages. We explored with IsiXhosa because it is a language I also speak and also because there was a huge demand for it. The videos were focused on explaining key concepts in Theory of Finance and Statistics in both English and IsiXhosa; giving those students who spoke IsiXhosa an option to watch the video in English or IsiXhosa. Some students found it beneficial to watch both videos and in some cases using the IsiXhosa when they do not understand the English one. However, some opted to watch the IsiXhosa videos strictly.

The project promoted peer learning as the volunteer students were also students taking the course and they managed to form study groups outside the times we were shooting videos. A WhatsApp group was initially created for ease of communication to the group of volunteers but it also served as a platform that students used to engage each other on statistical concepts. This interaction happened organically without me initiating it. Intellectual discussions on various statistical topics took place in a social media platform that students do not traditionally use for learning. As an educator I only played the role of being a facilitator; intervening when I needed to but mostly allowing the students to lead the conversation and learning space. Due to limited time we did not aim to cover all topics but rather what the students and I felt were difficult concepts to grasp. The videos were timely for test and exams, ensuring that students are able to use them not only to solidify concepts during the term but also have a resource to refer back to closer to summative assessments. The demand for the videos was high and did not affect attendance as some people would assume it would. Students saw the videos as a supporting tool rather than a substitute to attending lectures.

At some point we struggled to get funding to pay the videographer and when students heard this they offered to fundraise for the project. One even came up to offer his photography skills in order to ensure that the video project would resume. In his email to me proposing this he said:

> "Hi Thina,
> Hope this email find you well, I saw your post of facebook about stats tutorial videos and not only am I interested in learning I also am able to supply two HD cameras and editing abilities as part of me understanding stats and exposure" (Student 1 email 2017)

In the email above it is quite clear that the student saw this as an opportunity to learn statistics to the extent of wanting to be part of it and also saw it valuable enough to invest in it with his materialistic things to ensure the success of the project. There was also an increase in the number of students who wanted to volunteer to be part of the project. Students liked the idea of teaching others and being on YouTube. Volunteering in the project became a "cool thing" to do and the volunteers started calling themselves the "video squad". This was a great benefit as it

meant that we had enough volunteers to shoot a video even when others could not attend due to other academic commitments. At times, some would just attend even though they were not going to be leading a video shooting as they saw the sessions as an opportunity to learn.

The added benefit of the project is the cut on consultation time. Large classes tend be quite demanding when it comes to out of class consultation time. This was a huge bonus for understaffed Statistics Departments that have high teaching loads. The ability to refer students to a particular video to ensure that they prepare prior to consultation meeting proved to be beneficial. This made consultation meetings more effective as the video provided a good base to the student prior to the meeting.

CONCLUSION

The findings of this study show how it is important to continuously to explore and invest more on different ways to incorporate indigenous languages even in a multilingual context such as HE. It is evident that this is not something we should overlook. There are many challenges we are experiencing in HE. Some have already been mentioned above. Pass rate, diverse student body and large class sizes. However, the key is making sure that all these interventions are driven by HE and the institution. This means it is not sufficient that there's a language policy that states that the institution supports multilingualism. To allow the policy to fulfill its mandate, the key is to have structures that continuously support this model. Failure to do this leaves the responsibility to certain individuals to take up the initiative to further support these students outside normal university structures.

The video project is one example that has shown how this can be achieved. Students want to be excited about learning, but only when one explored tools that are relevant to them. We live in a world of technology. We need to acknowledge that our methods need to continuously adapt to the needs of the students. For example, the use of social media (WhatsApp and facebook) really proved to be beneficial in supplementing the traditional email communication. We live in an era where students spend a huge amount of their time on social media, so finding ways to incorporate social media in Teaching and Learning means that we have instant access to students.

This is one project. This is one example. This study is not meant to be one size fits all. What works in one context might not work in another. However, it is very important not to standardize our methods. We miss key learning opportunities when we think all students are the same and we deprive them of epistemological access.

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