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Student perception on a supplementary multimodal tool for Academic Literacy: A pilot study

Abstract

In light of the various advantages the e-learning experience could have for students, a blended teaching approach, where instructors make use of e-learning, has become increasingly prominent in higher education institutions. This study, which was conducted at a South African institute of higher education with a diverse and multilingual student population, focusses on student perceptions of the efficacy and accessibility of a multimodal tool called WIReD to supplement the existing academic literacy module. The review of student perceptions was structured around the outcomes for the module unit with which WIReD is intended to blend. In order to determine student perception, a questionnaire using a Likert-scale to measure responses along with open-ended questions, were

used. As such, this study firstly examined students' impressions of the design (overall appearance) and accessibility of WIReD. Secondly, it investigated the appropriateness of content, especially with regard to the envisaged blend between WIReD and the module content as taught during lectures and in the workbook. Despite being a pilot study with results based exclusively on student perception, it seems that WIReD can be utilized as a supplementary multimodal tool and that the outcomes thereof blends effectively with the outcomes of the academic literacy module.

Keywords: academic literacy; blended learning; e-learning; multimodal teaching tool; student perception; WIReD

Introduction and background

In the past few years, the role of a blended teaching approach, where instructors make more intensive use of e-learning in higher education, have become increasingly prominent and as such, institutions of higher learning are complying with the increased demand for e-learning opportunities, either by expanding or supplementing their existing curricula with e-learning platforms. These e-learning platforms are often perceived as providing convenient, flexible and accessible self-directed learning experiences suitable for a wide range of learners and learner needs. (Hameed et al., 2008:3; Poon, 2013:279). The student population at the South African institution for higher education where this study was conducted, is a diverse, multicultural, multilingual population between 18-25 years of age, who, as members of Generation Z, tend to be “socially connected, visual and technological” (Linnes & Metcalf, 2017:15; cf. Seemiller & Grace, 2016, Turner, 2015, Geck, 2007). This would suggest that students in this age group are generally comfortable with digital technologies such as the internet and should therefore be receptive to a blended learning environment.

Considering the potential advantages the e-learning experience could have for students, a supplementary multimodal tool called WIReD¹ was designed and introduced in 2018 into the academic literacy module offered at this institution.. The academic literacy module is compulsory for all first-year students and new undergraduate NWU-students previously registered at other higher education institutions where an academic literacy module is not offered, or where the NQF-level (5) and credits (12) differ from the module presented at our institution. WIReD was designed to support students in the development of writing, information literacy and reading skills. Accordingly, WIReD refers to **(W)riting, (I)nformation literacy and (Re)ading (D)evelopment**. WIReD can be downloaded through a link that is made available to students and is designed to provide additional learning opportunities for aspects covered in the academic literacy module.

WIReD consists of four units and it was envisaged that the completion of all the units will assist students in developing the necessary academic literacy skills needed for successful study in the higher education environment. However, as a result of technical difficulties (including some problems with the availability of the links to the application), as well as the fact that the module syllabus is already very full, it was decided to only pilot unit 3 of WIReD (which focusses on information processing skills) in order to determine student perception of the adequateness and appropriateness of this online learning module as well to assess the nature and extent of technical difficulties experienced by students.

In light of the above contextualization, this study will focus on student perceptions of the efficacy and accessibility of unit three (information processing) of WIReD to supplement the corresponding unit in the existing academic literacy module adequately and appropriately. The study therefore engages with the following research questions:

1 See section 3

What are student perceptions regarding the instructional design of WIReD?

What are student perceptions regarding the efficacy with which unit three of WIReD blends with class work and the prescribed workbook?

The objective of this study is to determine student perceptions of WIReD after their completion thereof, and as such, the impact of WIReD on student success in completion of the academic literacy module in question falls outside the scope of this study. The assessment of student perceptions is structured around the outcomes for the module unit with which WIReD unit three is intended to blend.

The first question explores students' impressions of the *design* (overall appearance) and *accessibility* or user-friendliness of WIReD. The second question focuses on the appropriateness of *content* and examines whether students were able to recognise the overlap or blend between WIReD and the module content as taught during lectures and in the workbook. Before describing the methods and findings, this paper will first review literature relevant to the role of academic literacy in the development of student writing, information literacy and reading skills as well as online learning modules.

Conceptual and theoretical framework

Writing development and the academic literacy-curriculum

Unsatisfactory academic performance and low levels of academic literacy, even among students with high academic potential, have become increasingly common in higher education (HE). It is no secret that students experience several challenges when making the transition from secondary school to higher education and that levels of student preparedness differ vastly (cf. Van Dyk 2010, Van Dyk & Coetzee van Rooy 2012). Mostert and Van der Walt (2018:63) proposes that this trend is already foreshadowed at secondary school level, in the sense that learner's often have difficulty adapting to the academic demands of the secondary school context. This is made evident by learners' general inability to expand and adapt their language uses and practices to increasingly complex and demanding academic content and concepts, leaving many of them ill-prepared for university by the time they complete Grade 12. These "inadequate preparedness levels of higher education" (Van Dyk & Van de Poel, 2013: 44) has led to the implementation of support programmes at various South African universities that target linguistic behaviour through the development of academic literacy and academic language ability of students (cf. Van Dyk & Van de Poel, 2013; Van Dyk 2011).

Academic literacy can broadly be defined as “the knowledge and skills required to communicate and function effectively and efficiently in different academic communities and achieve well-defined academic goals “that also include students’ ability to handle their respective identities as linguistic, visual, numerical, information and computational creators in in various modes” (Van Dyk & Van de Poel, 2013:46). As such, adequate academic literacy levels are a significant predictors of academic success in HE – a theorem supported by, amongst others, Sebolai (2019) Sebolai and Dzansi (2017:250), McKay (2016), Van Rooy and Coetzee-Van Rooy (2015), Van Dyk (2015), Du Plessis and Gerber (2012) and Weideman (2003:58).

According to Weideman (2003:56), one of the challenges that make it difficult for students to comply with the high academic demands of university study, is their inability to comprehend academic discourse. As a primary means of communication at HE-level, effective writing is an important skill that involves learning, comprehension and synthesis of new and existing knowledge. This would suggest that students’ language abilities and practices need to expand to keep up with increasingly complex language demands. Defazio *et al.* (2010:34) points out that writing is about more than adhering to writing conventions, as it also entails “creative inspiration, problem-solving, reflection and revision” that results in a completed writing assignment, such as an academic essay or a report. Students often have a negative attitude towards academic writing as they regard it as a difficult and taxing exercise. The reason for this relates back to students’ general unpreparedness for the academic challenges of higher education. Though there are several reasons for this, such as socio-economic, political and historical realities (cf. Van Dyk & Van de Poel, 2013; Sebolai & Huff, 2013), the discussion of which fall outside the scope of this article, the majority of students that enrol at South African universities lack the skills required to effectively communicate in written formats that will enable them to graduate and be successful in their prospective professional careers, and as such, an adequate academic literacy program at undergraduate level is crucial. (Sebolai, 2019; Sebolai & Dzansi, 2017:250; Van Rooy & Coetzee-Van Rooy, 2015). Furthermore, Van Rooy & Coetzee-Van Rooy (2015) determined that scores attained through academic literacy modules are excellent predictors of academic success.

Defazio *et al.* (2013: 34) posits that there is a need for students at all levels to communicate proficiently in written format and to understand the importance and relevance of good writing skills. Moreover, an important aspect of written communication is the ability to critically assess and reflect on the writing of others. Writing ability or skill is usually made evident by the student’s ability to structure an argument, provide relevant and appropriate evidence and come to informed conclusions, while avoiding plagiarism and communicating their argument using relevant and appropriate terminology, style and register. In this regard, the role of writing in the academic literacy module offered is made evident in its core outcomes, which stipulates that upon completion of the module, the student should

demonstrate fundamental knowledge of appropriate computer programs, apply learning, listening, reading and writing strategies, use academic language

register and read and write academic texts, in order to function effectively in the academic environment;

demonstrate effective oral and written communication skills on an individual level and in a group in an ethically responsible and acceptable manner in an academic environment;

demonstrate the ability to find and collect scientific knowledge in a variety of study fields, analyse, interpret, and evaluate texts, and synthesise and propose solutions in appropriate academic genres on an individual level and in a group in a coherent manner by making use of linguistic conventions used in formal language registers.

However, from the outcomes above it can be inferred that writing ability is only one of several competencies required for students to function within the different academic contexts they encounter at university. Archer (2006:2) argues that academic literacy courses tend to overemphasize the teaching and analysis of the mode of writing. To counteract this, she supports an approach “which recognises the different semiotic dimensions of representation” (2006:2), as is the case with ‘multimodal’ approaches to teaching and learning practices (TLP), such as e-learning platforms that support or supplement more conventional TLP.

In this regard, WIReD aims to make apparent to students how course content relates to technology and writing. As such, the survey that measures student reception of WIReD offers an apt platform for this, as it provides students the opportunity to be users of technology while simultaneously reflecting on the technology’s appropriateness and functionality. In addition, WIReD can potentially result in students improving their basic computer literacy, especially as instructions are clear and easy to follow.

There is an important overlap between the outcomes of what is taught in class, the outcomes of WIReD and what is assessed in the form of two major writing assignments. A central objective of academic literacy as well as WIReD is to assist students in learning to formulate a clear research question and focussed thesis statement. Students also learn how to process information in order to provide support for this thesis in a well-organized essay with evidence from appropriate academic research articles. To achieve these learning outcomes, WIReD was developed as a practical application that continuously stresses that writing is an ongoing process that involves revising and editing one’s work numerous times.

Since WIReD can be seen as a supplementary multimodal tool which was developed with not only the requirements of being academically literate in mind, but also with the demands of an increasingly blended approach to teaching and learning in higher education, relevant information and communication technologies (ITC) will briefly be discussed.

Electronic learning platforms

With the development of technologies, especially the internet and internet related applications, instructors have entered an exciting and new era in higher education (Rossing, *et al.*, 2011:2). This era in higher education is defined by its innovative, interactive methods and the promotion of higher education through the emergence of the flipped classroom, a blended learning approach, the use of learning management systems (LMS), a multimodal teaching approach and e-learning, along with the development of information and communication technologies (ICT). Thus traditional models of teaching are being restructured in favour of the integration of teaching philosophies inclusive of ICT. In this section a brief description of the abovementioned concepts will be presented, therefore providing the background against which WIReD is defined.

The transfer of knowledge, one of the foundations of learning, has become much more accessible due to the developments in technologies. ITCs are referred to as “the varied collection of technological gear and resources which are made to communicate, generate, distribute, collect and administer information” (Sakar, 2012:32). As Sakar (2012:32) explains, ITCs were introduced in the late 1990’s as a tool to support the education sector, and it consists of the hardware, software, networks, and media for collection, storage, processing, transmission and presentation of information (voice, data, text, images), as well as related services. The introduction of ITC in higher education shows various advantages, making asynchronous learning possible as online course materials can be accessed by students 24 hours a day, 7 days a week.

The incorporation of ITC into higher education lead to the concept of blended learning. Blended learning can, at its simplest, be seen as an integration of classroom and online learning experiences (Garrison & Kanuka, 2004:96). Singh (2003:53) states that blended learning combines multiple delivery media that are designed to complement each other and promote learning and application-learned behaviour. The blended approach to higher education facilitates a community of inquiry, an approach through which the zone of proximal development is addressed, since the student is enabled, through self-study and guided activities, to understand the theories and apply this knowledge in real life scenarios.

The “flipped classroom” can be seen as a form of blended learning. The “flipped classroom” refers to a technology-infused learning model in which content attainment is shifted outside of the class, while teacher-facilitated application of activities is conducted in the class (Jensen, *et al.*, 2015; Strayer, 2012; Tucker, 2012; Gajjar, 2013; Sarawagi, 2013). Heiss, *et al.*, (1950), Bybee (1993) and Lawson (2002) distinguish between two teaching phases, the content attainment phase – where students gain conceptual understanding – and the concept application phase – where students apply or evaluate the content they have learned. Although the purpose of the two phases differ from a traditional teaching method, both are still present in a “flipped-classroom” approach.

E-learning is defined as “the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services, as well

as remote exchange and collaboration” (EC, 2001). It is therefore sufficient to say that a blended teaching approach combines the notion of flipped-classroom and the use of a blend of materials – multimodal – to support students in reaching the required outcomes of the specific module. However, the development and integration of the above mentioned is not without challenges. Although Prensky (2001:3) argues that individuals born post-1980 are inherently “technology-savvy”, Parkes, *et al.* (2015:2) states that these so called “digital native students” struggle with e-learning. Chen and Yao (2016:1670) found that these so called “digital natives” prefer the blended approach in which e-learning supplements traditional teaching methods.

In addition to Chen and Yao (2016) Liaw and Huang (2013), Calisir, *et al.* (2014), Chen and Tseng (2012), Tarmhiri, *et al.* (2013) and Motaghian, *et al.* (2013) also found that the main function of an e-learning system was to provide much needed support in the academic acculturation process. Furthermore, Chen and Yao (2016:1670) established that the design dimension of the e-learning tool was crucial to the students’ perception of the usefulness of the tool. Against this background of academic literacy and electronic learning, WIReD will now be defined and described.

WIReD

WIReD – (**W**riting, (**I**nformation literacy and (**Re**ading (**D**evelopment) - a supplementary multimodal tool was introduced to the students of University X during the second semester of 2018. WIReD was designed by a team of applied linguists. The content of this tool was formulated in MS Word format, after which a team of instructional and graphic designers reproduced the content in *Articulate Storyline 2* which is a foundational e-learning-authoring program for instructional designers. With this program, it was possible to integrate visually appealing designs – audio, video, images, text – with an interactive approach to the module content. Students therefore had access to a supplementary tool mirroring the scaffolded teaching and learning approach used during the contact sessions.

The WIReD content was divided into four units, Unit 1: Academic acculturation, Unit 2: Find and evaluate information, Unit 3: Processing information, and Unit 4: Produce and present. The first unit refers to an introduction to academic literacy and focuses on the notion of *academic acculturation*. Unit 2 covers the process of *information seeking*, while unit 3 is concerned with a skillset that many students struggle with, but that are crucial at university level, namely *information processing*. Unit 4 concludes WIReD and guide students through the processes of *producing and presenting information*; a process that culminates in a student writing project, or guided written assignment. For the pilot study of this tool, the decision was made to only review student perceptions of Unit 3 due to problems and difficulties encountered in the development and implementation of WIReD. In addition, this unit provided an ideal platform for assessing the efficacy with which WIReD blends with classwork and the prescribed workbook as it covers some of the most important outcomes of the academic literacy module, such as referencing and

planning of the academic essay. Figure 1 below provides an overview of the topics or sections included in unit 3.

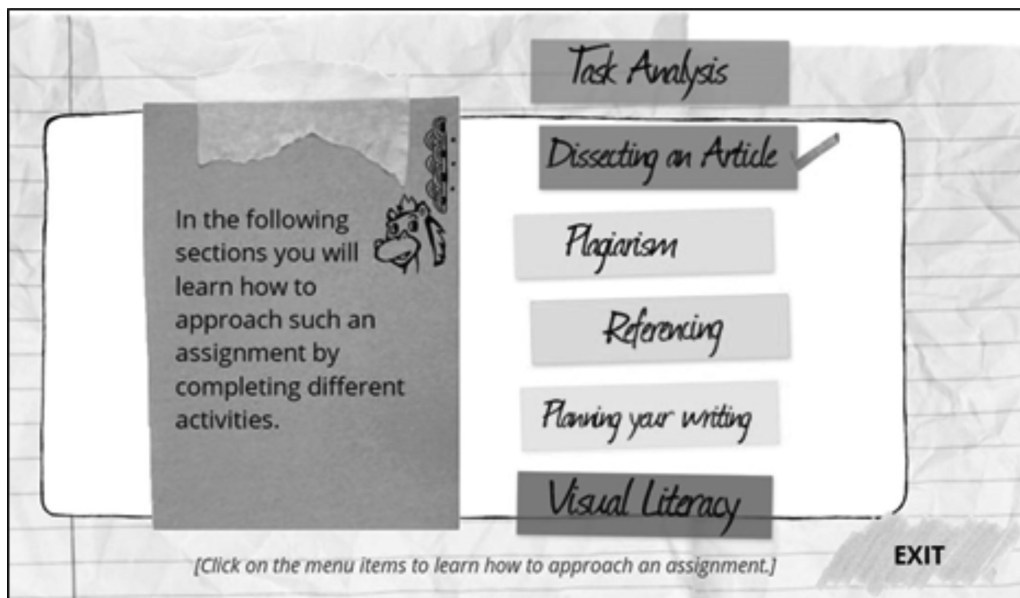


Figure 1: An overview of the menu screen for WIRed Unit 3

Before releasing WIRed to the students, a problem regarding the distribution of this tool was encountered. WIRed was exported from *Articulate Storyline 2* in a Sharable Content Object Reference Model (SCORM) format, however, the SCORM player used by the LMS at this particular institution did not support the exported format of WIRed². Another issue was the number of students enrolled in this module who had access to computers and/or a stable internet connection. Hence WIRed was published as a downloadable link on the local LMS. Students could download the tool onto their personal computers, or work in one of the various computer labs on campus. Once WIRed was downloaded, a working internet connection was not necessary to work through the unit(s). Although this approach did not solve all the problems at hand³, Unit 3 of WIRed could be piloted and was accessible to a large number of students, enabling us to examine the students' perception of this tool.

2 Cost implications and a lack of available funds forced the developers and lecturers to devise an alternative plan for incorporating WIRed into the academic literature module and making it available to students.

3 Since this article focusses on the student' perception of WIRed we will not discuss any issues encountered during the design or publishing phase of this tool. The goal of this article is to establish the perception of Higher Education students in South African regarding a multimodal tool in a blended teaching and learning environment.

Methods

In order to determine the students' perception of WIReD, a questionnaire was compiled in Google Forms and made available during the second semester of 2018 to all students enrolled in the academic literacy module who indicated that they wanted to participate in the WIReD pilot by completing a consent form distributed during class time. Students were not obligated to complete the questionnaire, just as the use of WIReD was not compulsory.

The questionnaire was comprised of four sections, **Section A** – *generic information* such as devices used to complete WIReD, completion rate of WIReD and so forth; **Section B** focussed on the *instructional design* – adequateness and appropriateness – in other words the development of academic literacy skills, activities, the active learning process and the visual design. **Section C** captured the students' self-assessment of their *dedication* while using WIReD, and finally **Section D** determined participants' *overall impression* of this multimodal tool.

The questionnaire uses the Likert scale to measure responses. The aim of the Likert scale is to transform the participants' subjectivity into an objective reality. The Likert scale is primarily a psychometric response scale used in questionnaires to obtain participants' preferences or degree of agreement with a statement or set of statements. For the purposes of this study, it was decided not to employ the 5-point Likert scale but a 4-point scale instead. The questionnaire also comprised open-ended questions, allowing respondents to give feedback on their experience of WIReD. The scale used in this study ranged from 1 – 4, 1 being strongly disagree, 2 – disagree, 3- agree and 4 – strongly agree. The particular design of this 4-point Likert scale enabled us to get more conclusive feedback as the scale range invited respondents to reflect on their experience instead of opting for a neutral position (Chyung *et al.*, 2017:17). It was anticipated that the scale's uncomplicated structure and the fact that it was easy to read and complete could potentially increase the likelihood of reliable results. We did, however, take into account that this type of scale may allow for some distortion of results, as perceptions could be skewed more positive / negative than they really are (Chyung *et al.*, 2017:19). However, despite any potential distortion of results, the responses collected from this questionnaire was sufficient to determine student perception of WIReD's potential as a multimodal learning tool.

A total of 758 participated in the online questionnaire. The data captured through conducting the online questionnaire was exported into an MS Excel document and the data was sorted and grouped according to the different question themes, and answer types. While the Likert scale questions was analysed statistically, the open-ended questions were analysed in WordSmith Tools to determine what the overall response to WIReD was⁴.

⁴ Since this is a pilot study a decision was made to refrain from further elaboration on why it was decided to use WordSmith Tools to evaluate responses to the open-ended questions.

Results and discussion

The questionnaire was set to determine student perceptions of the efficacy and accessibility of WIReD to supplement the corresponding unit in the existing academic literacy module adequately and appropriately. As explained in the Methods section above, the questionnaire was divided into four sections, and each of these sections focussed on a different aspect of WIReD. Against the background of the contextualization provided in the Method section, the results of each of these sections will now be discussed.

Generic information

Section A dealt with generic information, with a view to determining the type of devices used to complete WIReD, the completion rate of WIReD, and also to determine if the student had enough insight into the tool to answer the questionnaire – see figure 2). Section A also surveyed participants on the ease of accessibility to WIReD as well as videos and PDF's on WIReD.

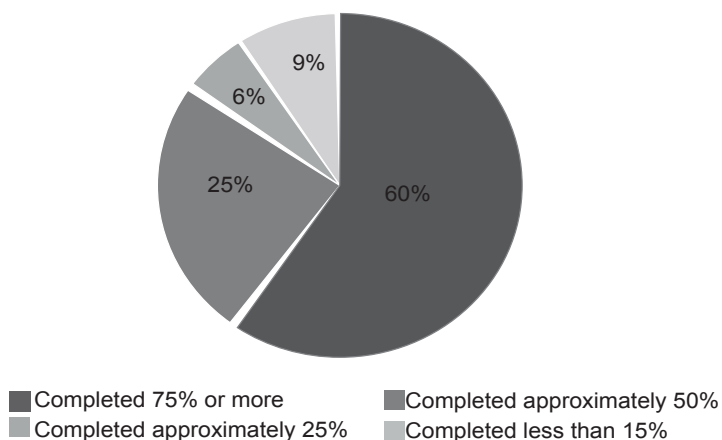


Figure 2: Completion rate of WIReD

As seen in figure 2, 60% of the participants completed 75% or more of WIReD unit 3, and an additional 25% worked through at least 50% of the content. Given that, more than 80% of all participants had completed most of the unit, which would suggest they would be able to form an impression of its instructional design and functionality. It appeared that the general motivation behind a completion rate below 50% was issues with the time available to complete the unit. However, when taking into account that first year students still need to adapt to the new academic environment, and learn how to effectively manage their time, this answer fits into the scope of some of the outcomes for academic literacy relating to the importance of effective time management and planning in the academic environment.

From the data collected in Section A of the questionnaire we found that 82% of all students who participated in the pilot study made use of a personal computer or laptop to complete WIReD, while only 9% used a mobile phone/iPad/tablet. The remaining 9% of the participants used a personal computer, laptop, mobile phones, iPad, or tablet interchangeably. This suggests that when designing a supplementary multimodal tool in the academic literacy environment, for now the focus should be on tools that are compatible with personal computers and laptops. However, due to fast pace of technological advancements, this would not necessarily be the case in the future. The final enquiry regarding the generic information was the tool's accessibility, or ease with which participants downloaded it and accessed videos and PDF. Participants had to rate these aspects on a Likert scale (see section 3).

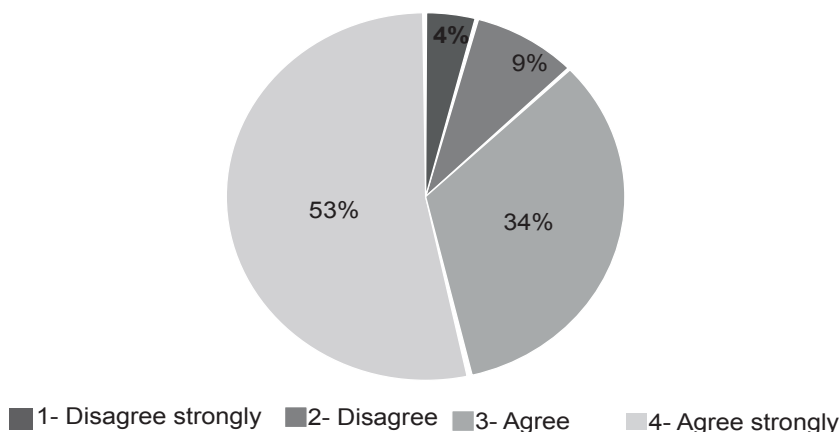


Figure 3: Downloading WIReD

As depicted in figure 3, 87% of all participants agreed strongly or agreed that they had no problems downloading and installing WIReD onto their devices. Similar to the findings regarding the downloading and installation process of this tool, 52% of all participants agreed strongly that all multimedia materials (videos and PDF's) opened without a problem on their devices. With regards to the download and installation process 13% of the participants seemed to struggle with the process, while 15% had problems with the multimedia content. Further investigation into this matter proved that these participants had software updates pending or did not follow the installation guidelines. Once again this is an issue partially addressed through the academic literacy module.

The first part of this analysis of the students' perception of WIReD gave an overview of the percentage of participants who completed WIReD, as well as an initial idea of the accessibility of the tool. Given the fact that the vast majority of the participants could download and install the tool and that the multimedia content worked on their devices, the remaining data will now be discussed in order to answer the two research questions (as stated in section 1), regarding student perceptions of the instructional design of WIReD and their overall impression of WIReD as a multimodal and supplementary tool.

Instructional design and link with the academic literacy module

With reference to the first research question, instructional design refers to the creation of a learning experience through which the student acquires knowledge, resulting in the application of skills. With regards to WIReD, the instructional design should be of such a nature that students can develop academic literary skills such as seeking, processing and producing information, while providing them with ample opportunity to practice these skills through various activities. Since this article focusses on the students' perception, it was also important to determine the participants' experience of the design, layout and overall user-interface.

As was discussed in section 3 (Methods), the Likert-scale questionnaire was supplemented with open-ended questions in which participants could provide additional comments or suggestions on the instructional design and content of WIReD. Participants were mostly positive about the instructional design of this multimodal tool, with responses such as

...” visually I would say that it looked as if there was a lot of effort that went into it...it was definitely a lot more interesting than many other online things you would find” and “it is very visual. It supported all kinds of learners, like auditory and visual learners so anybody can learn from WIReD.” Negative comments mainly centred on issues with scrolling and moving from one page to the next; *“It is irritating to go and click with your mouse the whole time”* and *“some activities [...] had an odd structure. If you wanted to reread sections of the text you had to go back to the previous questions.”*

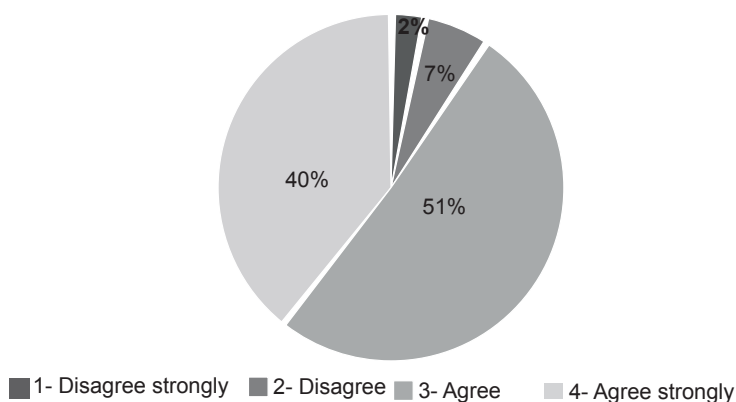


Figure 4: Further development of academic literacy skills

Figure 4 portrays the participants' perception regarding the effectiveness of WIReD as a supplementary tool for the development of academic literacy skills. Ninety-one percent of the participants agreed (agree and agree strongly) that WIReD promoted the development of academic literacy skills that were the focus of unit 3. In addition to this, 90% of the participants stated that WIReD provided them with sufficient opportunities

to practice and develop these academic literacy skills further with hands-on-activities. Figures 5 and 6 illustrate student perception regarding the correlation between development of academic literacy skills and building on existing skills, and the promotion of active learning and the opportunity to practice skills with hands-on-activities.

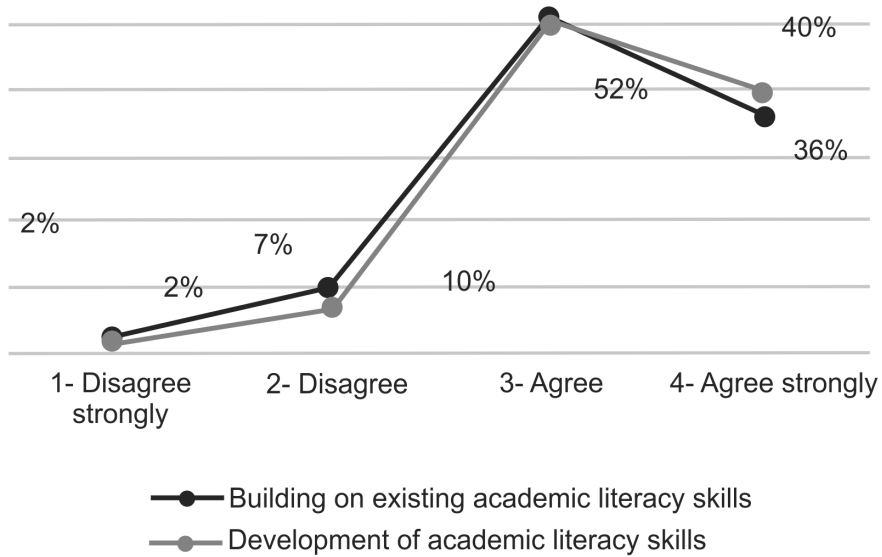


Figure 5: Correlation between WIReD promoting the development and building of academic literacy skills

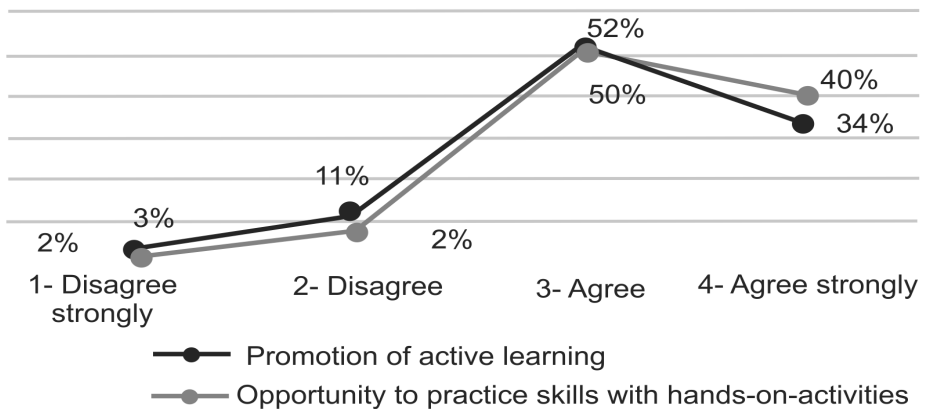


Figure 6: Correlation between the promotion of active learning in WIReD and opportunities to practice skills

The correlation between the percentage of participants who found that WIReD added to the development of their academic literacy skills (91%) and that this tool built on their existing skills (88%), as well as the percentage of participants who found that this tool provided them with adequate opportunities to practice and develop these skills (90%), adds to the validity of our findings. In addition, some of the responses suggested that WIReD also facilitates self-directed learning as it not only provides opportunity to practice newly acquired skills, but also provides valuable feedback to participants on their progress and level of proficiency: *“I like [...] that you can do it on your own. I downloaded it on my computer and I could do it at my own pace in my own time. I also like the feedback that you get. Usually you just do something and then you get your marks. It builds understanding more than to just get answers right or wrong. I love the feedback.”*

In addition to the correlation between the percentage of participants who found that WIReD added to the development of their academic literacy skills and the participants who said that this tool built on their existing skills related to seeking, processing and producing information, as well as the percentage of participants who found that Unit 3 of the WIReD tool provided them with adequate opportunities to practice and develop these skills, 77,8% of the participants found WIReD interesting and stimulating. Furthermore, 90,2% was of opinion that the activities on WIReD were challenging enough to promote their academic literacy development, without creating a feeling of academic discouragement. A few participants did, however, comment that WIReD was not challenging enough: *“I won’t say there is anything I did not like, but the level must be harder. I think it is too easy. I want something more challenging”* and *“...along the way I got bored”*. It therefore seems that WIReD could prove to be less useful to students with adequate or high levels of academic literacy. Nonetheless, as these students comprise a relatively small group, WIReD is still at a suitable level for the majority of our first year students.

With regards to the user-interface and the overall design of WIReD, it seems that the students’ initial perception of the use of a supplementary multimodal tool for academic literacy is once again favourable. Additional feedback also supported this, with participants commenting *“I’m more of a visual learner so going onto WIReD and seeing videos that provided practical examples just really helped me with my academic skills”* and *“I personally wouldn’t have any problem doing WIReD as a compulsory unit or component of ALDE. I often prefer stuff like videos and digital learning experiences.”*

A mere 10,1% of all participants did not agree that visuals and sound such as graphics, images and videos help to make WIReD suitable for students. It is possible that this response could partially be ascribed to some participants’ inability to download or access multimedia content⁵. Nonetheless, issues pertaining to learner styles and preferences that fall outside the scope of this study, also may have contributed to this response.

⁵ As mentioned earlier, 15% of respondents had issues with downloading multimedia content due to issues pertaining to software updates or installation errors

The second research question was focussed on the link between the academic literacy module and WIReD (see figure 7) in order to determine its appropriateness as a supplementary multimodal tool.

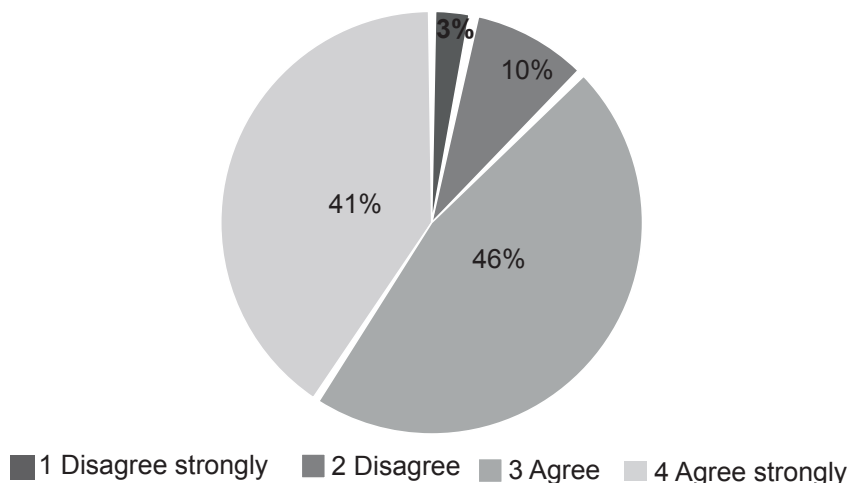


Figure 7 Link between the content of WIReD and the academic literacy module

From figure 7 it is clear that, once again, 87% of participants saw a link between the content of WIReD and the academic literacy module. Additional feedback indicated that participants seemed to consider the blend between WIReD and the academic literacy module content effective: *“I think it would be really great because sometimes we are under pressure with assignments and we skip one or two classes, so if you missed something you can just go to WIReD and recap what was done in class”* and also *“most students will feel comfortable with it, especially those who doesn’t attend the classes or who doesn’t raise some points in class in front of others so they will catch up online”*.

WIReD seems to be particularly effective in supporting students with the major writing assignment: *“The planning of the assignment, such as the structure and the questions you should ask yourself when writing an assignment was taught to us in class and again by WIReD, which was really, really helpful.”* and *“It helped a lot [with] the things we did in class, I managed to get more experience with it such as the reading skills, the editing, the writing skills...”*

Even though this was a pilot study and the results were based on student perception, it seems that WIReD can be utilized a supplementary multimodal tool and that the outcomes of WIReD are aligned with the core outcomes of the academic literacy module discussed in 2.1.

Conclusion

This study focussed on student perceptions of the efficacy and accessibility of Unit 3 (information processing) of WIReD to supplement the corresponding unit in the existing academic literacy module adequately and appropriately. In order to capture student perception of WIReD, a 4-point Likert scale questionnaire with open-ended questions was used. The study engaged with questions on students' impressions of the *design* (overall appearance) and *accessibility* or user-friendliness of WIReD; as well as the appropriateness of *content* and examined whether students were able to recognise the overlap or blend between WIReD and the module content as taught during lectures and in the workbook.

Due to limited time and lack of available funds, as well as problems encountered in the development and implementation of WIReD, it was decided to limit this pilot study of student perception to unit 3. Once WIReD was made available, some students experienced issues with downloading the tool or some of its content. However, these problems were generally easy to address.

An evaluation of the data and feedback from participants do suggest, however, that WIReD can be improved by linking its content more explicitly with the content in the workbook. As one participant commented, this could possibly be achieved if various sections in WIReD *“could also refer you back to relevant sections in your workbook [...] so that the two platforms can be more interactive”*. Even though there are limitations to WIReD in terms of its instructional design and the efficacy with which it blends with the academic literacy module, the outcomes of this pilot study were very promising with regards to the potential of WIReD to supplement the existing academic literacy module.

The results and additional feedback of the questionnaire and the open ended questions revealed that the majority of participants thought WIReD was accessible and easy to understand and most participants downloaded and installed it with ease. Our data made evident that according to student perception, the instructional design of WIReD facilitated the development of academic literary skills such as seeking, processing and producing information. In addition, the results showed a clear indication that students thought that WIReD promoted the development of academic literacy skills, specifically skills related to finding, processing and producing information, while also providing them with ample opportunities to practice and develop skills such as task analysis, referencing, dissecting the academic article and interpreting visual information. Furthermore, the feedback from students suggested that WIReD is also a valuable tool for promoting self-directed learning.

The results overwhelmingly confirmed that students perceived WIReD to blend effectively with what is taught in class, the outcomes of the corresponding unit in the prescribed workbook and with what is assessed in the form of a major writing assignment. Unit three of WIReD therefore did succeed in providing supplementary instruction to students on how to process information in order to provide support for a carefully planned thesis in a comprehensive and well-structured essay with evidence from appropriate academic

research articles. As the other units of WIReD are very similar to unit three in terms of instructional design and the extent to which these units purposefully blend with the content covered in class and in the workbook, it can be deduced that students' perception of unit three can also be made applicable to the other units of WIReD. However, more research needs to be done to measure the impact of WIReD on student success in completion of the academic literacy module.

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