9th Flexible Futures 2023

HIGHER EDUCATION INNOVATION CONFERENCE

Transforming Higher Education for the AI Era: Embracing Flexibility and Innovation.

23–24 August 2023 | University of Pretoria

FLEXIBLE FUTURES 2023.

Programme & Abstracts

University of Pretoria

23-24 August 2023

Transforming Higher Education for the AI Era: Embracing Flexibilty & Innovation.

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

higher education & training
Department: Higher Education and Training
REPUBLIC OF SOUTH AFRICA

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WELCOME MESSAGE

Prof. Gerrit Stols

Welcome to the Future of Higher Education!

The University of Pretoria warmly welcomes you to the Flexible Futures Conference 2023. Our theme this year, "Transforming Higher Education for the AI Era: Embracing Flexibility and Innovation," underscores the urgent and exciting task ahead of us. As we stand at the precipice of a new age, it is imperative that our institutions of learning evolve, adapt, and harness the transformative potential of AI and emerging technologies.

The rapid advancements of tools like ChatGPT, which dazzled the world in November 2022, serve as a testament to the power and potential of artificial intelligence. As these tools augment and reshape our educational landscape, enabling human-like interactions and aiding students in their academic pursuits, we must also confront the myriad challenges they bring. The need for educators to re-evaluate and reinvent traditional pedagogical approaches has never been more pressing. Our journey during this conference will be guided by the following sub-themes:

- Implementing Authentic Pedagogy: How can we ensure teaching, learning, and assessment remain genuine in an AI-dominant future?
- AI and Student Success: Evaluating the role of AI in tutoring, support, and enhancing student outcomes in higher education.
- Employability in the AI Era: Preparing our students for a workforce that increasingly integrates AI.
- Data-Driven Learning: The synergy of data and AI in promoting effective teaching, student success, and more.
- Agility in Higher Education: Adopting agile methods in teaching, learning, and assessment.
- Digital Age Curriculum: Crafting a syllabus that resonates with the demands and opportunities of today's digital world.

Building upon the rich legacy of past Flexible Futures conferences, we are eager to bring together a diverse cohort of researchers, practitioners, and professionals who share a passion for teaching innovation. We collectively have the opportunity, and indeed the responsibility, to shape the future of higher education, ensuring it remains relevant, effective, and ethically sound.

We are excited to hear your insights, research findings, and visionary ideas. Whether you're presenting a paper, a case study, or simply joining the dialogue, your voice is vital.

Let's embark on this journey of exploration and transformation together, envisioning a future where higher education not only adapts to the AI era but thrives within it.

Warm regards,

The Flexible Futures Conference 2023 Organising Committee

KEYNOTE SPEAKERS

Prof. Vukosi Marivate

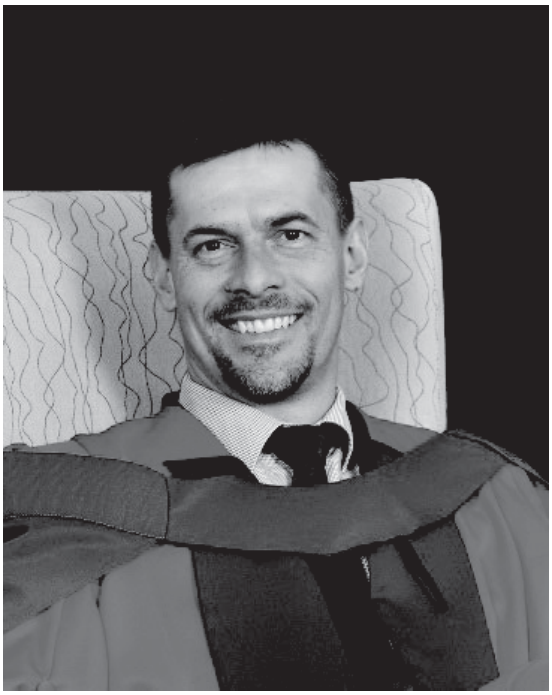
Prof Vukosi Marivate is an Associate Professor of Computer Science and holds the ABSA UP Chair of Data Science at the University of Pretoria. He specialises in developing
Machine Learning (ML) and Artificial Intelligence (AI) methods to extract insights from data, with a particular focus on the intersection of ML/AI and Natural Language
Processing (NLP). His research is dedicated to improving the methods, tools and
availability of data for local or low-resource languages. As the leader of the Data Science for Social Impact research group (*https://dsfsi.github.io/*) in the Computer Science department, Vukosi is interested in using data science to solve social challenges. He has worked on projects related to science, energy, public safety, and utilities, among others. Prof
Marivate is a co-founder and CTO of the Lelapa AI (*https://lelapa.ai/*), an African startup focused on AI for Africans by Africans. Vukosi is a chief investigator on the Masakhane NLP project (*https://www.masakhane.io/*), which aims to develop NLP technologies for African languages. Vukosi is also a co-founder of the Deep Learning Indaba, the leading grassroots Machine Learning and Arti icial Intelligence conference on the African continent that aims to empower and support African researchers and practitioners in the field.

Abstract

Building the African AI We Want

Africa's rich linguistic diversity is a unique strength that can be leveraged to advance Artificial Intelligence (AI) technology. However, limited access to high-quality annotated data, computational infrastructure and skills presents a significant challenge to developing AI models for African languages. This talk will discuss how the Data Science for Social Impact Lab at the University of Pretoria is working to improve resources, tools, and methods for African languages through collaborations with local communities and organizations across the continent. Our approach involves creating inclusive environments where researchers, developers, educators, policy makers, activists and other key stakeholders can come together to co-create innovative solutions to complex problems facing society. Our goal is to empower individuals and organizations to harness the power of AI to address critical issues such as education, healthcare and fiancial inclusion while preserving cultural heritage. Finally, this talk will provide insights into the current state of affairs regarding African language model development efforts and outline future steps needed to build the African AI ecosystem envisioned by many experts in the field.

KEYNOTE SPEAKERS



Dr Kirstin Krauss

Dr Kirstin Krauss is Research Advisor of Worldwide Information Services (WWIS), where he plays a leading role in developing research capacity services for the WWIS Academy. He is also a Visiting Researcher for STADIO Higher Education, in support of their Master's and Doctoral programmes. He is employed full-time as Business Development Manager for Iontaofa Intelligence Ltd. (Ireland), where leads and oversees client engagement and the development of services for the knowledge and information provisioning sector. In prior roles, Kirstin served as academic and Professor at a number of universities in South Africa. His research focuses on ICT for Development, Critical Ethnography, postgraduate student development, and mitigating questionable scholarly practices.

Abstract

Can I use ChatGPT to generate a fully AI-authored thesis? Refelecting on prompting strategies and scientific relevance.

The recent emergence of chatbots and AI-driven research support tools has the potential to challenge, support, and significantly alter our approaches to science and scientific knowledge production. AI tools and chatbots are becoming ingrained in almost all aspects of scientfific knowledge production, from supporting topic discovery, scholarly writing, assessment, to addressing theoretical elaboration, disciplinary and contextual relevance, and copyright issues. AI-powered tools can either support or distort our ability to craft arguments in writing. They may affect our ability to defend specific claims in research and assist with topic discovery and information overload. They can strengthen or dilute academic writing. AI can help with developing legitimization criteria for research, but it can also significantly challenge what scientists consider to be the core of scientific research. The reality is that researchers, supervisors, and postgraduate students should remain vigilant and ethical, continually seeking ways to protect the relevance of scientific endeavors.
In this keynote, Dr. Kirstin Krauss introduces emergent cases and challenges associated with AI-supported and AI-authored writing. He reflects on his experiences in generating a mini thesis using ChatGPT and the prompting that was necessary to do so. He also reflects on how the scholarly community can continue nurturing the integrity and validity of science in the wake of AI, how AI can assist (or not) in different phases of academic writing, and the abilities of generative AI in scientific argumentation and making data-theory links, which should be considered core competencies of scientists.

Programme

Wednesday 23 August 2023

08:30	**Opening Session: UP conference Centre, Sanlam Auditorium**		
8:30 - 8:40	**WELCOME: Vice-Principal: Academic, Professor Loretta Feris** (Chair: Gerrit Stols)		
8:40 - 09:30 (50 minutes)	**PLENARY: Professor Vukosi Marivate (ABSA UP Chair of Data Science, University of Pretoria)** Transforming Higher Education for the AI Era (Chair: Kgadi Mathabathe)		
09:30 - 10:20 (50 minutes)	**PANEL DISCUSSION: Deputy Deans Teaching and Learning** Transforming Higher Education for the AI Era: Embracing Flexibility and Innovation (Chair: Alta Van der Merwe)		
10:20 - 10:50 (30 minutes)	**Coffee/Tea**		
10:55 - 12:25	**Theme: Implementing agile approaches to teaching, learning and assessment** **VENUE: Sanlam Auditorium** **Chair: Detken Scheepers**	**Theme: The impact of AI on student success and support** **VENUE: Conference 100** **Chair: Mpho Thukane**	**Theme: Navigating the legal and ethical implications of AI** **Venue: Lecture Room 1-64 (Grad Centre)** **Chair: Anneri Meintjes**
10:55 - 11:15 (15+5)	Developing entrustable professional activities for postgraduate training in obstetrics and gynecology Presenters: Sumaiya Adam	The Significance of Artificial Intelligence in Automatic Question Generation Presenters: Warren du Plessis	Do we know what Artificial Intelligence holds for the future of qualitative research? Presenters: Paul Laughton
11:15 - 11:35 (15+5)	Harnessing Programmatic Assessment and Micro- Credentials in an Advanced Technology Era Presenters: Riana Steyn	An exploration of attitudes towards and usage of ChatGPT by university students in a professional and technical writing module. Presenters: Monique Bester & Ilse Doyer	The implications of AI in doctoral supervision in Statistics Presenters: Danielle Roberts
11:35 - 11:55 (15+5)	Exploring the Role of Globalized Learning in Fostering Person-Centered Care in Audiology Education: Reflections from a Student-Led Global Learning Initiative Presenters: Faheema Mahomed-Asmail & Marien Alet Graham	Using technology to extend the reach of the Faculty Student Advisors at the University of Pretoria Presenters: Hestie Byles, Juan-Claude Lemmens & Herman Janse van Vuuren	AI and HE: Personalising content and interventions, and the student's rights to privacy and data security. Presenters: Andrea Bauling
11:55 - 12:15 (15+5)	The impact of virtual reality on the lived experiences of undergraduate taxation students Presenters: Tanya Hill & Hanneke du Preez	High Impact Modules: Where and how [and why should I care]? Presenters: Philokuhle Collin Majozi	Synthesising an ethical clinical feedback delivery model for staff development purposes: a scoping review Presenters: Leanne Sykes
12:15 - 12:25	General session discussion	General session discussion	General session discussion
12:25 - 13:55 (90 minutes)	**LUNCH**		

14:00 - 15:30	**Theme:** Implementing agile approaches to teaching, learning and assessment in higher education **VENUE: Sanlam Auditorium** **Chair: Gail Barry**	**Theme:** The impact of AI on student success and support **VENUE: Conference 100** **Chair: Dennis Kriel**	**Theme:** Developing curricula that align with the Digital Age **Venue: Lecture Room 1-64 (Grad Centre)** **Chair: Rejoice Nsibande**
14:00 - 14:20 (15+5)	Educational Technology to Support an Integrated Student Learning Experience. Evaluating the University of Pretoria's current and future Educational Technology Strategy. Presenters: Dolf Jordaan	Determining the required professional competencies of exit-level occupational therapy students in Paediatrics Presenters: Kitty Uys, Karin van Niekerk & Nthabiseng Phalatse	An Innovative Adaption of the Appreciative Inquiry Process to Develop a Coding and Robotics Module for the Early Childhood Education Sector Presenters: Annél Van Rooyen, Nadia Swanepoel & Ronel Callaghan
14:20 - 14:40 (15+5)	Developing pre-service teachers' and early childhood development practitioners' awareness of sensory gardens benefits Presenters: Susan Thuketana & Martina Jordaan	Developing a professional identity that supports employability Presenters: Bernice Beukes & Joshua Venter	Gamification for metacognitive awareness in flipped classrooms Presenters: Annique Smith
14:40 - 15:00 (15+5)	Preparing for a new Learning Management System: a training team perspective (from initiation to before training) Presenters: Alastair Smart	The impact of a teaching intervention on the development of critical thinking skills of first year Business acumen students Presenters: Corlia Joynt, Hanneke du Preez & Madeleine Stiglingh	Creating meaningful learning experiences in educational serious games with meaningful choices design. Presenters: Yan Wong
15:00 - 15:20 (15+5)	Exploring the use of Comparative Judgement as a grading method for Information Systems honours students Presenters: Machdel Matthee	Navigating the 4IR: Adopting ChatGPT and Advanced Digital Technologies for Skills Development for the South African Labour Market Presenters: Sean Kruger & Olebogeng Selebi	Using technology within class content in the digital era to keep student engagement: Presenters: Nurain Aboo Mohammed & Kruger Uys
15:20 - 15:30	General session discussion	General session discussion	General session discussion
15:30 - 16:50	**Theme:** Implementing agile approaches to teaching, learning and assessment in higher education **VENUE: Sanlam Auditorium** **Chair: Manyaku Maroga**	**Theme:** Student success, support, and employability **VENUE: Conference 100** **Chair: Marius Pienaar**	**Theme:** Creating meaningful learning experiences in educational serious games with meaningful choices design **Venue: Lecture Room 1-64 (Grad Centre)** **Chair: El-Marie Mostert**
15:30 - 15:50 (15+5)	Addressing the elephant in the room: an authentic and ethical approach to AI in Social Work practice teaching. Presenters: Gerna Wessels, Elmien Claassens & Leanne Jordaan	Broadening the reach and impact of peer-to-peer advising on and off-line Presenters: Hestie Byles & Tayla Jonker	Using data mining techniques to determine skills gaps in early career veterinarians in South Africa Presenters: Dietmar Holm & El-Marie Mostert

15:50 - 16:10 (15+5)	Educational Escape Rooms in Multimedia - Lessons Learnt Presenters: Kwan Sui Dave Ka, Stewart Coetzee	Enhancing Student Performance and Well-being through Automated Time Management Strategies: The Role of the Google Ecosystem Presenters: Reginald Kanyane	Curriculum Design and preparing students in the Digital Age: Knowledge and Innovation as Inseparable Presenters: Khutso Mnisi
16:10 - 16:30 (15+5)	Supporting pre-service foundation phase teachers' mathematics word problem-solving instruction through a lesson study Intervention approach Presenters: Nadia Swanepoel	Implementing the First Year Experience (FYX) in clickUP: a case study of the pilot Presenters: Veronica Israel & Alastair Smart	Hospitality industry specialists' expectations of graduate traits to inform culinary arts curriculum transformation at a South African University Presenters: Hennie Fisher
16:30 - 16:40	General session discussion	General session discussion	General session discussion
16:50	**Cocktail function**		

Thursday _ 24 August 2023

07:30 - 08:00	Arrival and Refreshments		
08:00 - 10:00	**Opening Session: Sanlam Auditorium**		
08:00 - 08:05	**Welcome**		
08:05 - 08:50	**KEYNOTE:** Kirstin Krauss (Lontaofa Intelligence - Business Development Manager in Ireland) Can I use ChatGPT to generate a fully AI-authored thesis? Reflecting on prompting strategies and scientific relevance (Chair: Dolf Jordaan)		
08:50 - 09:00	**CENGAGE - Who we are and how we help you** Nicola Grobbelaar		
09:00 - 09:50	**Panel Discussion:** Transition to the new clickUP Ulta: First-phase lecturers and students (Chair: Dolf Jordaan and Mpho Thukane)		
10:00 - 10:30	**Coffee/Tea**		
10:40 - 11:40	**Theme:** Implementing authentic teaching, learning, and assessment approaches in an AI dominant future **VENUE: Sanlam Auditorium** **Chair: Faith Mathibedi**	**Theme:** Implementing agile approaches to teaching, learning and assessment **VENUE: Conference 100** **Chair: Alfred Hlabane**	**FSAs Panel Discussion:** Adapting Faculty Student Advising for the Future: Leveraging High Impact Modules and Technology **VENUE: Lecture Room 1-64 (Grad Centre)** **Chair: Hestie Byles**
10:40 - 11:00 (15+5)	Leaping the gap to future fit employment Presenters: Alex Antonites, Van Rooy, Serfontein-Jordaan	Unpacking the Efficacy of Learning Communities for Engineering Students in a Challenged Context: A Qualitative Study Presenters: Jessica Versfeld	Adapting Faculty Student Advising for the Future: Leveraging High Impact Modules and Technology. Adapting Faculty Student Advising for the Future: Leveraging High Impact Modules and Technology

11:00 - 11:20 (15+5)	The Double-Edged Sword of AI in Academia: Exploring the Pros and Cons Presenters: Dennis Kriel	The benefit of students' engagement with online homework in general chemistry Presenters: Christine Mundy & Jeanine Mwambakana-Mutombo	
11:20 - 11:40 (15+5)	Opportunities and Pitfalls of GenAI Pedagogy: A View from Academic Literacies in South Africa Presenters: Alan Muller & Oscar Eybers	Work-integrated learning for enhancing work readiness of final year social work students. Presenters: Gerna Wessels	
11:40 - 14:00	**Theme:** Authentic Assessment and AI **VENUE: Sanlam Auditorium** **Chair: Marena Lotriet**	**Theme:** Implementing agile approaches to teaching, learning and assessment **VENUE: Conference 100** **Chair: Johan Slabbert**	**Theme:** Understanding the student voice **Venue: Lecture Room 1-64 (Grad Centre)** **Chair: Kgadi Mathabathe**
11:40 - 12:00 (15+5)	Authentically assessing practical application of clinical skills: from written exams to a modernized approach Presenters: Natascha Olivier	Framing visual forms of AI in communication design through a Baudrillardian lens. Presenters: Kyle Rath	Exploring open-source natural language processing (NLP) models as a methodology for understanding the student voice in the context of teaching and learning. Presenters: Kgadi Mathabathe & Bonza Majozi
12:00 - 12:20 (15+5)	Investigating the Efficacy of Large Language Models in Reflective Assessment Methods through Chain of Thoughts Prompting Presenters: Yvette Hlophe, Vukosi Marivate & Baphumelele Masikisiki	Enhancing the acceptance of technology integration using interactive videos in higher education Presenters: Joyce West	
12:20 - 12:40 (15+5)	Validity of a large language AI model to assess scientific writing Presenters: Takula Tshuma, Andreas Hentzen & Dietmar Holm	Learning usability workshops from the perspective of users and designers Presenters: Kwan Sui Dave Ka	
12:40 - 13:00 (15+5)	Implementing authentic assessment approaches in teaching Intellectual property law in South Africa in an AI-dominant future Presenters: Chijioke Okorie	Reviewing the flipped classroom implementation in a service module. Presenters: Vita Wilkens, Alastair Smart & Gail Barry	
13:00 - 13:30 (15+5)	Students' perception of learning using different feedback methods in a case study assessment Presenters: Charisa De Klerk	Launch of the VESPA skills programme: ISFAP bursary students Presenters: Marali Snyman & Tanja Steyn	
13:20 - 13:30	**CLOSING**		
13:30 - 14:15	**LUNCH and DEPARTURE**		

ABSTRACTS

UNIVERSITEIT VAN PRETORIA
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Department:
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Contents

Using technology within class content in the digital era to keep student engagement:

Aboo, N. Kruger, U

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Sub-Themes

Developing curricula that align with the Digital Age in higher education.

Abstract

Introduction and Literature

This paper is a step sheet to guide academics in Higher Education use technology in different ways in their lectures. This will allow the students to stay engaged and be involved in the lessons. Technology can be used in two folds, one being classroom engagement and the other being assessment. Therefore, this paper uses examples of both to assist and help academics use technology and develop curricula by implementing technology into the module. The paper looks at two forms of technology. The one being QR code and the other is Chat GPT as an open AI tool. QR Codes as digital portfolios: Encourage students to create digital portfolios that showcase their work, projects, or assignments. Create QR codes for each portfolio so students can share their work with classmates or teachers. This encourages collaboration and peer review. Access additional content: Provide supplementary materials on the topics covered in class via QR codes. These materials may include additional reading materials, videos, podcasts, or interactive simulations. Students can explore the content at their own pace and deepen their understanding. Open AI as writing prompts and feedback: Assign writing prompts to students and encourage them to use ChatGPT as a writing aid or brainstorming tool. Students can ask for suggestions, ideas or sketches to help them in their writing process. However, remind them to be creative and independent thinkers and to use ChatGPT as a tool rather than solely relying on its suggestions. Provide feedback on students' written work to encourage a balance between AI support and their own skills.This will allow student engagement and this exercise will allow students to improve their writing with correct grammar.

Purpose

The purpose of this poster is to assist lecturers on how to include technology within lectures and assessment. This will also allow students to keep up with the 4th industrial revolution and 21st century skills that is required to be a teacher and lecturer. This will also allow students to get involved and learn AI.

Conclusion

In this poster QR codes and ChatGPT will be shown as posters to encourage lecturers and students to be involved with current technology and how

Developing Entrustable Professional Activities for postgraduate training in Obstetrics and Gynaecology: Exploring the role of large language models

Adam, S

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract

Introduction and Literature Review

Physician competence is complex and multidimensional. For each competence there is a construct from novice to master, which has to be assessed in the authentic workplace. The Colleges of Medicine of South Africa (CMSA) aims to implement workplace-based assessment (WBA) as a requirement for postgraduate medical training by 2025. The implementation of WBA with an entrustable professional activity (EPA) framework aims to ensure patient's safety as it restrains autonomous medical activities only to qualified practitioners. The EPAs define the knowledge, skills and attitudes expected from specialists, thereby facilitating training and assessment of postgraduate medical trainees. However, there are multiple activities within a specialty, making it prohibitive to assess all adequately. In addition, each activity needs to be defined as its composite competencies, with national consensus across ten training centres. Whilst WBA with an EPA framework has been implemented in various countries, there is scant data on experiences in resource-limited settings.

Purpose

The aim of this study was to define the EPAs with respect to Obstetrics and Gynaecology postgraduate training, quantify the importance of each EPA, and explore the role of large language models (LLMs) in defining the competencies for each EPA.

Methodology

Individual EPAs were defined to describe the Day 1 competencies required by a specialist obstetrician-gynaecologist in South Africa, based on the published EPAs for Obstetrics and Gynaecology, and a Backward Design model. Two rounds of modified Delphi survey and an in-person workshop were performed to obtain consensus on the core EPAs that will be assessed as part of WBA. Thereafter the detailed competencies were defined for each core EPA and was agreed upon by another two rounds of modified Delphi survey consensus. ChatGPT4 was explored as a tool to define the core activities and write the detailed EPAs.

Results

Item analysis yielded 10 core EPAs of the 30 EPAs define, with a survey response of 8/10 (80%) and 6/10 (60%) following the first two modified Delphi Surveys. The in -person workshop resulted in unanimous agreement that the ten core EPAs were "absolutely essential", 15 were "moderately important" and 5 were "nice to have". Experts in the field agreed that a stepwise increase in the level of competence was required dependent on the stage of training. The second set of Delphi surveys had

a response of 3/10 (30%) and 1/10 (1%). ChatGPT4 showed a positive correlation with the EPAs that defined the specialty, as well as the defined competencies for each of the selected EPAs.

Conclusion

WBA requires EPAs and benchmarks for each stage of training. ChatGPT4 is a viable tool to define the EPAs for a specialty thereby expediting the process of implementation of WBA, especially in resource-limited environments.

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Artificial intelligence and education, the personalisation of content and interventions to students' needs, and the rights to privacy and data security

Bauling, A

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Sub-Themes

Navigating the legal and ethical implications of AI in transforming higher education

Abstract Introduction and Literature Review

Discussions around artificial intelligence in education (AIED) can no longer focus purely on what is technically possible and pedagogically sound; that which is ethically acceptable and legally permissible must also be considered. AIED is capable of profiling and predicting individual students' future performance and of modifying interventions accordingly (Zawacki-Richter et al., 2019). The innate value of applications such as intelligent tutoring systems (ITS) lies in the fact that it is able to personalise content in accordance with an individual student's needs. However, the data required to personalise such interventions lies at the heart of the privacy concerns related to AIED. A student's learning preferences and challenges constitute highly personal information that many prefer to keep private (Zawacki-Richter et al., 2019). Furthermore, the increasing use of learning analytics to advance learning outcomes has resulted in student (learning) data being analysed and applied in ways that were not initially anticipated (Willis, Slade, & Prinsloo, 2016). South African legal scholars have investigated the potential impact of artificial intelligence (AI) on privacy in the health (Mahomed, 2018) and labour (Naidoo, 2021) sectors, but the impact of the Protection of Personal Information Act 4 of 2013 (POPI Act) on AIED has not yet been evaluated.

Purpose

The purpose of this study is to suggest a legally compliant framework within which South African higher education (HE) institutions can develop and implement AIED interventions, while respecting students' fundamental right to privacy. The study aims to provide an overview of the types of highly personal and identifiable data collected by applications such as ITS and machine learning systems. These are evaluated alongside the legislative requirements for data processing, as provided for by the POPI Act, to suggest ways to promote responsible data science that are legally compliant.

Methodology

The study is based on an analysis of existing literature on AIED, privacy and data security. A review of current South African peer-reviewed publications on AI and the law has been conducted to seek guidance on how current legislation and the Constitution should be interpreted and applied to safeguard student privacy and promote responsible data science in HE, as impacted by learning analytics and machine learning applications.

Results

In the absence of legislation sufficiently regulating AI technologies and its data collection, storage and analysis capabilities, HE institutions should strive to operate within a legislatively compliant

framework. While the POPI Act acknowledges that emergent technologies actively participate in the processing of personal information, more legislative certainty on the application of AI in South Africa is required. Guidance can be found in various sections of the POPI Act, which overlap with internationally acceptable data security principles, such as on-site data storage; denying third parties and data brokers access to students' personal information; identity management to ensure anonymity of students; and transparency in data management practices. The creation of the office of a chief privacy officer at HE institutions could also bolster efforts to ensure sound data security practices.

Conclusion

While institutions of higher learning need to be flexible and adaptable to flourish in the rapidly changing field of, HE, this flexibility must be limited by what is ethically and legally permissible. A student's fundamental right to privacy must be safeguarded; for now, HE institutions should make do with interpretations of the POPI Act and responsible data science practices to guide their use and implementation of AIED. Adherence to the overarching principle that "[p]rivacy promotes safe learning" (Anwar, 2021, p. 772) could guide decisions on how a student's privacy should be protected while providing for a personalised learning experience.

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An exploration of attitudes towards and usage of ChatGPT by university students in a professional and technical writing module.

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Sub-Themes

The role of data and AI in promoting teaching, learning and student success

Abstract Introduction and Literature Review

Using digital writing tools to assist students with assessments has long been a reality in higher educational institutions. Until recently, digital writing tools were limited to checking spelling, grammar, and style. However, the release of the artificial intelligence (AI) tool, ChatGPT, in November 2022 fundamentally changed the game. Instead of only editing text, the tool can generate new text based on user input requests.

As the tool is still fairly new, there are a lot of questions and concerns regarding how students will likely utilise the tool. Students now have easy and free access to a powerful resource that can enhance their learning, but this comes with some trade-offs, such as possible increased academic dishonesty, misuse of the tool, and intellectual laziness. There are also many ethical concerns regarding the use of the tool, as well as questions regarding the quality and accuracy of the tool's outputs.

Purpose

The purpose of this research is to gain insights from students on their experience with ChatGPT. The main research question is how students utilised the tool and what opportunities and shortcomings they identified while working with it. Understanding how university students perceive the tool and have started using it in academic work can aid in building a framework for how it should be implemented and taught to enhance student learning and success.

Methodology

At the start of the semester, a group of second-year engineering students at the University of Pretoria were taught about the new tool, ChatGPT, in a professional writing module. The students were encouraged to experiment with the tool as a tutor whilst working on their module deliverables. At the end of the semester, the students were asked to complete a structured online survey, which had gone through the necessary ethical clearance, to reflect on their experience using the tool, both for their professional writing module and for other second-year engineering modules. The students were asked to explain how they used the tool, where they found it most beneficial, what shortcomings they identified, and their general perception of the tool. The survey was completed by 40 second-year engineering students, and the results were analysed using descriptive statistics.

Results

At the end of the semester, the vast majority of students reported using the tool to assist them in writing their professional reports. The students most frequently used the tool to generate quick explanations of new or complex topics and to edit text and provide guidance for improvements. The

majority of students also reported that they had used the tool in other modules, most notably a coding module.

Some shortcomings in the tool were identified by more than three-quarters of the students. Identified shortcomings included presenting inaccurate information, overcomplicating topics, and an inability to perform mathematical operations.

When asked how they anticipated ChatGPT would affect the frequency of academic dishonesty, a third of students stated that they believed it would increase, while almost half of the students believed it would remain unchanged. Regarding access to study resources, three-quarters believed the tool would improve accessibility and enhance learning.

Conclusion

Understanding where and how students can benefit from ChatGPT can help guide higher education institutions on how to teach and implement the usage of ChatGPT.

The survey was only completed by students in one specific module and year group. Students from various disciplines, in various modules and year groups, should be surveyed longitudinally to better understand and represent the applications and uptake in the usage of ChatGPT in the university.

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Developing a professional identity that supports employability.

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Sub-Themes

Preparing students with employability competencies in the AI era.

Abstract Introduction and Literature Review

Students pursuing a professional accounting qualification often lack an understanding of what it means to be a professional. During their university education, students begin to develop a preliminary professional identity as they learn the knowledge and values associated with the accounting profession (Jackson, 2017). This development primarily focuses on acquiring discipline-specific knowledge and skills. Students must also adapt to keep up with technological advancements like artificial intelligence (AI), which are integrated into the profession's knowledge base in the era of Industry 4.0.

While the educational environment helps develop specialized knowledge, in isolation it cannot cultivate a professional identity. Exposure to professional experiences is crucial in fostering a sense of belonging to a profession (Tomo, 2019). These experiences are often seen as workplace-specific learning, compared to classroom settings, which consider this development as a secondary objective (Trede, Macklin, & Bridges, 2012). Teaching initiatives can be employed to enhance awareness of professional identity.

Purpose

The aim of this teaching initiative was to bring the concept of professional identity to the forefront in accounting education. The initiative employed two approaches: first, inviting practicing professional accountants to share their perspectives on professionalism, and second to create a sense of belonging among students. The initiative also encouraged adaptability amongst students, similarly to how AI has challenged the modern business world, demanding an agile view given the pace of AI development.

Methodology

The teaching initiative branded as "Proudly Professional" aimed to emphasize development of professional identity. Two distinct formats were introduced: "Tailored Tuesdays" and "Thrilling Themed Thursdays." On Tailored Tuesdays, students dressed in business casual attire, and practicing chartered accountants shared their experiences on professional conduct. Short videos by professionals were shown, followed by discussions on key professionalism concepts. Thrilling Themed Thursdays focused on practical questions and case studies, reinforcing the Tuesday concepts in a playful atmosphere with themes like "come in disguise" and "going on safari." These themes added a fun element and fostered a sense of community and belonging. Dressing up also showcased adaptability, an important trait for accountants matching their clients' working environments. Occasional small rewards encouraged participation, enabling social interaction between lecturers and students, creating a relaxed environment that built trust and sparked lively discussions.

Results

At the beginning of the initiative, students were asked to describe their understanding of professionalism. Their initial responses were brief and focused mainly on adhering to ethical codes of conduct. However, by the end of the initiative, their answers became more detailed, encompassing various aspects such as client relationships, service delivery, and pursuit of excellence. Lecturers observed that more students enthusiastically embraced the Thursday themes, demonstrating their outfits, and actively engaged in discussions, displaying improved confidence. The students also exhibited a clearer sense of direction and a better understanding of the demands they would face in their future careers.

Conclusion

This initiative provided students with an opportunity to reflect on professional identity and the type of professionals they aspired to become. It familiarised them with opportunities available within the accounting profession. The gradual development and sustained focus on professional identity through mini discussions proved effective, requiring initial planning and preparation, but minimal resources during execution. This approach can be implemented in any professional teaching context, empowering students with the skills necessary to navigate future workplace challenges.

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Broadening the reach and impact of peer-to-peer advising on and off-line

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Sub-Themes

The impact of AI on student success and support, including tutoring, in higher education

Abstract Introduction and Literature Review

Peer advising at the University of Pretoria was formalised in 2021 with the assistance of a grant from the Department of Education. While the primary duties of peer advisors are to assist students with basic advising questions and to serve as a resource to connect students with the Faculty Student Advisors (FSAs), and other campus resources, their positive impact could reach far wider than their primary duties. Peer advisors help undergraduate students by working closely with FSAs and answering common student questions related to the registration and de-registration of modules, degree/module planning, preparation for appointments with professional advisors, and so forth. The value of peer advising is found in the peer-to-peer student perspective, which often promotes a better understanding of shared academic information and of holistic student support, both academically and socially (Kuh, Kinzie, Schuh, & Whitt. 2005: 252–253; Tinto.1975; Ford, 2015).

Purpose

This paper aims to investigate ways in which the reach and impact of peer advisors can be extended beyond their primary duties. It hypothesised that their reach and impact could be broadened by including peer advisors in social media strategies and on-campus events.

Methodology

Peer advisors started working closely with the FLY@UP coordinator in 2022 and became involved in the FLY@UP student success campaign activations. These activations afforded the peer advisors the opportunity to interact face-to-face with students from the broad UP student community who may never have consulted with them otherwise. In addition, the peer advisors were active on the FLY@UP social media platforms where they were trained to take on the exciting challenge of doing an Instagram Story Takeover. Through these takeovers, peer advisors share a day in their life and how they prepare for exams and structure their time. This platform opens the opportunity for students to again pose questions to the peer advisor without having to “consult” a peer advisor.

Results

The fact that peer advisors were included in photos and videos used in awareness campaign material around campus and on social media may have increased the awareness and subsequently, peer advisors’ reach as could be seen in the increased number of students who consulted with peer advisors from 1,200 in 2021 to 2,721 in 2022.

Conclusion

Peer advising can contribute significantly more than only having a group of senior students assist other students through peer advisor consultations. By involving peer advisors in existing student success campaigns and programs bot and using their understanding of social media and their relatability with their peers, their reach and impact can be significantly increased.

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Students' perception of learning using different feedback methods in a case study assessment

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

Feedback has a forward-looking perspective and is not only done to justify marks but needs to assist students to improve their performance (Boud & Dawson, 2021). The use of technical marking grids is currently the norm for most accounting degrees however professional bodies have called on educators to re-assess the feedback tools they use to assist students with their learning experience. Results from the use of rubrics for formative feedback on assessment, have found to have a positive impact on student learning (Panadero and Jonsson 2013). Howell (2014) states that specific aspects of performance may be enhanced through the use of rubric assessments, and specifically competencies such as critical thinking and problem solving. The study aims to address the call for a re-assessment of feedback tools, especially in an accounting environment, by gaining perception from students on whether rubric feedback enhanced their learning experience and improved their performance.

Purpose

The purpose of this study is addressed in the main research question; 'What are accounting students' perception of learning using a rubric feedback method as opposed to a technical feedback method in a case study assessment?'.

Methodology

A survey, mixed method approach, is adopted in which both quantitative and qualitative data was collected. Data was collected from all students who wrote the case study assessment for which both technical and rubric feedback was performed. A total of 416 third and final year BCom Accounting Sciences students at the University or Pretoria wrote the assessment of which 277 (67%) completed the post assessment survey.

Statistical analyses were performed using the SPSS Statistical package to analyse the quantitative data gathered through the Qualtrics survey platform on clickUP. Descriptive statistics in the form of mean, standard deviation, and percentage of responses were performed on each of the Likert type survey questions. The qualitative data collected by the Qualtrics survey platform were analysed using a thematic approach.

Results

The benefits specific to the rubric style feedback identified by students were that the rubric feedback provides more clarity on how they may improve on their understanding and answering of questions (65%) and that the rubric provided more detail to enable students to identify where marks were lost (23%).

Students overwhelmingly recognised the benefit of the rubric feedback method, but despite this, students' responses in terms of which feedback method is more useful, there was not a clear preference. 32% of students indicated that the rubric style feedback was more useful for their learning, 26% indicated that the technical feedback was more useful and 42% of them were uncertain. Further evidence of the students' perceived benefit of the rubric style feedback was that 71% of the students answered that they would prefer receiving both the rubric and technical style feedback in the future.

Conclusion

The main benefits include assisting students by providing more detailed feedback in terms of the expected level of professional competence and improving their learning experience. Providing feedback on both methods to large student's groups for all assessments are not practical, we realised that the benefits of implementing rubric feedback to students are important enough for their future learning that we are investigating ways in which we can implement it on selective assessments going forward.

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The Significance of Artificial Intelligence in Automatic Question Generation

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

Setting good examination questions is both tremendously important and extremely challenging with book chapters on assessment having titles like “The Challenge of Assessment” and “Walking the Assessment Tightrope.” Attempts to propose approaches to automate the process of setting examination questions and their solutions have been undertaken since the 1970s, with the relevant technologies acquiring the term automatic question generation (AQG).

AQG systems are currently a research topic of increasing interest with two recent review papers each citing over 140 references, the majority of which were published in the last decade. Part of the explanation for this recent interest is that AQG systems tend to track developments in artificial intelligence (AI), with the significant recent developments in AI technologies, such as natural language processing (NLP), being matched by a similar development of AQG systems.

Purpose

The dependence of AQG systems on mature AI technologies limits AQG to relatively simple problems. Additionally, there are very few descriptions of the use of AQG systems in real teaching environments raising questions about their value. However, there is no inherent need to base AQG systems on AI technologies, and this presentation will demonstrate how non-AI AQG systems have been used in third-year engineering courses with extremely positive outcomes.

Methodology

The limitations of current AI technologies in terms of generating test questions and their solutions will be highlighted to show the drawbacks of basing AQG systems on AI technologies alone. Examples of AQG systems that do not require AI technologies will be provided to demonstrate that AI technologies are not a prerequisite for useful AQG systems. These examples will include both published AQG systems and AQG systems that have been developed in the third-year engineering courses taught by the author. In each of these cases, no AI system is currently able to generate suitable questions and solutions for the types of problem considered. Real-world experiences of how non-AI AQG systems have positively affected the way evaluation is performed and the way students approach evaluation will be emphasised to illustrate the value of such systems.

Results

The fact that AQG systems do not have to be based on AI technologies is a key result in itself because it shows that a far wider range of problem types can be considered than current AI technologies allow.

The development and use of non-AI AQG systems in the courses the author presents clearly demonstrate this fact.

More important are the use of non-AI AQG systems in the author's courses over a number of years and the positive developments that have resulted from the use of these systems. This shows that non-AI AQG systems are capable of achieving a significant positive impact in real-world teaching environments. By comparison, the fact that published AQG systems based on AI technologies tend not to provide evidence of their use in real-world teaching environments raises questions about their real-world efficacy.

Conclusion

AQG systems have historically tracked the development of AI technologies, but AI technologies are not the only way to realise AQG systems. Examples of the successful use of non-AI AQG systems in third-year engineering courses have demonstrated both that AQG systems can be developed for some types of problem that AI cannot currently address and that the value such systems can add to real-world teaching is significant.

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Hospitality industry specialists' expectations of graduate traits to inform culinary arts curriculum transformation at a South African University

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Sub-Themes

Developing curricula that align with the Digital Age in higher education.

Abstract Introduction and Literature Review

Graduate readiness research indicates that graduates are not job ready and do not have the skills necessary to enter employment - employment matches the degree acquired in only 54 % of cases. There is a mismatch between strengths graduates consider their strongest and the areas employers believe need improvement. Employers increasingly expect graduates to possess entry-level skills that will immediately add value to their businesses. Institutions are held accountable and organizations (e.g., OECD) are calling for action from higher education to meet new global and competitive challenges. Since the hospitality industry is one of the largest and fastest growing employers in South Africa, accounting for 9.5% of global GDP, UP initiated a two-phased study to investigate how curriculum transformation could address these requirements. Phase one of the study investigated Culinary Arts students' perceptions of the subject, and the second phase investigated the South African hospitality industry's expectations of graduate traits.

Purpose

The purpose of this second phase study is to consult key tourism and hospitality industry stakeholders on the Culinary Arts knowledge and skills needed to produce work-ready graduates who have applicable skills and knowledge that would meet global and local requirements.

Methodology

The baseline (phase one) research included a situational analysis, a desktop review, as well as reflective ethnographic research with students enrolled for Culinary Arts in 2022 (n=19). The second phase study was conducted with industry specialists within the Food, Hospitality and Tourism sectors, including but not limited to chefs, Food & Beverage Managers, General Managers of lodges, hotels and restaurants, fast food establishments, restaurant owners, cruise agents, and hospitality employment agents, using an existing database to distribute surveys (N=650). Snowball sampling allowed for further distribution of the questionnaire to personal contacts and referrals. The Delphi method was used to collect impressions of what South African food experts believe to be the fundamental traits and attributes graduates who have passed the final year Culinary Arts subject from a South African university. This information was considered important to inform curriculum transformation that would increase graduate employability. The method is particularly suited to workers in the hospitality and food sectors, as the method does not require face-to-face engagement. It is also ideal for geographically dispersed participants or people who work unconventional hours. Descriptive statistics including mean, median and mode were used to calculate consensus between Delphi rounds. The Classification of Annaraud (2006), namely Human Relation Skills, Conceptual Skills

and Technical Skills was used to conceptualize traits particular to the South African Hospitality environment.

Results

In phase one, the student perceptions about graduate traits and attributes that should guide curriculum transformation in the Culinary Arts subject at the University of Pretoria, included: leadership; problem-solving; time management; mutual respect and group work; acceptance of responsibilities (leadership potential); cultural sensitivity; innovative approaches; communication skills; conscious cooking/waste management/sustainability awareness. These traits and attributes do not coincide with those indicated by industry, such as agreeability; conscientiousness; ethics; empathetic/compassionate/caring; goal orientated; critical thinker; socially responsible; motivated; inquisitive, and others as indicated by literature.

Conclusion

The BConSC Hospitality Management degree at UP is in the process of undergoing curriculum transformation (CT), with a focus on both curriculum content and practices. The principles encapsulated in Ubuntu as well as the catch-all phrase 'graduateness' have been identified as some aspects to drive CT. The Department of Consumer and Food Sciences therefore aims to develop an improved curriculum which emphasizes upliftment and sustainability through community connections.

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The impact of virtual reality on the lived experiences of undergraduate taxation students

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

In 1994, Archbishop Desmond Tutu called South Africa the "Rainbow Nation". This statement emphases the diversity in South Africa regarding race, gender, language and culture including the diversity in lived experiences. Students attending the University of Pretoria are from diverse backgrounds and have diverse lived experiences and diverse prior knowledge. Simonsmeier, et al., (2021) stated that "prior knowledge is an excellent predictor of subsequence performance", leading to the suggestion that students with applicable lived experiences may have a better chance of being successful (Simonsmeier, et al., 2021).

If the student has insufficient prior knowledge, the new information becomes abstract without practical application. Creating prior knowledge in the form of contextualisation of the new information is vital for the student to internalise the new information successfully. The application of virtual reality (VR) in the classroom is intended to assist students to gain prior-knowledge on a topic in order to enhance their lived-experiences.

Purpose

The purpose is to determine if a VR teaching intervention can make a real difference in the contextualisation and retention of knowledge by students. The study is not driven by academic results, but rather by the enhancement of students' experiences in obtaining, internalising and understanding the new knowledge that they have to engage with. The research question is: To what extent can VR enhance the lived experiences of students necessary to contextualise and internalise new knowledge?

Methodology

A quantitative, longitudinal research approach was followed where the enquiry into the enhancement of lived experiences entailed a pre-questionnaire in the beginning of the year. There were 3 VR sessions which took place in class spread across the academic year. After each VR session the students were requested to complete a brief questionnaire to gauge the impact of the VR on the lived-experiences and thus the internalization of the new knowledge.

The respondents were requested to a create a unique code for themselves to use during the year to ensure anonymity which was also used to trace the responses throughout the research project.

The pre-questionnaire gauged the status of the current lived-experiences regarding students' prior-knowledge about parliament (session 1), a manufacturing concern (session 2) and a medical practice (session 3). After each session a post-questionnaire was conducted focusing on the specific lived experience presented during that session.

The results were statistically analyzed.

Results

The provisional results after Session 1 show that only 6.4% of our students had physically visited Parliament before. Two questions relating specifically to Parliament were asked to students before and after the VR session. Prior to the session, 88.7% of the students answered question 1 correctly versus 98.6% who answered it correctly afterwards. In question 2, only 58.3% answered correctly prior to the session versus 81.5% who answered it correctly afterwards. After Session 1 students were asked whether the VR visit had helped in engaging with the current work content: 58.3% said “yes”, 22.1% said “maybe” and 19.7% said “no”. These provisional results indicate that the VR experience did enhance the lived experience of students and assisted in contextualising new knowledge. The final results will be presented at Flexible Futures.

Conclusion

The provisional results indicate that VR can make a real difference in the contextualisation and retention of knowledge by undergraduate students in order for them to effectively internalise the new knowledge.

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Investigating the Efficacy of Large Language Models in Reflective Assessment Methods through Chain of Thoughts Prompting

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Sub-Themes

The role of data and AI in promoting teaching, learning and student success

Abstract Introduction and Literature Review

Large Language Models (LLMs), such as Generative Pre-trained Transformer 3 (GPT-3), have been developed to understand language through the analysis of extensive text data, allowing them to identify patterns and connections between words. While LLMs have demonstrated impressive performance across various text-related tasks, they encounter challenges in tasks associated with reasoning. To tackle this challenge, a chain of thought prompting method has been proposed as a means to enhance LLMs' proficiency in complex reasoning tasks like solving math word problems and answering questions based on common sense. The aim of this study is to assess the efficiency of five language models in grading reflective portfolios of medical students by employing the method of the chain of thought prompting. Additionally, we highlight how the chain of thought approach can be easy to use and useful for individuals who are not experts in artificial intelligence (AI).

Purpose

We highlight how the chain of thought approach can be easy to use and useful for individuals who are not experts in artificial intelligence (AI). We explore the measures taken by the chosen models to safeguard the privacy of the given data. Additionally, we assess the user-friendliness of the designs for non-technical individuals.

Methodology

To achieve this, we developed a series of prompts utilising the chain of thought strategy to assess the model's proficiency with unfamiliar data and to detect any potential limitations that may exist. These prompts provide guidance to the models on how to score reflective essays that they have not encountered previously. Subsequently, we conducted a survey with one of the teachers who was responsible for assigning and scoring these reflective essays in order to evaluate the feedback provided by each model based on the given instructions.

Results

We observed that our smallest model Alpaca encounter challenges in handling longer essays, as it tends to hang without providing any response when the input is lengthy. On the other hand, ChatGPT which is the biggest model obtained the closest average score, the lowest error rate, and the highest correlation score when compared to the marker scores.

Conclusion

Automated scoring systems are viewed as more reliable and unbiased compared to human raters, in addition to being cost-effective. Our research focuses on leveraging these language models in the

field of education to streamline the grading process for long-text assessments. Although there is room for improvement, particularly with models like Alpaca that struggle with following instructions, the overall performance on our dataset was impressive with ChatGPT and Bard.

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Using data mining techniques to determine skills gaps in early career veterinarians in South Africa

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Sub-Themes

The role of data and AI in promoting teaching, learning and student success

Abstract Introduction and Literature Review

South Africa and it's shortage of skilled veterinary professionals is having a significant impact on the country as a whole. Currently, there are only 60 to 70 veterinarians per million people, which is well below the international standard of 200 to 400 per million.

Efforts were previously made to address this issue and to improve the curriculum to ensure competent day one veterinarians. These improvements focused on communication, legal and ethical practice, research, disease control, and clinical exposure. The World Organisation for Animal Health (WOAH) and the Association of American Veterinary Medical Colleges (AAVMC) have introduced competency models for veterinary education.

The BVSc veterinary curriculum outcomes itself are on par for veterinarians to achieve the recommended day one competency levels listed by both SAVC and the WOAH. It is not known if they clinically developed these skills during their studies to achieve the skills needed for real-world competency.

Purpose

The primary objective is to determine if newly graduated BVSc veterinarians and final year BVSc veterinary students have perceived day one competency as indicated by the World Organisation for Animal Health Day One Competency model and the Competency-Based Veterinary Education model by the Association of American Veterinary Medical Colleges. A secondary objective is to identify key focus points in the current BVSc curriculum of the University of Pretoria that need attention using data mining tools.

Methodology

A survey was sent out to three different focus groups: 1) CCS veterinarians of 2022, 2) CCS veterinarians of 2023, and 3) final year BVSc students at the University of Pretoria. The survey was created on Qualtrics and was sent out to everyone in the three groups via email. The survey consisted of several questions pertaining to demographics, competency levels of various topics based on veterinary skills, and general questions based on the current BVSc curriculum. Short input, multiple choice, drop-box list, and longer written suggestive responses were asked in the survey.

The dataset was imported into RapidMiner, a data analytics software specifically used to interpret and analyse large datasets using machine learning- and computer algorithms. Statistical- and text mining analyses were performed on the written feedback responses using RapidMiner. ChatGPT v3.5 was also employed as an additional data source for extracting key points from written response datapoints.

Results

The data of 62 participants were obtained and exported to a Microsoft Excel spreadsheet.

Participants generally perceived competence in most disciplines tested by the WOAH and AAVMC day one competency models. Participants' perceived competence were more aligned towards the AAVMC model (good alignment across domains), which focuses more on the clinical private sector, as opposed to the WOAH model (partial alignment), which focusses more on the regulatory side of the profession.

It also highlighted areas in the curriculum that require revision to produce independent and competent veterinarians. Participants showed a preference for working with domestic animals, large production animals, and equines, also having higher competency levels in these areas compared to other non-preferred animals. The lack of day one competency and exposure in exotics was also noted. Feedback from participants emphasised the need for improvements in veterinary practice management, technology integration, psychology, and the inclusion of an African language module.

Conclusion

This study highlights the skills gaps of the current veterinary curriculum in South Africa. Although graduates meet international standards in most areas, improvements are needed. By improving the curriculum, with the aid of using newly developing technologies such as artificial intelligence to find gaps in the curriculum more efficiently, South African graduates can attain competencies on par with global standards, thereby having a positive impact in the veterinary field, nationally and internationally.

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Implementing the First Year Experience (FYX) in clickUP: a case study of the pilot

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

The University of Pretoria (UP) mainly addresses the academic transition of first years into the university during Orientation Week. However, a more holistic approach to first-year student development is necessary to prepare them to deal with the transitional challenges they face and enable them to seize all opportunities for their overall success. Therefore, continued student development during their first year of study was identified. The First Year Experience (FYE) online programme is such an intervention, designed as a co-curricular offering to go beyond addressing the transition issues first-year students face, but for their personal growth in a complex university environment.

UP has long used the learning management System (LMS) for student development and orientation. The Department of Student Affairs has used ClickUp for class representative training and the STARS Mentorship programme (Israel et al., 2022). The module created; students loaded, and the module released, with new content launched 6 weekly.

Purpose

The purpose of this paper is to document the LMS part of the project:

- Module creation and enrolling students
- Transforming content from the content creators into a self-paced module
- Providing just in time training to the Department of Student Affairs, Student Development Unit, regarding best practice
- Tracking student interaction in the module
- Reviewing the process for improvement in future

Methodology

This is a descriptive case study by the team members involved in the intervention. Survey evaluation by participating students was done on all four themes. Activity on the LMS was also logged to determine student activity. Reflection was done during and after the implementation of each new topic and recommendations were made based on feedback from students and best design practice.

The theoretical framework for this study is based on the transition theory of Schlossberg (1989) (which is a student developmental theory) as well as the persistency theory of Tinto (2017) and the resilience theory of Wong & Wong (2012).

Results

The team consisted of: the Department of Student Affairs, Student Development Unit members (including an intern), an Instructional Designer (ID), and various content providers on the four topics. With the ID being involved three weeks before the launch of the first topic, implementation of the LMS was relatively fast. The digital literacy of the intern assisted in meeting deadlines and transferring LMS skills with JIT training. The content providers were on time with their material, however, some of the video material provided was too long. The time frame did not allow any remake of the material.

Conclusion

Department of Student Affairs, Division of Student Development has expanded its offering of LMS modules. Working with the content providers will be required to improve the learning material. Student feedback will also need to be incorporated and the effectiveness of having content release spread over a long period of time needs to be evaluated. Guidelines need to be prepared for content providers to optimize their content for learning.

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Educational Technology to Support an Integrated Student Learning Experience. Evaluating the University of Pretoria's current and future Educational Technology Strategy.

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Abstract

The COVID Pandemic and the recent ubiquitous availability of generative Artificial Intelligence have permanently altered the Higher Education (HE) landscape. Higher Education Institutions (HEIs) responded by revisiting existing- or implementing new Digital Transformation (DX) strategies.

Global, National, and Institutional factors directly influence the implementation of educational technology at any University. The Educational Technology ecosystem at the University of Pretoria is embedded into a flipped-learning methodology and therefore includes a range of the latest technology to support the Hybrid model. This desktop research aims to evaluate the alignment between the current ecosystem and what may be required to address educational and technological developments based on global trend analysis.

An analysis of recently published related Institutional strategic documents and globally recognised companies' publications provides interesting overlaps between Institutional strategies and global trends irrespective of our unique context. However, UP may need to consider some technologies that have reached mainstream adoption worldwide by aligning business processes. A positive outcome relates to the sustainability of the ecosystem through mature partnerships and the subsequent ability to integrate new developments, such as AI, without incurring significant additional costs. A subsequent requirement is the enhancement of staff and students' digital fluency.

The impact of a teaching intervention on the development of critical thinking skills of first year business acumen students

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Sub-Themes

Preparing students with employability competencies in the AI era.

Abstract Introduction and Literature Review

Critical thinking is the process of analysing and assessing thinking with a view to improving it (Paul & Elder, 2005). It presupposes knowledge of the elements of thought and universal intellectual standards. The key to the actual improving of thought is in restructuring thinking as a result of analysing and effectively assessing it (2005:7). Emphasis is placed on developing skills that cannot be replaced by artificial intelligence and robotic process automation. Educational institutions need to prioritise the development of these skills as the implementation of technology will increase the skills gap (Pincus, Stout, Sorensen, Stocks and Lawson, 2017). Dinkins (2022) found that students who received training in critical thinking, were better able to apply concepts. However, critical thinking is gradually developed over time and with practice which makes it difficult to measure the effect of a critical thinking intervention (Wolcott et al, 2002; Broadbear & Keyser, 2000).

Purpose

From prior literature it is evident that a need exists for more detailed reports on the development of accounting curricula that incorporates critical thinking, also, more studies are needed that report on the evaluation of the effectiveness of such developments. How effective was the implementation of critical thinking program on the development of critical thinking skills in undergraduate students in the BCom Accounting Sciences program?

Methodology

The new BCom Accounting Science degree began in 2023, and first-year students received critical thinking training through two weekly sessions in the first semester. The training included introducing theory and application of critical thinking, fostering development through class activities and case studies. The principles were applied to other modules to encourage critical thinking throughout the program. A pre-test / post-test design was followed to evaluate the program. As a pre-test, 443 students completed two instruments developed by PsyTech, i.e. Abstract Reasoning test (ART) and the Critical Reasoning Test (CRT). ART assesses reasoning abilities and is a predictor of trainability. CRT assesses verbal and numerical reasoning and how logical decisions are made from complex information. The post-test will be completed at the end of 2023 when these tests will be repeated. In addition to the pre-test/post-test, self-reflection journals were kept during the course, and these will be used as quantitative measures.

Results

Test results are interpreted by comparing it to a South African Aggregate population with the same level of qualification. In this case, it would mean comparing it to people who have completed grade 12 only. From the preliminary results, students scored moderate to moderately high scores in critical

reasoning as assessed through the instruments. Results for abstract reasoning were 5.13 out of 9 and is categorized as moderate performance when compared to the South African Aggregated population of 2017 (n=2191). Results for verbal reasoning scored 6.09 out of 9 and is categorized as moderately high, whilst numerical reasoning scored 5.7 out of 9 and is categorized as moderate. These scores were compared to the South African Aggregate population of 2016 with sample sizes of 4681 and 4491 respectively.

Conclusion

In general, students enrolled for BCom Accounting Sciences, perform academically well. The initial results illustrate the need for intentional interventions aimed at critical thinking, critical reasoning and numerical reasoning. These are the core competencies that are required of professional accountants. In addition to these competencies, ethical reasoning abilities were also introduced and will be assessed through the qualitative entries mentioned earlier.

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Enhancing Student Performance and Well-being through Automated Time Management Strategies: The Role of the Google Ecosystem

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Sub-Themes

The impact of AI on student success and support, including tutoring, in higher education

Abstract Introduction and Literature Review

The study explores the role of Google's digital ecosystem in automating time management strategies in tertiary education institutions. Existing literature emphasises the correlation between effective time management and improved academic performance, personal growth, and mental health (Britton & Tesser, 1991; Macan et al., 1990; Urayanza et al., 2022). The current research aims to address the gap in the literature by assessing the potential impacts of Google tools such as Calendar, Keep, Docs, Tasks, and Gmail on these key student outcomes. Survey data from 12 students indicated a general agreement on the efficacy and ease of use of these tools. Notably, respondents acknowledged an enhancement in their academic performance, and a decrease in stress and anxiety (Beasley, 2014; Hunter Library, 2011; Khiat, 2022). This study contributes to the body of research by providing empirical evidence on the advantages of technology-based time management strategies in educational settings.

Purpose

This study aims to assess the impact of the Google ecosystem tools on tertiary education students' academic performance, mental health, and personal development. The research seeks to evaluate the hypothesis that consistent and correct utilisation of these tools can optimise time management and positively influence students' educational journeys. By conducting a questionnaire-based survey and examining the participants' responses, this study contributes to the literature by providing empirical evidence on the efficacy of automated time management.

Methodology

This study employed a questionnaire-based methodology to evaluate the impact of automated time management strategies utilising the Google ecosystem in tertiary education settings. The target sample consisted of 12 students from a returning student population. The questionnaire was designed to collect data on students' experiences with and perceptions of the Google ecosystem tools, including Google Calendar, Keep, Docs, Tasks, and Gmail. The survey questions focused on the students' usage patterns, satisfaction levels, ease of use, and perceived impact on academic performance, mental health, and personal development. The data collected through the questionnaire were analysed using quantitative methods, including descriptive statistics to summarise the survey responses. The findings were presented in the form of percentages and qualitative summaries to provide a comprehensive understanding of the participants' experiences with the Google ecosystem tools. The limitations of the study included the small sample size and the subjective nature of the responses.

Results

1. Satisfaction and Ease of Use: A significant number of respondents expressed their satisfaction and competence with the overall functionality of the Google ecosystem apps.
2. Academic Performance: A considerable percentage of students reported that their academic performance has improved since they started using the Google ecosystem apps.
3. Mental Health: Many respondents indicated that the Google ecosystem apps have helped reduce their stress, anxiety, and symptoms related to ADHD in the context of schoolwork.
4. Time Management: Students reported that using Google Calendar and time boxing techniques facilitated by the Google ecosystem apps have helped them improve their time management skills and become more productive.
5. Recommendations: A notable proportion of respondents expressed their willingness to recommend the Google ecosystem apps to other students.

Conclusion

In conclusion, the data indicates that the Google ecosystem tools can enhance student academic performance, mental health, and personal development by providing automated time management strategies. Although some limitations exist, i.e., the small sample size, the majority of respondents found these tools to be effective and easy to use. By addressing the identified challenges and implementing the recommendations above, the Google ecosystem tools can further optimise their effectiveness in improving students' time management abilities.

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The Double-Edged Sword of AI in Academia: Exploring the Pros and Cons

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

The advent of Generative AI, particularly ChatGPT, has ushered in a new era in higher education, offering unprecedented opportunities for personalized learning and efficient assessment. However, it also presents significant challenges, including threats to academic integrity and potential inequities in the learning process. This topic is of paramount relevance as it necessitates a critical examination of the ethical implications, practical applications, and strategies for the responsible use of AI in academia. As educators, it is our duty to navigate this transformative technology while preserving the core values of education.

Purpose

To critically examine Generative AI's role in higher education, specifically ChatGPT. It aims to elucidate the potential benefits and challenges, explore its implications for academic integrity, and discuss practical applications. Furthermore, the talk seeks to provide strategic recommendations for educators to harness the power of AI responsibly, ensuring it enhances learning outcomes while upholding ethical standards. Ultimately, the talk intends to stimulate informed dialogue on the integration of AI into educational practices.

Methodology

Literature review and experimentation with the relevant tools.

Results

ChatGPT, and other generative AI tools, offer significant opportunities in higher education by increasing the accessibility of information, facilitating personalized learning, and aiding complex learning. It can decrease teaching workload by assisting in tasks such as creating teaching materials, generating lesson plans, providing feedback on student work, and even automatic grading, thereby revolutionizing traditional teaching methods. While it offers numerous opportunities in higher education, it also poses significant threats, including a lack of contextual understanding, threats to academic integrity, the perpetuation of discrimination, and the potential for plagiarism. Over-reliance on such technology could also lead to a decline in higher-order cognitive skills among students and teachers, underscoring the need for careful and ethical implementation.

Conclusion

The integration of Generative AI, particularly ChatGPT, into higher education presents a transformative yet complex landscape. It offers unprecedented opportunities for personalized learning, increased accessibility of information, and efficient assessment, while also posing significant challenges, including threats to academic integrity and potential inequities. As we navigate this new era, it is incumbent upon us as educators to ensure that we harness the power of AI responsibly, preserving the core values of education.

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Navigating the 4IR: Adopting ChatGPT and Advanced Digital Technologies for Skills Development for the South African Labour Market

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Sub-Themes

Preparing students with employability competencies in the AI era.

Abstract Introduction and Literature Review

The 4IR and associated digital transformation is sweeping across all sectors, posing daunting challenges and simultaneously exciting opportunities for graduates entering the labour market.In addition the skills required by the labour market, at times, don't coincide with the skills produced by higher education institutions.The situation though, becomes more intricate in the context of South Africa, where the complexities of job-seeking are exacerbated by macroeconomic volatility and issues related to access to education.Amid this backdrop, advanced technologies of the 4IR such as ChatGPT can either be seen as a barrier, or an effective tool in a graduate's arsenal for the future of work.This study acknowledges the critical role of advanced technologies such as Artificial General Intelligence (AGI).To this end, the paper critically analyses how a multi-stage approach was used to support digital adoption within a third-year business management module to ensure they are not obsolete in the local context.

Purpose

As certain tasks become automated within the digital revolution, there will be an increased necessity for graduates to develop, implement, and maintain autonomous systems and innovate in new ecosystems. This research explores how to support graduates in the adoption of AGT to develop their skills to be work ready now and into the future.

Methodology

To ascertain the multi-method approaches' effectiveness, we used an Outcomes-Based Assessment (OBA) methodology.This method, based on a pragmatic philosophy, allowed us to evaluate real-world implications and effectiveness of guiding students to adopt AGI tools to develop their future skills, specifically teamwork, communication, leadership and entrepreneurship.The OBA method focused on tangible outcomes, allowing the assessment of each process by its results rather than the procedural implementation.We began with the identification and formulation of clearly defined outcomes relating to AI application and digital literacy.These outcomes served as benchmarks for assessment and were developed in line with business innovation objectives.Each outcome was linked to an assessment method, allowing us to capture a multi-dimensional view of the subject matter.From 117 assignments,we utilised meta-synthesis to extract overarching themes and findings.This meta-synthesis process led us to identify a top ten list of groups where the effective application of AI proved crucial in driving business innovation.

Results

The study reveals that various groups have demonstrated a keen interest in extending their exploration into the realm of AI-enabled innovations. Such enthusiasm has been particularly noted in the areas focused on improving preparedness interventions. These endeavours underscore the importance of adaptability and resilience in our constantly shifting professional landscape, challenging traditional career paradigms. Incorporating AI technology in this process has yielded positive outcomes. These innovations have successfully augmented traditional career planning approaches, offering an additional layer of preparation. Instead of merely matching individuals with an occupational path and formulating career or life plans based on benign or neutral circumstances, the AI-driven preparedness interventions brought a significant enhancement. The innovative preparedness models have shown the potential to plan for a range of scenarios, including the unexpected or unwanted ones.

Conclusion

The research underscores the necessity for comprehensive, transparent, and adaptable educational strategies. It champions the innovative use of AGI tools in fostering skills needed for the labour market.

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Educative assessment of foundational technical writing for engineers: a case study

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

Technical writing concerns the written communication of specialised concepts and scientific data, making use of text, equations, graphs, tables, and figures. With an overriding concern for clarity and objectivity, the technical writing style differs from other writing styles and requires special attention in the undergraduate engineering curriculum (Ray, 2014; Gao, 2019; Selwyn & Renaud-Assemat, 2020). Engineering students have to deal with the dual challenge of mastering the elementary techniques of technical writing while at the same time having to write about specialised topics that they are still in the process of mastering. Therefore, there is a need for students to learn the foundations of technical writing in an environment where they are not overwhelmed by the technical difficulty of the topics they are writing about.

Purpose

This case study reflects on the author's experiences developing educative assessments for the continuous-assessment module EJJ 210 Professional and Technical Communication in the Department of Electrical, Electronic, and Computer Engineering at the University of Pretoria between 2022 and 2023. The aim was to shift the focus of two technical reports towards the quality of the writing, while at the same time teaching students about the topics of the reports through the assessments themselves.

Methodology

The educative approach involved providing students with most of the information required to complete the reports in the form of a narrative supplied with each assignment. Students had to paraphrase the supplied narrative and form it into a cohesive report, demonstrating an understanding of the relevant structure, style, and formatting required for the specific type of report, for example, a laboratory report. The narrative itself was also educational, teaching, for example, how to conduct a laboratory experiment properly. The supplied narratives were also mixed with student-generated content. Using this mixed approach, an assignment was formulated on a relatively advanced topic, allowing students to learn both by practice and by observation.

A challenge of the proposed approach is that it is particularly susceptible to the misuse of paraphrasing tools and generative artificial intelligence (AI). This was addressed by restricting the information students had access to during tutorial sessions.

Results

One might wrongly expect that providing most of the information required to complete a report would make the assessment trivial, but there is evidence to suggest that the students in EJJ 210 found such

assessments challenging, implying that technical writing skills were being evaluated at an appropriate level.

Conclusion

The educative approach to assessments implemented in EJJ 210 implies that it is possible, at least to an extent, to separate content from quality of writing in an effort to help students master the fundamentals of technical writing before having to write reports on far more specialised topics. However, there is still room for improvement in terms of making sure that students do not have access to tools that provide them with unfair advantages.

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Do we know what Artificial Intelligence holds for the future of qualitative research?

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Sub-Themes

Navigating the legal and ethical implications of AI in transforming higher education

Abstract Introduction and Literature Review

Qualitative research has for a long time been an important method for gaining understanding, proving to be particularly useful in social science, the objective of this methodology is to produce detailed descriptions and understanding, allowing researchers to answer what is, how, and why questions (Rietz & Maedche, 2021). Historically qualitative research is heavily focused on one's ability to synthesise and process narratives, pictures and videos with little computational input or assistance. More recently researchers have been developing methodologies to apply qualitative methods to "big" data problems, in an attempt to achieve more generalizable results from larger data sets, and preserve the richness of qualitative methods (Jiang, Wade, Fiesler & Brubaker, 2021).

The potential for AI in qualitative research is still largely untapped with existing AI-based approaches using functions such as partially automated coding, in the form of supervised machine learning (ML) or explicit knowledge represented in code rules (Rietz & Maedche, 2021).

Purpose

The purpose of this review of the literature is to identify potentially useful application of artificial intelligence in qualitative research. With increasing adoption and development of AI, the adoption of AI in qualitative research seems inevitable and to some degree can take current qualitative research applications like ATLAS.ti to new heights. This literature review will also consider the ethical concerns and challenges when adopting AI for qualitative research.

Methodology

A qualitative literature review was adopted, based on the desired purpose of this research. This review of literature consulted, both adamic journals and main-stream media in an attempt to cover newly published content and keep up with the currency of this topic, which may have been limited if it were restricted to peer-reviewed publications.

Results

Artificial intelligence has such significant potential to enhance one's understanding of qualitative data. There is still much room for development and refinement of AI qualitative data analysis applications. Current common qualitative data analysis software applications (such as ATLAS.ti) offer a fair level of features to automate and assist with the analysis of qualitative data, however these features are limited when attempting to extract deeper understanding. There are a number of benefits from the implementation of AI in qualitative data analysis, however there are a number of limitations and concerns.

Conclusion

The value and level of qualitative data analysis is going to be enhanced in the near future as more researchers will look to AI to help uncover deeper meaning and insight from their data sets. These future trends may potentially unlock greater understanding and could ultimately lead to more impactful research. However, the acceptance of AI in qualitative data analysis may be a potential barrier as researchers formulate ethical guidelines for the use AI.

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Using technology to extend the reach of the Faculty Student Advisors at the University of Pretoria

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Sub-Themes

The role of data and AI in promoting teaching, learning and student success

Abstract Introduction and Literature Review

Academic advisors perform multifaceted functions in the experiences of students, including functions in both academic and non-academic domains, which are broader than the role of tutors and/or mentors (Medernach, 2018). Academic advising is seen as when an institutional representative gives insight or direction to students about academic, social and/or personal matters. The nature of this direction might be to inform, suggest, counsel, discipline, coach, mentor or even teach. The purpose of academic advising was to broaden the support to students and improve their learning through targeted interventions, which place them in an ideal position to support students across subjects (Bloom, Propst Cuevas, Hall, & Evans. 2007). Student advising is a critical component of student success (Beal & Noel, 1980).

Purpose

UP has a total of 23 Faculty Student Advisors (FSAs) for a total undergraduate student body of over 35,000 students. This amounts to roughly three FSAs for large faculties and one for the smaller ones.

In a large institution such as UP, it is often difficult to get buy-in from students to make use of support services. The purpose of this paper is to look at possible ways of increasing the reach of advising services.

Methodology

The review period for this paper was 2020-2022. The attendance of FSA sessions for both 2021 and 2022 was compared to the 2020 academic year for students who indicated a need for advising on the UPRS and those who did not.

Strategies that may have increased the reach of advising at UP are:

- FSAs were introduced to all first-year students during live online sessions during the first-year orientation.
- Each first-year student is enrolled in a UPO module which is facilitated by an FSA who sends out weekly announcements and follows up with regular nudges to stay in contact with their students.
- In July 2021, faculty-specific FSA webpages were created that listed photos and contact details of FSAs.
- FSA services and the abovementioned websites were promoted through the FLY@UP Student Success campaign and increased the awareness of advising and how students can get in touch with an advisor.

Results

The attendance of FSA sessions increased for both 2021 and 2022 compared to the 2020 academic year for those students who indicated a need for advising on the UPRS as well as those who did not. In addition, students are attending a growing number of sessions, effectively returning more often for support.

Conclusion

Students returned more often and attended multiple sessions with the FSAs. The improved attendance of FSA sessions by first-year students as well as senior undergraduate students indicates that the support services of the FSAs are increasingly utilised by students. This increase may be due to the incorporation of various strategies to increase the reach of advising. It is however still the student's decision to take responsibility for their academic progress by consulting with an FSA.

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Exploring the Role of Globalized Learning in Fostering Person-Centered Care in Audiology Education: Reflections from a Student-Led Global Learning Initiative

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

Globalization has made education borderless and has enabled learning beyond traditional classroom settings. This has resulted in the adoption of globalized learning by higher education institutions to prepare students for success in a modern global society. Globalized learning provides engagement and learning opportunities for students and allows them to engage with different cultures, languages, and ways of thinking. Global learning opportunities can provide students with the opportunity to develop skills related to critical thinking, leadership, problem-solving, and intercultural communication required to support a person-centered care (PCC) approach in healthcare. PCC has been shown to improve health outcomes, including increased client satisfaction and treatment adherence. However, audiology students may not have the opportunity to develop and refine their communication skills during undergraduate training. Utilizing global learning opportunities may provide students with the opportunity to develop skills required to support a PCC approach in healthcare.

Purpose

The mixed method study aimed to gather and examine audiology students' perspectives obtained from the first student-led global learning initiative focusing on person-centered care (PCC). The initiative aimed to provide assistance and enhance global learning opportunities pertaining to PCC, with the goal of refining and improving the overall experience.

Methodology

The learning opportunity included a global student-led conference which included students from nine universities across three continents. The conference was three hours long and consisted of six presentations from students from the various included academic institutions. The presentations spanned across the following topics: elements of PCC, motivation tools to support PCC in clinical encounters, cultural humility and the role of digital literacy within a clinical setting. Each 20-minute presentation was designed with active engagement principles in mind. A cross-sectional e-survey was shared with student participants after the conference, which included quantitative and qualitative components. Demographic data were analyzed using descriptive statistics, retrospective pre-/post-

Likert scale data were analyzed using nonparametric statistics, and qualitative data were analyzed thematically following a deductive process.

Results

One hundred and five students from across three continents completed the survey. Participants had a mean age of 21.5 years with 92.4% being female. The retrospective pre/post survey revealed a significant difference in pre- and post-ratings for the level of awareness of topics discussed during the conference, including PCC elements, motivation tools, cultural humility, and the role of health literacy within communities. Preliminary thematic analysis revealed four main themes: application of PCC, barriers to PCC, perspectives of PCC, and student experiences regarding the global learning opportunity. The most frequently identified topics were elements contributing to person-centered care and cultural humility, with positive comments making up 79% of the feedback. The findings suggest that the conference was effective in improving students' understanding of PCC and cultural humility, and highlights the need for ongoing training in these areas.

Conclusion

The first student-led global learning initiative on PCC was successful in increasing students' awareness of PCC elements and the importance of intercultural communication skills. This global learning opportunity increased students' awareness of PCC elements, clients' perspectives of PCC, motivation tools for addressing cultural barriers, and the importance of intercultural communication skills. The initiative can serve as a model for future global learning opportunities on PCC.

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High Impact Modules: Where and how [and why should I care]?

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Sub-Themes

The role of data and AI in promoting teaching, learning and student success

Abstract Introduction and Literature Review

The University of Pretoria implemented effective course evaluation practices to improve student outcomes within gateway modules. Gateway modules are referred to as HIMs (high impact modules) and are defined as courses with a pass rate below 75% and a student enrolment of more than 500 students.

Purpose

The purpose of the project is to provide a holistic review of the courses with targeted interventions to increase the course success rate. A course review focuses on the specific issues that impact on the performance of the specific module, namely in terms of curriculum, assessment, policies and practices, support services, communication, students, and lecturers.

Methodology

The project forms part of the initiative of the University of Pretoria data analytics committee, a sub-committee of the Senate: Teaching and Learning committee, to improve the success rate of a selected number of gateway modules. In the past, the review process was primarily driven by the Department for Education Innovation in 2019 and 2020. Where the reviews were transferred to the faculties for the project to scale up in the number of modules that are included. To facilitate and streamline the process for the academic teams involved in the reviews SharePoint sites were established as a new ecosystem for the reviews.

Results

The review process showed an improvement in student outcomes. The overall improvement in success rates for modules evaluated between 2019-2020 was between 12.6-13.3%. The institutional success rate for 2019 improved by 1% compared to 2018 (from 82.5% in 2018 to 83.5% in 2019). Whereas there was a 4% improvement between 2019 and 2020 (from 83.8% in 2019 to 87.8% in 2020). The statistics show that the average improvement in the reviewed courses made a meaningful contribution to the success rates of the institution.

Conclusion

This paper will demonstrate the new ecosystem on SharePoint to assist the Heads of Departments and academic teams to perform module reviews. The SharePoint sites function as mini websites that contain the information required for the reviews, including the module review survey, an action item scheduler, module analytics and documents folder to retain an audit trail of documents used.

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Exploring open-source natural language processing (NLP) models as a methodology for understanding the student voice in the context of teaching and learning.

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Sub-Themes

The role of data and AI in promoting teaching, learning and student success

Abstract Introduction and Literature Review

The rapid generation of data in recent years has necessitated a search for new technologies, scalable infrastructure, and techniques to make sense of it. Higher education has not been immune to these developments. Large scores of data in education are generated by the various technologies used in administrative, teaching, and learning activities (Tulasi, 2013). With the growing integration with other technologies, learning management systems are perhaps the largest data creators in higher education. Data drawn from institutional student surveys on teaching and learning is important for decision-making and to help institutions with interventions needed to enhance teaching and learning and the student experience (Nawaz, 2022). In this presentation, we focus on qualitative data that was generated through the Student Feedback on Teaching Survey (SFTS) that students complete at the end of a module, providing feedback on their experience of teaching.

Purpose

This presentation reports on the findings of an exploration of the use of open-source natural language processing (NLP) models (Chopra, Prashar & Sain, 2013) as a potential methodology for complementing the analysis of large volumes of qualitative data. The presentation aims to answer the research question: How does the use of natural language processing models facilitate the analysis of extensive data to enable institutions to draw insights from student feedback qualitative data?

Methodology

In the third term of 2022, the University resumed contact teaching and learning. An additional survey item was inserted in the end-of-term SFTS at the end of the third term. The open-ended questions asked the students to comment on how the return to face-to-face (f2f) lectures impacted their learning. Data generated from the responses of students in a particular faculty, was subjected to NLP as a method of analysis. This faculty was specifically chosen as it was one of the faculties highly affected by remote online teaching, given the practical component embedded in most of its modules.

NLP is a growing field and has proven its versatility in everyday uses such as search engines, chatbots, generative AI, and many other sense-making uses of text. We explored models for summarizing, analyzing sentiment, detecting toxicity, discovering thematic ideas, asking the data questions through question-and-answering models, and text classification.

Results

The insights emanating from the NLP and commonly used thematic analysis were comparatively similar, providing rich insights in a short period of time. The human element was still necessary to provide a contextual interpretation of the findings. The qualitative data analysis reflected more of a positive than negative sentiment regarding the return to f2f learning. Among the benefits of the return to f2f cited by the students was the improvement of their understanding of the course content because of immediate feedback from the lecturer. The main disadvantages were the time constraints students experienced due to traveling to class, moving from one venue to another, and video lectures that were no longer available. Looking into the large raw data for emerging themes is critical for institutional teaching and learning decision-making, such as flagging outcomes that require urgent attention.

Conclusion

In terms of NLP, (i) it takes less time to get to the main ideas and insights, (ii) the researcher can use the preliminary findings for further contextual analysis, (iii) pre-NLP analysis guides the researcher in conducting thematic analysis, (iv) insights are quantified quicker. Natural language processing yielded findings that corroborate the thematic analysis findings using Atlas ti., demonstrating the impact of the analytic capability of automation technology as a complementary tool for human analysis.

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Exploring the use of Comparative Judgement as a grading method for Information Systems honours students

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

The number of Information Systems (IS) honours students at the Department of Informatics has increased drastically over the past few years. This has a notable impact on the marking load of lecturers. Many of the assignments of the honours modules involve academic writing – which is typically time-consuming to assess. Also, academic writing assessments test competence resulting in highly subjective marking. We are therefore looking for more efficient ways to mark academic writing without compromising reliability.

One such alternative method is the Comparative Judgement grading method. This method is based on Thurstone's Law of Comparative Judgement that people are more reliable in comparing two assignments (or any other proof of competence) than assigning a mark to an individual assignment (Thurstone, 1929).

Purpose

Therefore, this research aims to explore the suitability of using the Comparative Judgement grading method for the assessment of academic writing of IS honours students.

The main attraction of this assessment method lies in the relatively shorter time it will take to assess the number of assignments (as attested by Steedle and Ferrara (2016)), as well as the well-documented high reliability of the approach.

Methodology

This exploratory, mixed-method study will use the INF 702 780 IS honours research module students (n = 100) as a sample. The academic writing activity will be the introduction section of a Systematic Literature Review (SLR). Our planned intervention is as follows: 1) Explain the elements of an introduction of an SLR, 2) Provide a research question, 3) Give students snippets of four articles from which they can write the introduction, and 4) Indicate which articles can be used in the different parts of the introduction.

The students will do the assignment in a controlled environment with no access to the Internet, only ClickUP. Students will submit the final introduction as a pdf to ClickUP.

The pdf files will be shared with a UK company, No More Marking, who will assist us with the marking process. In addition, there will be three judges (staff members involved in the course).

Results

This is a work in progress; therefore, no results are available.

However, we aim to collect qualitative data in the form of the three judges' personal reflections (as notes) on the experience of the marking process and notes of generic feedback to students. The quantitative data will be a comparison between the ranking of the student and the mark the student obtain later in the year for the introduction of their research papers. Also, we will keep track of the time it takes to mark 100 papers and compare the time it takes us to mark the introduction later in the year as part of their assignments.

Conclusion

With increased postgraduate student numbers, there is a danger of superficial marking and feedback. Hence, there is a need to find more efficient yet reliable grading methods. We hope this experience will extend our toolbox of strategies to do so.

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Curriculum Design and preparing students in the Digital Age: Knowledge and Innovation as Inseparable

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Sub-Themes

Developing curricula that align with the Digital Age in higher education

Abstract Introduction and Literature Review

In the Digital Era, higher education is confronted with the need to align its curricula with technological developments while also delivering a knowledge-based curriculum to avoid curriculum irrelevance (Gravett, 2019). Marwala (2020 & 2022) argued that the advancement of technology is not a spread one can wish away but a progression that requires adaptability and resilience. This study sought to find a balance between knowledge preservation and innovation in the digital age by analysing results from a survey academics at a South African university took and relying on desktop research. The key findings are that (i) a knowledge-based curriculum is the source of innovation, (ii) There is a need to prepare students for a changing world, and (iii) using a digital tool as a hammer and everything else as nails is unscientific.

Purpose

The study's aim objective is to (i) make a case for a knowledge-based curriculum in the Digital Age, (ii) demonstrate the importance of preparing students through innovation and 21st-century skills for a digitised world while preserving knowledge, and (iii) emphatically advocate for ethical and responsible use of digital technologies.

Methodology

Data from the participants of an innovation workshop called Assessment Innovation in the Era of AI held at the University of the Free State (UFS) in 2023. The study also analyzed data from a short Microsoft Forms survey taken by academics (60 participants) and Instructional Designers (18) on Artificial intelligence (AI) in education and its implications on teaching and learning and curricula design. The survey questions varied from awareness of generative AI, teaching pedagogies in the 21st century, the support they need, and why or why not the curriculum should be adapted to fit today's context. It also reviewed articles, a book, and case studies from databases and the Web by using keywords and phrases such as 'AI in education,' knowledge in the 21st century,' 'technology innovation in education,' etc. The results exclude corporate education, basic education, flagged websites, and articles on other types of AI, such as Machine and Deep Learning.

Results

The results from the survey show that more than 50% of academics have a general understanding of what generative AI is, and they have never used it, which may imply that they were unaware that their students were using it. Moreover, academics indicated that knowledge should be the bases of the curriculum, even though we are in the digital age. As they suggested, the reasoning behind this emphasis is that innovation came about as a result of knowledge, as Young (2011 & 2013) also argued. Being flexible and innovative with the curriculum should be within the confines of scientific

knowledge. Further, the results indicate a deeper appreciation of the need to prepare students for a complex fast-changing world. The skills that prepare students for the world exist beyond the curriculum knowledge, although their teaching and attainment may be subtle. Academics and Instructional Designers must be deliberate in instilling these skills.

Conclusion

The results imply that a knowledge-based curriculum is fundamental, although lecturers may use learners' experience as a pedagogic resource. Moreover, this study's findings directly affect teaching pedagogies and curriculum design, including the use of technological tools. In conclusion, the study could not get the experiences, views, and policy directions of the executive management and students (this is a limitation). It is also evident that there is a need for further research focusing on curriculum knowledge in the Digital Age and finding a balance between knowledge acquisition and digital innovation.

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Opportunities and Pitfalls of GenAI Pedagogy: A View from Academic Literacies in South Africa

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

This study explores the potential benefits and challenges of integrating Generative Artificial Intelligence (GenAI) in pedagogy from the perspectives of both first-year university students and instructors in South Africa. The study aims to identify the opportunities and pitfalls of GenAI pedagogy for enhancing students' literacies and multimodal teaching and learning while also examining ethical concerns.

Literature Review:

While recent research on the impact of GenAI on education is plentiful, most of it focuses on the sciences or pedagogy generally (Lubinga, Maramura & Masiya, 2023; O'Connor, 2023; Qadir, 2022; Rudolph, Tan & Tan, 2023; Zhai, 2023). The presenters of this paper are yet to find any research on the place of GenAI in the teaching and learning of Academic Literacies. As such, this paper aims work towards a publication on the emerging topic of GenAI generally and, simultaneously, contribute to extant scholarship on the teaching and learning of Academic Literacies.

Purpose

This study was conducted to explore the potential benefits and challenges of integrating GenAI in pedagogy from the perspectives of both first-year university students and instructors in South Africa. By gathering qualitative data on the experiences and perceptions of these stakeholders, the study aims to identify the opportunities and pitfalls of GenAI pedagogy for enhancing students' literacies while also examining ethical concerns.

Methodology

This study employs qualitative research methods, utilising questionnaires with open-ended questions as research instruments. The questionnaires were designed to gather qualitative data on the experiences and perceptions of both first-year university students and instructors with GenAI-integrated pedagogy. The data collected was analysed using thematic analysis to identify common themes and patterns in the responses.

Results

The findings of the study suggest that both first-year university students and instructors recognise the potential benefits of GenAI in enhancing their teaching and learning experiences. The questionnaires revealed that students appreciate GenAI's ability to provide personalised learning experiences, accommodate diverse learning styles, and offer real-time feedback. However, they also expressed concerns about the quality of GenAI-generated feedback, the potential for GenAI to exacerbate

existing inequalities in education, and the ethical implications of using GenAI in education. Instructors expressed similar concerns about the quality of GenAI-generated feedback and the potential loss of human interaction in the classroom, but also recognised the potential for GenAI to improve student learning outcomes.

Conclusion

The study concludes that GenAI pedagogy presents both opportunities and pitfalls in the South African context. It is important to incorporate students' input in the development of new methods for integrating GenAI into the classroom to address their concerns and enhance their academic literacies. Additionally, policies and guidelines should be established to regulate the use of GenAI in education to address ethical concerns and ensure quality education for all students.

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The benefit of students' engagement with online homework in general **chemistry**

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

Student success in general chemistry on the BSc extended curriculum programme (ECPs) is of the utmost importance. A component of success in literature is the ability to engage in homework, that is independent consolidation exercises. The introduction of Online Web-based Learning (OWL) as a learning and consolidation platform has revolutionised how students do homework in chemistry: no longer do students do prescribed pen and paper homework but now they have instant feedback from OWL which has multiple pedagogical advantages (Woolf et al., 1999). Student success has been a result of students' interactions with OWLs (Botch et al., 2007). OWL is a non-threatening and low-stakes environment in which students can use as much time as needed to master concepts and interact with simulations. OWL has also been shown to be a popular platform, fostering positive attitudes towards chemistry in general which has again been linked to improved students' performance (El-Labban, 2003).

Purpose

The purpose of this study is to explore the relationship between students' engagement with OWLs and their final mark for general chemistry. Positive relationships will allow practitioners insights as to the behaviour of successful students. Additionally, this data can be used to inform and motivate future cohorts of students and guide the management in rolling out online homework in other ECPs modules.

Methodology

Anonymous secondary data will be used for this research. The number of OWL assignments completed, the time students spent on OWLs and their performance in OWLs will be statistically correlated with their final marks. Student feedback was also collected via the STFS comment section regarding attitudes to OWL. To improve reliability, statistical analysis will be done for both the 2022 and 2023 cohorts.

Results

Statistical analysis revealed a positive correlation between OWL students' performance and their semester mark (0.80 for 2022 & 0.58 for 2023). The difference between the correlation coefficients for 2022 and 2023 may be understood by the fact that most modules achieved higher marks in 2022 while learning was still online. Qualitative results indicate positive student attitudes towards OWL, for example, "…the OWL homework that we had to do every week was extremely helpful and solidified my understanding".

Conclusion

Students found the OWLs beneficial to their learning and understanding of chemistry concepts. OWLs were mentioned by students several times in the lecturer's reviews. Student attitude was found alongside student success, especially in 2022 when learning was online. Activities such as OWL make students feel prepared for assessment and more such activities in other modules could be considered for their benefit.

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Implementing authentic assessment approaches in teaching Intellectual property law in South Africa in an AI-dominant future

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

In higher education, traditional forms of assessment are still dominant, and advocates of these assessment methods argue that they can effectively reduce plagiarism, are dependable, and are straightforward to create, grade, and administer. However, one limitation of these assessments is that they are typically closed book, preventing students from using reference materials and therefore leading to a greater emphasis on the product rather than the learning process itself. Moreover, poorly designed tests and examinations may assess knowledge that is disconnected from real-life situations. This is even more challenging in a field such as intellectual property law where real-life application of knowledge and learning is important to develop future-ready lawyers. To address this issue, incorporating authentic assessments and taking cognisance of AI developments can prove to be a valuable strategy. Authentic assessments strive to replicate real-life tasks, fostering attributes like autonomy and motivation, which are highly valued in the legal profession.

Purpose

In this study, we report on the experiences of implementing authentic assessments in the intellectual property law module at the University of Pretoria. The purpose was to establish students' experiences in the assessments where they were required to design and create an online education resource to explain aspects of copyright law. Students were working in groups and were allowed to design the online resources of their own choice based on their assigned copyright law topic.

Methodology

Apart from the creative and design elements upon which students were assessed on their ability to make design and creative selections that are appropriately aligned with their assigned topic, the assessment used in this study also had group reflection as a component. Each group was required to complete a survey to inter alia indicate copyright issues they encountered in using any third-party material in their design; a brief description of the process of creating the submitted work, what they learned from the work, contributions by each individual member of the group, etc. This survey was not graded but to ensure that students participated, no group will receive a mark for the assessed part if they did not participate in the survey.

Results

The survey not only helped students to reflect on the practical and real application of copyright law to creative processes and creative materials; they were also able to see copyright concepts such as joint authorship; originality (i.e., through the requirement to describe the creative process of each group); licensing and, the value of the public domain (i.e., through the requirement to indicate issues with dealing with third-party material and how that influenced the choice of materials used); etc.

While some students indicated that their group did not have to deal with any copyright issues in using any third-party material - audio, text, audio-visual and visual materials, etc. in creating the group work. Of the student groups that did have to deal with copyright issues, there were varied selection in terms of public domain and/or royalty-free materials that they opted for.

Conclusion

The study established the significant value of authentic assessments for law professionals, as they enable individuals to demonstrate their comprehension of legal concepts and principles, and effectively apply them to authentic scenarios. By engaging in authentic assessments, law professionals can develop and demonstrate important qualities such as autonomy and motivation. However, a future research direction would be to fully incorporate generative AI models into authentic assessments such as the one undertaken in the study described.

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Authentically assessing practical application of clinical skills: from written exams to a modernized approach

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

Integration of theoretical learning and practical application is essential to higher education. The third-year module Medical Nutrition Therapy 323 aims to educate dietetics students on theoretical aspects like pathophysiology of non-communicable diseases, as well as practical nutritional management and relevant education of the patient. Historically the module was theory-heavy, resulting in information overload at the expense of clinical reasoning (Pender & Looy 2004). The assessment plan was strongly theory-based. It is well-known, however, that written examinations are limited to assessing understanding of theoretical principles (Pender & Looy 2004). They cannot easily or accurately test practical clinical skills or the application thereof (Hawker et al 2010, Pender & Looy 2004). In addition, competency in oral communication and presentation skills is essential (Smith & Sodano 2011), especially in the healthcare profession. Authentic assessment where students thoughtfully apply acquired skills in a new environment are essential but were lacking in this module.

Purpose

The module was extensively reworked in 2022 to align with modern graduate attributes, including clinical reasoning. Educational technology has shown huge advances and has opened new avenues for teaching and learning. The authentic assessment of practical application of real-life clinical skills was incorporated through a case study-based video recording of a medical nutrition therapy education session (also known as a “vodcast”), thereby incorporating oral communication and presentation skills.

Methodology

The assessment consisted of two patient paper cases, with each student choosing one case. The student had to identify the main nutrition-related problem and formulate a written nutrition diagnosis (problem statement - the theoretical aspect). In addition, the student compiled a 10-minute video recording of their prioritized medical nutrition therapy education (or “vodcast”) to the chosen patient, using a visual aid they had compiled during the semester. To conclude the education session, the student had to highlight the goals of the session, and mention what would be addressed in a follow-up consultation. Students had two weeks to complete the assessment. To guide students, a trial run of this process was completed during the semester to point out potential problems such as inaudible voice, problems seeing the visual aid on a screen, etc. In addition, a peer-reviewed rubric was shared in advance to guide students on expectations and assessment criteria.

Results

This “vodcast” assessment method allowed for:

- Consistency, as students received same patient cases and peer-reviewed rubric.
- Integrity of assessment, as students could not submit work that was not their own.
- Incorporating various clinical skills acquired throughout studies, including communication and presentation skills.
- Assessment whether the student could extract the main nutritional problem, and focus their teaching on paramount management strategies, due to the time limit imposed for the recording.
- Assessment of understanding and improvements made to the visual aid (compiled during the semester), due to re-use of this assignment.
- Less stress, as students were not put on the spot, but had time to familiarize themselves with the case, to prepare and re-shoot the recording as many times as needed.
- The opportunity for blended learning, allowing the use of modern technology, and preparing students for real-life applications in a modern manner, similar to social media posts.

Conclusion

The results of the “vodcast” assessment showed good understanding of the clinical skills investigated, and in future one could use such assessments to allow students to provide feedback to one another, and to improve based on such feedback. Such an assessment may also be utilized as a combined assessment across multiple modules to assess overall clinical skills application competence, rather than knowledge boxed into various modules. This assessment process may be useful to other modules.

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Framing visual forms of AI in communication design through a Baudrillardian lens.

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

The field of communication design has generally relied on rhetorical signification as a form of communicating with audiences (Buchanan 1985:8). Designers have traded in the narrative myths and implicit stories that belie the signs they chose to embed within their designs. As our world becomes ever more 'wired,' information overload and visual saturation has made the work of communication designers – to edit visual information and focus it on a specific communicative goal – more difficult but increasingly important. With the rapid onset of artificial intelligence (AI) in most all spheres of communication; where pattern 'learning' algorithms produce increasingly persuasive imagery, designers and design education institutions world-wide are grappling with how to integrate AI in a meaningful way, as a rhetorical tool. In this qualitative paper, I attempt to engage this concern philosophically, but also to offer practical insights to at least explore the potential of AI in communication design education.

Purpose

In this paper, I demonstrate that as directors of visual communication, designers might take advantage of the opportunity to dispense with visual cliches and myths historically ingrained in visual symbols and signs. Instead of repetitively recycling sedative visual colloquialisms that no longer inspire interest, AI might potentially offer designers the opportunity to manipulate its visual outputs and thus generate 'fresh' narratives that are not only suddenly provocative but stimulate genuine curiosity in their audiences.

Methodology

In this paper, I attempt to engage these concerns philosophically, but also to offer practical insights to explore the potential of AI by viewing AI generated imagery through a Baudrillardian lens. Baudrillard predicts a form of artificial intelligence whereby 'signs' and their signification circulate rapidly, to the point where the original signification attached to the sign is severed from it entirely. Signs index themselves; patterns upon patterns become 'simulations' of their earlier signifiers. Each idea is terminated and in turn, its symbolic value. He refers here to this sort of 'non-sign' as simulacra. I argue that imagery generated by AI is a form of simulacra; a circulator of signs that degenerate context-sensitive visual signs.

Results

From this nihilistic point of departure, I argue that instead of fearing the effects of AI, designers might take advantage of 'non-contextual signs' that offer a 'blank slate' – empty signs – into which new meaning may be injected. I argue that as agents and directors of visual communication, designers might take advantage of the opportunity to dispense with visual cliches and stale narrative myths

historically ingrained in visual symbols and signs. Instead of repetitively recycling sedative visual colloquialisms that no longer inspire interest, AI might potentially offer designers the opportunity to manipulate its visual outputs and thus generate 'fresh' narratives that are not only suddenly provocative but stimulate genuine curiosity in their audiences.

Conclusion

I argue that as directors of visual communication, designers might take advantage of the opportunity to dispense with visual cliches and stale narrative myths historically ingrained in visual symbols and signs. Instead of repetitively recycling sedative visual colloquialisms that no longer inspire interest, AI might potentially offer designers the opportunity to manipulate its visual outputs and thus generate 'fresh' narratives that are not only suddenly provocative but stimulate genuine curiosity in their audiences.

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The implications of AI in doctoral supervision in Statistics

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Sub-Themes

Navigating the legal and ethical implications of AI in transforming higher education

Abstract Introduction and Literature Review

Artificial Intelligence (AI) has become widely used in academics, through the guise of generative pre-trained transformer (GPT) language models like ChatGPT. However, GPT language model capabilities and value still need to be evaluated within varying contexts, as with any new technology presented to users. For postgraduate research supervisors, the pathways in guiding students in its use (or even against its use) are not yet clear. Moreover, doctoral supervision is already challenging in South Africa's academic environment [1]. With the availability of a new tool for students, it is essential to develop usage guidelines for novice supervisors. Whether or not GPT models are explicitly used by the supervisor and student, we need to investigate the advantages and disadvantages of the use of the tool in postgraduate research.

Purpose

The effective use and monitoring of GPT language models in the teaching and learning environment requires guidance and regulation as prescribed by individual tertiary education institutions. Some guidelines are already in place, for example [3] and [4]. Institutional and field-specific general guiding principles are one additional tool for early-career supervisors to guide themselves and their doctoral candidates in the effective and ethical use of ChatGPT [5].

Methodology

It is relatively easy at this stage to detect AI-generated text in research, but probably only by more experienced supervisors. In time, however, GPT model output detection may become more and more difficult. Thus the mentorship of novice supervisors should not be underestimated. Perhaps the focus should not be on learning to rely on GPT language models for text creation and model detection, but rather, for example, the focus should be shifted from the use of GPT language models for brainstorming research topics or for providing alternative perspectives. It may be that we need to redouble our efforts to encourage supervisors to guide their students on established scientific research methods, and that we need to strengthen the human element of the thesis, for example, the importance of the thesis defence.

Results

GPT language models have been found to be useful writing tools. The same can be said for program coding, with both GPT language models and specific GPT coding models able to create and/or streamline code in any number of programming languages. However, without insight into the generation and accuracy of the output generated by GPT models, users should use caution and apply insight during the interpretation and application of the results given by these AI tools. For example, it has been shown that the referencing capabilities of ChatGPT is limited, often making up citations that do not exist, or providing vague or even incorrect information [2]. This does not mean that academic

GPT language models do not exist, however - examples of these include Elicit (https://elicit.org/) and Consensus (https://consensus.app/) - it simply means that each AI model needs to be carefully implemented and carefully critiqued by the user.

Conclusion

The authors are involved in a countrywide networking group in doctoral supervision in academic Statistics (https://sites.google.com/view/statsnetsa/). The group's aim is horizontal development of early-career supervisors due to a lack of senior mentors. This next step in AI in academia is essential to discuss in this setting. This paper puts forward a way to achieve this goal focussing on the very human and personal journey of both supervisor and doctoral candidate.

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Preparing for a new Learning Management System: a training team perspective (from initiation to before training)

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract

Introduction and Literature Review

When moving to a new LMS, much of the focus is usually on the macro strategic level decisions and changes. The changeover requires a number of integrated simultaneous processes, that are not sequential (as given in the literature:(Continu Team, n.d.; Westmoreland, 2018; Whatfix, 2023). To complicate matters the University of Pretoria has a high uptake of LMS usage with 95% of undergraduate modules together with a high and diverse use of the different tools in the LMS (Education Innovation, University of Pretoria, 2023, p. 48) within the 9 faculties. The high adoption rate requires that lecturers be empowered to work autonomously in the system to support their teaching and learning. Pedagogical, support (staff and student), administrative and technical issues needed to be addressed (Benson & Palaskas, 2006). This paper focuses on the process undertaken by the training team to prepare for clickUP Ultra training.

Purpose

The University of Pretoria is one of the leaders in the university environment in the use of Blackboard and one of the first to roll out Blackboard Ultra. After the decision to move, the training team was given a brief to get to know the new LMS and plan the training process. Documenting the process will contribute to the knowledge base for other universities when they prepare to move to a new LMS.

Methodology

The training team project was placed within the greater Move to Ultra project. The study focused on each of the five processes identified within the project. Each of these processes was described; linked to a theory or philosophy and reflected upon. This was supported by artifacts (created documents and emails), and personal reflective interviews with the team members. The reflection has both interpretations of what actually happened and recommendations on how it could have been done differently. Critical friends assisted with the post-project reflection. Retrospective literature reviews and theoretical analysis post-process also added value to the interpretations (specifically Value on Investment). This is a qualitative reflective case study done by a training team member in their personal capacity to document the year-long process and as a tribute to the input made by the training team.

Results

The project consisted of five overlapping processes:

- change management inside the e-learning and specifically the training team;

- getting to know the new LMS not just in terms of the tools, but also in terms of use cases;
- technical Q&A: supporting;
- analyzing the training requirements;
- the actual training development.

The change management was a continual process involving the larger e-learning department through team building, explorative usage, and Q&A sessions. Getting to know the LMS was best accomplished through a team explorative process to test the tools; look at different pathways and user consistency.

A Q&A environment in the new LMS was created. The LMS development was Agile based with constant improvements that had to be tested. Feedback and suggestions could be made, and meetings held with the developers. The process unlocked unintended value on investment (VOI) on various levels. Learning the new “how-to”, and specifically user specific needs.

Conclusion

The description of the process gives guidance to other institutions when moving to a new LMS specifically where there is extended usage of the current LMS. Expanding the focus of the learning of the new “how-to” to the user-cases specifics allowed the team to push the boundaries and enhance the incoming LMS. The limited scope of this presentation calls for documenting of the rest of the implementation as well.

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Gamification for metacognitive awareness in flipped classrooms

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Sub-Themes

Developing curricula that align with the Digital Age in higher education

Abstract Introduction and Literature Review

Flipped classroom teaching approaches have increased in popularity in recent years. A common problem in these models is that students do not prepare properly for class which harms the effectiveness of the model since it means that class time cannot be used effectively [1]. Since this requires students to spend a considerable amount of time learning on their own at home, they need to be capable both of self-management strategies which involve the exercising external control over the learning environment, as well as of self-monitoring strategies which require exercising control over their internal learning processes [2]. Self-monitoring strategies involve self-regulation and metacognitive processes which allow the student to determine the effectiveness of their learning and adjust their efforts accordingly [3]. Metacognition, as a sub-component of self-directed learning, therefore plays a large role in the out-of-class learning that takes place in flipped classrooms [2].

Purpose

This study focuses on addressing the problem of students not being prepared for class in a flipped classroom through the use of gamification and metacognitive prompting to improve self-directedness.

H1: Metacognitive awareness post-test scores across all conditions show a significant increase from pre-test scores

H2: The gamification conditions show a greater change in metacognitive awareness from pre-test to post-test compared to the no gamification condition

Methodology

The Flip Quest website was used in two undergraduate modules in the EBIT faculty. Both modules made use of the flipped classroom methodology. The students were randomly assigned to one of the three experiment conditions (hereafter referred to as control, ludus, and paidia). For the duration of this experiment, each student only experienced a single condition, thus making it a between-subjects study. The purpose of this experiment was the test the effects of the metacognitive prompt conditions (control, ludus and paidia) on the metacognitive awareness of the students. Therefore, this study made use of an abbreviated version of the metacognitive awareness inventory (MAI). A pre-test survey was conducted on the first day of the semester during class time to record a baseline metacognitive awareness. After five weeks, a post-test was conducted using the same survey.

Results

The results showed that metacognitive awareness did not improve as a whole for all students, but the students in the paidia condition showed a significant increase in their knowledge of cognition.

Furthermore, the students in the ludus condition showed a decrease in their regulation of cognition. These initial findings speak to importance of considering the context when implementing gamification in educational settings as well as the potential benefit of making use of more open-ended and bottom-up gamification designs.

Conclusion

Teaching students to become more aware of their thinking and more capable of independent learning is a critical skill for success in today's fast-changing world. This study has presented a more novel approach to educational gamification design than existing studies, and it has aimed to address an area of education which has not yet seen many gamified interventions.

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Launch of the VESPA skills programme: ISFAP bursary students

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

ISFAP has launched the VESPA skills program for first- and second-year students in the EBIT and EMS faculties as part of wrap-around support to improve student performance. The VESPA skills program was enrolled in 2023 as part of non-cognitive skills training interventions through online and physical interaction based on the student assessment outcome. The VESPA skills mindset provides a framework that aims to develop a higher performing student based on five components: having a vision, commitment to the effort needed, suitable systems in place, practice learning and skills and developing a positive mental attitude. Vespa is a research driven model based on research in the field of student mindset in the UK. What makes the Vespa skills programme unique is that gives practical guidance on how to improve on each of the five components whereas other skills programs tend to focus on abstract terms and concepts.

Purpose

The programme is to enable supporting and teaching staff to tailor their support, analyse trends in year groups and meet their students where they are based on their unique cognitive characteristics.

Methodology

A total of 29 first- and second-year students in the EBIT and EMS faculties completed the assessments and attended the workshops.

Results

The VESPA skills programme provides:

1. Unique individual student results determined by a psychometric test that measures five cognitive characteristics.

2. An innovative way to assist coaching and mentoring in relation to key questions and related tools.

3. Online study skills, practical manners and techniques, videos, slides, activities and reflections based on scores in each area of intervention.

4. A user-friendly approach to track individual performance and allow for improvement in an Al domain for tertiary education. The questionnaire can be amended/specify and results can be shared with lecturers/ tutors/ advisors.

Conclusion

Some students might need more support than others based on their individual assessment and results. It is important to created awareness among students to remind them of their goal, know much work is required, strategically organise their time and resources, develop high utility techniques and practices while expecting setbacks with the ability to learn and bounce back stronger.

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Harnessing Programmatic Assessment and Micro-Credentials in an Advanced Technology Era

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

Micro-credentials are gaining acceptance as a popular means for individuals in the professional and higher education realms to document and showcase their learning and professional growth (Berry and Byrd, 2019; Wheelahan and Moodie, 2021; McGreal and Olcott, 2022; Varadarajan et al., 2023). Micro-credentials are efficiently integrated into traditional applications, providing a standardized framework that facilitates easier hiring for employers. Moreover, they serve as a platform for individuals to construct and demonstrate evidence of their ongoing learning and professional development. (Hall-Ellis, 2016).

In higher education teaching, policymakers have shown a growing interest in exploring the potential of Micro-credentials (MC), considering it a promising avenue to pursue.

As workplace management's demand for improved soft skills is increasing, there is an increased drive for HEI to transfer these soft skills. However, assessments of these soft skills are still under the microscope.

Purpose

There needs to be more consensus on standardized methods for evaluating soft skills (Caeiro-Rodríguez et al., 2021). The other problems are that teaching and assessing these skills differ from country to country and, per HEI, creating a need for standardisation. There is no "common" understanding of how to assess soft skills. The research question which this study explore: How can one integrate micro-credentials into programmatic assessment to evaluate soft skills?

Methodology

Micro-credentials are explored in this study as a tool to integrate with other assessment methods for soft skills. Rather than relying on conventional assessments, the author adopted a different approach by implementing continuous or programmatic assessment (van der Vleuten et al., 2012) into a final-year module focusing primarily on soft skills. This method involved incorporating 33 various learning activities throughout the semester. This study will discuss the qualitative data-gathering approach and an exploratory approach to see which activities implemented in the programmatic assessment approach did indeed allow student content engagement. Some examples of activities that will be discussed include reflective journals, ChatGPT reflective critical analysis, and wikis, to name a few.

Results

This is a proposal for a presentation or a workshop at Flexible Futures, discussing the following topics:

1. How to implement Programmatic assessment into a final-year program: Examples and tools using LMS.
2. How to use ChatGPT as a final reflective assignment to foster critical thinking.
3. How to use reflective journals as a summative assessment activity.
4. What role do MCs play in ensuring students stay on track?

During the presentation, I will provide evidence of the type of activities for most of the above. I will also show how to implement this in the Learning management system.

Conclusion

In summary, Micro-credentials presents a promising opportunity to meet the evolving needs of education and industry. As the higher education landscape undergoes continuous transformation, educators and policymakers should reevaluate conventional teaching and assessment methodologies and embrace innovative approaches to effectively equip students for the demands of the future workforce.

In addition, the programmatic assessment approach to measure soft skills does seem like an avenue for future research to measure soft skills effectively.

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Educational Escape Rooms in Multimedia - Lessons Learnt

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

Since coming to prominence in Japan in the late 2000s, escape rooms have exploded in popularity across the globe as a group-based activity that draws from treasure hunts, puzzles, and role-playing (Fotaris and Mastoras, 2019). Educational escape rooms, which have also seen a significant uptake recently, attempt to harvest the potential of these games toward developing a group-centred approach for teaching new content and fostering desirable outcomes such as engagement, motivation, social skills (Fotaris and Mastoras, 2019). A benefit of this format, deriving from game-based learning, is that, if done well, the learning activity is perceived as fun, exciting, enjoyable, etc. in its own right (Wise et al., 2018). In other words, it has the potential to facilitate a sense of intrinsic motivation based on performing the task itself, rather than being driven by an extrinsic motivation that is reliant on the outcomes of the task (Niemiec and Ryan, 2009).

Purpose

This presentation reports on the results of a module within the BIS Multimedia Honours degree (IMY 773) wherein students had to design and create an educational escape room for students of a second-year Multimedia module (IMY 211). By doing so, we provide a preliminary investigation of this implementation and provide insights on opportunities, shortcomings, and general takeaways from this approach.

Methodology

Two groups of BIS Multimedia Honours students designed and implemented educational escape rooms as part of their assessment for IMY 773. They were presented with a list of topics from an undergraduate module, IMY 211, and allowed to choose which topic to create an EER on. Second-year IMY 211 students then had to choose an EER to play as part of an assignment on related content. Based on our experience in overseeing this project, both in terms of how undergraduate students engaged with the EERs and the process of postgraduate students designing them, we present preliminary takeaways for the use of EERs in higher-level education. The insights thus draw from a self-reflective approach based on observing the design process and students' engagement with the final EERs.

Results

The results suggest that the some second-year students who played the EERs found that this was a good exercise for reinforcing taught content in a playful way while others struggled to connect the taught content to the EERs. Some students had an apathetic attitude and saw the EERs as another compulsory activity instead of an opportunity to have fun while still getting marks for it.

The way the EERs was designed, different puzzles taught different concepts, players paired up to tackle different challenges. Therefore, everyone learnt different concepts even though some of them played the same puzzle room.

For the honours-level students who design the EERs, results show focus was mostly placed on designing good puzzles and an immersive escape and less focus on designing a clear link for puzzles to be linked to taught content. Therefore, the evaluation process should be improved to emphasize the design of this link.

Conclusion

By teaching course content through EERs, lessons were learnt for future application.

EERs provide a fun exercise students, designers and players, while learning but not everyone shares this perspective. Players may split up to tackle different puzzles concurrently which results in separate concepts being learnt. This can be considered when designing puzzles so that teamwork can be applied for learning core concepts. Puzzle designs should be designed with a clear link to course content.

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Learning usability workshops from the perspective of users and designers

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

As part of the Multimedia degree, students learn about two related concepts, prototyping and usability testing, in their second and third year of studies. Prototyping is a tool used to create concrete manifestations of ideas and is used as a tool to facilitate communication between stakeholders, e.g., users and designers (Barnum 2010:111; Shneiderman et al. 2018:148; Sharp, Preece & Rogers 2019:422). Usability workshops were run by third-year students where second-year students participated in creating low-fidelity prototypes through "Crazy 8s sketching" (Hussein et al. 2020).

This study builds on a previous investigation on how last year's group of second-year students, who previously were involved as user testers, would perform as third-year students that run the usability workshops. Which frames the following research question:

"How does previous experience in participation help students improve their understanding of users when running a usability workshop?"

Purpose

This study investigated the benefits of exposing second-year students to a usability workshop run by third-year students which forms part of a design process that both group of students learn through module content in IMY 211 and IMY 310.

Some of the third-year students from this year (2023) were previously involved as participants. This study particularly investigated how this previous experience affected their ability to understand this design process and to carry it out.

Methodology

A survey was used to gather feedback from students. Specifically, the students' subjective perspective was collected to understand what they learnt and how their previous experience affected their ability to run a usability workshop in a way that extracted valuable insights from engaging with users.

The participants of this study were sampled from the IMY 310 students. Only those who previously participated as user testers were included in this study.

Data were collected using an only questionnaire created using Google Forms and the link was distributed via ClickUP announcements and Discord.

Statistical data were processed automatically processed by Google Forms. Using a thematic analysis approach, responses were coded in accordance to themes relating to lessons that students learnt from

having previous experience. Results were extracted to find insights regarding the administration of organising usability workshops and understanding user needs.

Results

The preliminary results suggest that students felt more prepared when it came to organising and running the session because it felt somewhat familiar but from a different perspective.

Previous exposure of being involved in a usability workshop benefitted them in the following way:

- It provided clarity with regards to the expectations for this assessment opportunity.
- It helped them to pay attention to what user testers expressed regarding their user needs.

These results suggest that students benefited from this exercise through the simple fact of previous exposure. Running the usability workshop felt familiar and they felt more confident in tackling the assessment opportunity.

Conclusion

This study investigated possible benefits of exposing students to being involved in a usability workshop from the perspectives of user testers and designers. Results indicate that students felt more confident more prepared to approach this task.

Based on the preliminary results, the benefits from this collaborated learning exercise between IMY 211 and IMY 310 suggest that this approach should be continued.

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Supporting pre-service foundation phase teachers' mathematics word problem-solving instruction through a lesson study Intervention approach

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

This School of Teaching and Learning (SoTL) project is aimed at supporting pre-service foundation phase teachers' mathematics word problem-solving instruction through the lesson study intervention approach. The project is built around a second-year foundation phase core module, namely Early Mathematics. Pre-service teachers were guided through four elements associated with mathematics word problem-solving instruction: mathematics register, reading comprehension, play-based learning, and the multiple intelligence (MI) theory. The SoTL project is focused on pre-service teachers' professional development and addresses the importance of being agents of change. White, Johnson and Goos (2021:55) define an agent of change as "someone who is interested, visionary, persistent, organised, and a problem solver". Lastly, this SoTL project is aimed at making mathematics word problem-solving instruction agile, accessible, interactive and less complex to pre-service teachers (Morales, Shute & Pellegrino, 1985:41; Wilson, Fernandez & Hadaway, 1993:10; Chapman, 2015:30).

Purpose

The purpose of the project was to demystify mathematics word problem-solving to pre-service teachers by means of integrating play-based teaching and learning approaches. Furthermore, the project extended to teaching pre-service teachers to draft a lesson plan. This included formulating outcomes and developing assessment opportunities that pre-service teachers had to teach to Grade 3 learners. Lastly, this intervention project aimed to introduce pre-service teachers to agile teaching and learning approaches, such as collaboration and continuous reflection.

Methodology

This qualitative intervention study was conducted through the constructivist paradigm. The research design was a combination of participatory action research (PAR) and the lesson study approach. Throughout the research design, the three distinct phases of PAR were followed, namely the pre-intervention phase, the intervention phase and the post-intervention phase. Data generation instruments included multiple instruments and were aligned with the three phases of the lesson study approach, namely identification and collaborative planning (1), teaching (2) and reflection (3). The generated data was analysed deductively into three themes that emerged from the data. Twenty pre-service teachers took part in the study and were sampled by means of convenience sampling. Pre-service teachers taught the collaboratively developed lessons to Grade 3 learners in and around Pretoria. Ethical clearance was obtained from the University of Pretoria, after which all ethical considerations were adhered to by all the parties involved in the research.

Results

Although the project is still underway, there are early indications that pre-service teachers gained valuable experiences from the project. During the post-intervention reflection and collaborative discussions, pre-service teachers noted that they have gained a better understanding of what mathematics word problem-solving instruction entails. Not only do pre-service teachers view mathematics word problem-solving instruction in a more positive light, they feel more equipped to formulate lesson outcomes and align assessment opportunities with the outcomes. Pre-service teachers have highlighted the versatility of the MI theory and how this approach to teaching and learning makes mathematics word problem-solving teaching and learning more accessible and enjoyable for teachers and learners. Pre-service teachers made reference to the importance of continuous reflection and critical thinking as a means to professional development and becoming agents of change in the classroom.

Conclusion

The SoTL project gave rise to guiding pre-service teachers in drafting a lesson plan and teaching mathematics word problem-solving in a practical and play-based manner. This lesson study intervention adhered to including strategies to support the teaching of the mathematics register, reading comprehension, and the MI-theory to make mathematics word problem-solving instruction accessible to all. Pre-service teachers were introduced to the importance of introducing play-based teaching and learning approaches when teaching mathematics word problem-solving.

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Synthesising an ethical clinical feedback delivery model for staff development purposes: a scoping review

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Sub-Themes

Navigating the legal and ethical implications of AI in transforming higher education

Abstract Introduction and Literature Review

Undergraduate dental education is a stressful endeavour with one of the main stressors being the interaction with the teachers (Hashemipour, 2022). Feedback is generally the interface between the teacher and the student and can either enhance or be detrimental to learning, depending on the delivery (Hattie and Timperley, 2007) in verbal or electronic format. The efficacy of feedback however does not only depend on the teacher's ability to appropriately convey the message, it is also dependent on the student's ability to self-reflect and to adapt (Eva and Regehr, 2013). Such interactions has a strong ethical connotation because of the default power-relationship that exists between the teacher and the student. A need therefore exists to explore the ethics of feedback in this context to create a model that would standardise staff development in an attempt to improve the situation.

Purpose

Hence this paper aims to explore the factors that inform the ethical basis of clinical teaching in relation to students' self-regulation abilities. An improved understanding of the ethical basis of clinical teaching will allow for improvements in the delivery of feedback in the clinical training environment.

Methodology

A Prisma 2020 scoping review (Page *et al*, 2021) served as the source of information. "Ethics" and "Feedback" were entered as the key words in Medline (Web of Science), Pubmed and PsycINFO searches. No limitations were placed on the initial search to maximise the identification of ethical considerations that influence feedback. Duplicates, non-sensible and non-English publications were systematically removed. The remaining publication titles were screened for appropriateness, followed by the reading of abstracts and articles. The search strategy required a connotation to feedback delivery, ethical considerations and an impact on students' self-regulation in any teaching context. Articles were qualitatively analysed and emerging themes were deductively grouped (Braun and Clarke, 2006) under teacher and student-related factors. Basic ethical principles and Zimmermann's model of self-regulation (Zimmermann, 2008) served as the conceptual models for teacher- and student-related factors, respectively. The information gained was synthesised to formulate an ethical clinical teaching model.

Results

Thirteen papers were found to be appropriate for analysis. Results suggested that "ethical" feedback delivery could generally be linked to academic success and the development of self-regulation. Having respect, being autonomy supportive and maintaining confidentiality creates psychological safety net which is conducive to learning but does not always guarantee success in students who have the ability

to regulate their learning, especially if there is a lack of interest and motivation to study a topic. Conversely “unethical” feedback delivery and a lack of psychological safety was potentially linked to failure and a lack of growth when students have low levels of self-regulation. “Unethical” feedback delivery and a lack of psychological safety is likely to impact less on self-regulated learners. Psychological safety is likely to induce feedback seeking behaviours while a lack of psychological safety will result in feedback avoiding behaviours. These psychological dynamics were incorporated into the new ethical teaching model.

Conclusion

The ethical clinical teaching model that highlights the relationship between teacher ethics and student self-regulation could be employed to develop staff competence and could even be used to measure performance in feedback delivery. Further research should be conducted to validate the model and its application on electronic platforms used to disseminate feedback. Humanising feedback should always be the main priority even when incorporated on electronic platforms and when speaking to students**.**

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Developing pre-service teachers' and early childhood development practitioners' awareness of sensory gardens benefits

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

According to the International Mathematics and Science and the Progress in International Reading Literacy studies reports South African learners are underperforming in reading comprehension and Science, Engineering, Technology and Mathematics subjects. Literature traces the challenges to the learners' socioeconomic backgrounds and, notably, the capacity of Early Childhood Development (ECD) practitioners to equip learners with the necessary learning skills. Identifying the specific difficulties and providing intervention strategies to scaffold learning abilities is essential. Sensory gardens stimulate children's senses and can be used as an intervention strategy to enhance young learners' educational development and social interaction, thus improving the development of children (Kucks & Hughes, 2019). However, most practitioners are not qualified to identify learning difficulties associated with sensory processing complications and use sensory gardens for support. This project assumes that developing pre-service teachers and early childhood development practitioners' awareness of sensory gardens' benefits could improve learners' access to the schools' curriculum.

Purpose

Science and mathematics are crucial subjects to prepare learners for the world of work and help address the Fourth Industrial Revolution challenges. The project aims to provide a mutual benefit platform to in-service teachers with hands-on experience to apply research-based sensory gardens theory strategies offered in class. ECD practitioners are trained on the practices and benefits. The project aims to answer the question of how ECD practitioners can use sensory gardens to improve learners' learning.

Methodology

The project adopted a qualitative approach within an interpretive paradigm and multiple case design Thanh and Thanh (2015), contrasting positivism, which seeks to establish an absolute reality. Fifteen purposefully selected students registered for a learning support module, and 15 ECD practitioners participated in the project. Interviews and observation were used in Kolb's (1984) experiential learning theory to elicit ECD practitioners' experiences and train them in using sensory gardens and the benefits thereof. The project presented the findings descriptively from a thematic data analysis approach incorporating the four steps (Braun & Clarke, 2021) proposed.

Results

According to themes that emerged during the data analysis supported the researchers' assumptions and provided an opportunity for ECD practitioners' training;

- The conceptualization of sensory garden benefits: The ECE practitioners had a poor conceptualization of sensory garden benefits; as a result, they could not identify nor support learners with related challenges.
- Learning difficulties identification: The practitioners could not identify sensory processing difficulties in learners.
- ECD practitioner's support: The ECD centres and the practitioners did not receive training nor support from the Departments of Basic Education and Social Development.
- Training and community engagement experience: All the project participants benefited equally from the project's processes.

Conclusion

The project achieved the objectives set, however, the benefits in terms of learners achieving the learning skills required and school readiness to access the subjects in the Foundation Phase are longitudinal. Therefore, the project aims to follow up and investigate these learners when they transition to the nearest schools.

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Validity of a large language AI model to assess scientific writing

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

The rapid advancement of artificial intelligence (AI) has opened up new possibilities for automating tasks, such as evaluating scientific writing (Baidoo-Anu and Ansah, 2023). OpenAI's ChatGPT, a large-scale language model, is an example of an AI language model used for this purpose. However, it is essential to establish the validity of ChatGPT as an evaluation tool. This research aims to assess the reliability of ChatGPT as an automated evaluator for student assignments by comparing its scores with those of human evaluators.

Previous studies have explored the use of AI language models in automated content evaluation. For instance, Mizumoto and Eguchi (2023) found a significant correlation between GPT-3 and human evaluators in grading student essays. Another study by Golan et al. (2023) showed promising results in assessing technical writing using AI language models. However, there is a gap in the literature regarding the validity of ChatGPT specifically for evaluating scientific writing.

Purpose

To assess the reliability of a language model powered by artificial intelligence, as an automated assessor of student assignments, by comparing the assessment scores provided by ChatGPT with those of human evaluators using a fixed scoring rubric. Identify areas where ChatGPT may outperform or fall short compared to human evaluators.

Methodology

Submission of 647 previously marked student assignments (from four cohorts of students) to the paid version of ChatGPT, which has been specifically trained to assess assignments based on a provided rubric consisting of the following distinct criteria: 1. formatting, 2. language and grammar, 3. materials and methods and results, and 4. discussion and conclusion and 5. References. Experienced assessors (n = 3) are annually trained and retrained by an independent education specialist in order to achieve a high level of agreement in assessment standards. Feedback was provided after each assessment session to benchmark assessment standards between evaluators further. The results are subjected to correlation statistics to determine the correlation between scores created by individual evaluators, and Cohen’s kappa coefficient as a measure of agreement beyond chance between all evaluators and the AI model, for each rubric criteria.

Results

The outcomes of this research will provide valuable insights into the potential of ChatGPT in the education domain. The study will highlight the strengths and limitations of utilizing AI-powered evaluators for student assignments, specifically in terms of accuracy, consistency, and adherence to

established grading standards. Furthermore, the research aims to identify areas where ChatGPT may outperform or fall short compared to human evaluators.

Conclusion

The study will conclude whether ChatGPT can replace or supplement human evaluators when grading scientific writing based on a fixed rubric

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Determining the required professional competencies of exit-level occupational therapy students in Paediatrics

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Sub-Themes

Preparing students with employability competencies in the AI era.

Abstract Introduction and Literature Review

The World Federation of Occupational Therapists states that the goal of occupational therapy education is the training of students with the necessary professional competencies for practice (WFOT, 2016). Competency-based education (CBE) is viewed as an optimal educational approach in healthcare (Jung et al., 2015). Ensuring that the curriculum is aligned to the required professional competencies it is essential that competent professionals enter the workforce.

Studies have shown that entry-level occupational therapists in South Africa struggle to cope with the requirements of their work after graduation. Occupational therapists have reported challenges such as cultural sensitivity, collaboration and communication and working in resource-constrained environments (Naidoo, van Wyk and Waggie, 2017).

Purpose

The challenges experienced by entry-level occupational therapists in South Africa has raised the question of whether the professional competencies of exit-level occupational therapy students are appropriate and adequate for the South African context. Therefore, the researchers aimed to determine the required professional competencies of exit-level occupational therapy students in the field of paediatrics in Gauteng.

Methodology

The World Café method was used to collect data. The participatory research method was selected due to the relative speed at which it facilitates discussion within a large group of participants. This has been described as a significant advantage over other qualitative data collection methods. Twenty participants were recruited and participated in a dialogue in a café-style setting. Both academic experts and occupational therapists practicing in the field of paediatrics were recruited to participate.

Before the World Café, participants were sent pertinent documents such as the World Federation of Occupational Therapy Minimum Standards and the Health Professionals Council Occupational Therapy Scope of Practice for Occupational Therapy to read in preparation. During the World Café, participants rotated between different tables to discuss the questions posed by the researchers in small groups. The small groups joined into one large group to conclude the session where consensus was reached on the points discussed.

Results

Data collection will occur in June 2023 and the results will be shared at the conference.

Conclusion

The outcome of the World Café was a list of professional competencies for exit-level occupational therapy students in paediatrics. The results will be used for renewal and transformation of the occupational therapy curriculum. This will ensure that occupational therapy graduates are equipped with the essential competencies to provide contextually appropriate practices in the Gauteng healthcare system.

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An Innovative Adaption of the Appreciative Inquiry Process to Develop a Coding and Robotics Module for the Early Childhood Education Sector

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Sub-Themes

Developing curricula that align with the Digital Age in higher education

Abstract Introduction and Literature Review

Coding and Robotics (C&R) activities develop learners' 21st century skills (Lathifah, Budiyanto & Yuana, 2019). It is regarded as a digital literacy that shapes learners for 21st century life from a young age (Bers, 2018; Dindelegan, 2018). It also enhances teachers' subject pedagogy (Lathifah et al., 2019), specifically playful learning experiences (Campbell & Walsh, 2017). Yet, teachers often lack the confidence, Computer Science background and skills to purposefully integrate C&R in their teaching to future-proof learners for their technological futures (Lathifah et al., 2019; Román-Graván, Ballesteros-Regaña & Hervás-Gómez, 2019; Braun, März & Mertens, 2020),. This highlights the growing need for the development of Early Childhood Education (ECE) pre-service teachers' training for the teaching and learning of C&R. Teachers' active engagement with tools, activities, and relevant training have the potential to increase teachers' attitudes, knowledge and skills (Lathifah et al., 2019).

Purpose

This research endeavour explores, defines, and describes the Appreciative Inquiry (AI) process followed by lecturers during the development of a C&R module for the ECE sector. It explores the research question: How does an innovative adaptation of the Appreciative Inquiry process inform pre-service ECE C&R module development? The AI process describes the influences of relevant technologies, pedagogies, and subject knowledge, including 21st century and computational thinking skills, and current draft policy statements.

Methodology

The research design is Appreciative Inquiry (AI) which Razzetti (2018) conceptualised as a 5D cycle. Dedicate was added by the participants as a first step, followed by Define, Discover, Dream, and Design. Destiny, the final step, is omitted since the module is still undergoing processes towards implementation in the pre-service teacher programme. The AI process was supported by Backward Design and the constructs of the Technology Pedagogy Content Knowledge (TPACK) framework.

This study follows an interpretivism philosophy with a subjectivist ontology that values people's subjective interpretations of reality. The three participants involved were purposefully and conveniently sampled based on their subject expertise and experiences, interest in the field of ECE and C&R teaching and learning, as well as their time availability. Data sources for this qualitative research include observations, interviews, documents, and literature insights. These were analysed using abductive coding.

Results

The AI module design process consists of question-centred goal setting to Dedicate; elaboration on ECE and C&R subject content and approaches to Define; module approach, descriptions, content, and learning activities to Discover. Dream is shaped by participants' attendance of a C&R symposium. Design encompasses five sessions, informed by the deliberation of outcomes, assessment and teaching of Backward Design by Wiggins and McTighe (2005). This entails layers of module content, as well as possible tools, activities, and assessment exploration. The participants engage in play-based explorations to familiarise themselves with methodologies, tools, and activity conceptualisations. The resulting module is an innovative, flexible module. It aims to make C&R accessible to pre-service teachers by developing their required knowledge, attitudes, values, and skills for 21stt century learning and teaching. It is activity-driven and includes relevant learning methodologies like play-based learning, and knowledge and skills related to computational thinking and ECE basics.

Conclusion

The resulting ECE C&R teaching and learning module is as flexible as the C&R field. It highlights the infinite possibilities associated with C&R teaching and learning. Through the AI process, this research contributes an effective, creative approach to module development with its associated different layers. Future research on the Destiny phase can explore pre-service teachers' experiences of the module to inform another cycle of the AI process towards module refinement

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Unpacking the Efficacy of Learning Communities for Engineering Students in a Challenged Context: A Qualitative Study

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

The purpose of the study is to explore the advantages of learning communities for first-year engineering students in a challenged Global South context. A total of 40 registered SWK 122 (mechanics) engineering students, who voluntarily enrolled in the learning community, were the subjects of this study. The research adopted a qualitative approach and aimed to explore the advantages of learning communities. Data was collected through interviews and surveys with both students and learning community leaders to gain their respective views on the strengths and areas for improvement of the learning community experience. Through participation in study groups, students benefited from the support of their peers, opportunities for alternative problem-solving methods, and improved academic performance. Furthermore, the smaller group size and collaborative nature of these groups created a supportive and empowering learning environment, where students felt confident to ask questions and engage in meaningful learning opportunities

Purpose

The learning communities were introduced by academic advisors to address the high failure rate of the SWK 122 (mechanics) module and improve graduation rates, while also providing social support and connection for students.

Methodology

Collaboration between academic advisors, lecturers, and peer advisors facilitated the creation of these communities with convenient scheduling and locations for students. A total of 40 registered SWK 122 (mechanics) engineering students, who voluntarily enrolled in the learning community, were the subjects of this study. The evaluation on the impact of learning communities was conducted post-intervention and used a qualitative methodology. Data was collected through online surveys, which were completed by both the study leaders, as well as participating students. Additionally, qualitative data was gathered through focus groups conducted with the study leaders post intervention, which were recorded and transcribed for further analysis. The data collected was then analysed using a thematic analysis approach to uncover patterns and themes related to the benefits of participating in learning communities.

Results

Both students and study leaders reported on the positive impact of peer social connection on learning especially for a challenging module like SWK 122. Students highlighted several key factors, including the assistance provided by classmates who understand the difficulties of the material and can offer relevant insight. The presence of these classmates created a more comfortable and supportive learning environment, where students feel empowered to ask questions and engage in meaningful

learning opportunities. This can be attributed to several factors, including the opportunities for students to learn alternative problem-solving methods, interact with their classmates, and share their experiences. Furthermore, the presence of stronger students in the group provides a valuable opportunity for weaker students to model effective learning techniques and improve their comprehension of challenging concepts.

Conclusion

The positive impact of peer social connection on learning is clear and well-documented. Through participation in study groups, students benefited from the support of their peers, opportunities for alternative problemsolving methods, and improved academic performance. Furthermore, the smaller group size and collaborative nature of these groups created a supportive and empowering learning environment, where students felt confident to ask questions and engage in meaningful learning opportunities.

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Work-integrated learning for enhancing work readiness of final year social work students.

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

The Bachelor of Social Work is embedded in work-integrated learning which includes active community engagement to prepare graduates for social work practice. The University of Pretoria cannot achieve excellence in training social work graduates without collaborating with field placement organisations. The purpose of the MWP 400 module is to provide students with learning opportunities to integrate social work theory and practice while delivering a service to individuals, groups and communities. This module provides students with work-integrated learning opportunities for enhancing their work readiness to enter the social work profession once they graduate. This implies a comprehensive knowledge of and insight into South Africa's developmental needs and welfare policy. The presentation will focus on the work done in the MWP 400 module to achieve the outcomes of the programme.

Addressing the elephant in the room: an authentic and ethical approach to AI in Social Work practice teaching.

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Sub-Themes

Implementing authentic teaching, learning, and assessment approaches in an AI dominant future.

Abstract Introduction and Literature Review

The Bachelor of Social Work (BSW) is a four-year, professional degree consisting of social work theory and social work in practice modules on all year levels. Students are expected to integrate theoretical knowledge in their fieldwork modules. Although Artificial Intelligence offers a wealth of opportunities to enhance students' learning experiences in the Social Work in Practice modules, educators need to be aware of the risk factors inherent in the misuse of AI – especially Chat GPT – and proactively develop mitigating controls for this purpose. The COVID-19 pandemic produced numerous research studies on online teaching practices, but not much has been written on dealing with ChatGPT in a context-reliant practice teaching environment. Students need to be aware of the consequences when using AI technologies irresponsibly in their fieldwork and professional practice.

Purpose

The purpose of this presentation is to explore how social work practice educators can mitigate the risk when students use ChatGPT in their fieldwork. Authentic teaching, learning and assessment approaches will be scrutinised to provide the answer to this emerging risk in social work practice teaching. Educators should not ignore this important issue but need to face it head-on, and proactively design the curriculum to address it. The importance of addressing the ethical use of AI for future professionals cannot be over-emphasised.

Two main questions will be explored:

- What are the main risks related to students using ChatGPT in their fieldwork, especially in their report writing?
- How can authentic teaching, learning and assessment practices contribute to mitigating these risk factors?

Methodology

This is an exploratory study that can lead to in-depth research in the future.

Results

This presentation is the first step in exploring the relatively new risk brought along by the availability of ChatGPT. Based on the proposed mitigating controls presented in this study, follow-up research studies will be done in this regard to bring forward results to be reported.

Conclusion

It is impossible to prevent students from using AI, but it is possible (and necessary) to develop mitigating controls to minimise the potential risk while developing responsible, ethical practitioners. This presentation specifically focuses on using authentic teaching, learning and assessment practices as mitigating controls in teaching social work students in an AI-dominant world. This exploratory investigation needs to be followed by future research to determine the success of these proposed mitigating controls.

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Enhancing the acceptance of technology integration using interactive videos in higher education

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

The latest technological advances in teaching and learning during the fourth industrial revolution have led to the introduction of novel and innovative teaching approaches and applications. Interactive video technological advances, which provide active learning opportunities, scaffolded learning objectives, and increase student engagement and asynchronous teacher presence, have become available to enhance teaching and learning at higher education institutions (HEIs). However, integrating technological advances such as interactive videos requires significant investment in technology and human resourcing, which could be even more challenging in developing countries (i.e., South Africa). The risk exists that the available technological resources go underutilised or not utilised at all by lecturers and students.

Purpose

This study aimed to explore the underlying drivers for adopting interactive videos through two lenses: the Technology Acceptance and the Community of Inquiry model. Factors that impact lecturers' perceptions and their use of interactive videos within various delivery modes were also deliberated. The study furthermore investigated students' experiences with interactive videos in order to gain more information regarding best practices in higher education.

Methodology

This study used a three-phased sequential exploratory mixed method research design. During the first phase, quantitative data was collected from the lecturers' who opted to participate in the study, using a survey approach. During the second phase the lecturers attended a workshop on the use of interactive videos and thereafter started implementing interactive videos in their modules. During the third phase, quantitative data was again gathered by surveying the students and qualitative data was gathered through semi-structured interviews and document review. The sample included 20 lecturers from two different Higher Education Institutions, one public and one private. The sample furthermore included 600 education students in total from both institutions.

Results

Features influencing perceived ease of use were exposure, training, marketing, fear of technology, digital literacy, accessibility, personal agency and self-efficacy. Features influencing perceived usefulness included time constraints, workload, student performance, online activity and immediate feedback. Findings also show the diverse possibilities for using interactive videos to promote a teacher and cognitive presence to enhance learning. Findings from this study furthermore provide insight into how to capitalise on interactive video design and delivery to enhance students' teaching and learning

experiences. Finally, the data indicated limitations to interactive videos such as excluding a social presence.

Conclusion

Understanding how attitudes and beliefs influence behaviour, such as adopting emerging technological trends within education, provides helpful information about what encourages and hinders lecturers' adoption and integration of technology. Such information is useful in supporting and guiding lecturers to enhance their hybrid learning practices at HEIs and in essence improve students teaching and learning experiences. Interactive videos have been found to be an invaluable resource if used purposefully and with the COI in mind.

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Reviewing the flipped class room implementation in a service module.

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Sub-Themes

Implementing agile approaches to teaching, learning and assessment in higher education

Abstract Introduction and Literature Review

In 2022 the flip was presented as a work in progress (Wilkens & Smart, 2022). With the implementation results now available, the whole process could be reviewed and analysed. While the flipped classroom has been used within law faculties (Wolff & Chan, 2016), no information could be found on a flipped classroom application in a law service module or the effectiveness of and intervention.

The question regarding the effectiveness of the intervention has been identified in other disciplines as field for further research (Chen et al., 2017). Given the discrepancy in results between students of different programs, further analysis of possible factors that could play a role was urgently required against the background the University of Pretoria recommends flipping as one way of lecturing the UP way (Department of Education Innovation, 2020).

Purpose

Describing and reflecting on the process of the flip and its consequences under the following headings:

- The implementation information,
- The results of the students analysed,
- Searching for possible intervening variables, and
- The recommended changes for 2023.

Methodology

This is a qualitative reflective case study done by the lecturer, education consultant and instructional designer. The process involved reviewing of the data form the module, the initial analysis of implementation, as well as wider reflection on teaching methodology used in different schools. This was possible, through the adding of a “critical friend” that was not part of the initial implementation, who brought valuable inputs. Although the basic flipping of classroom literature was used during planning, a wider literature review was conducted to identify possible intervening variables that may explain the results.

Results

The relooking of planning data did not identify new factors that may have influenced the diverse results. The possible role of the “studio methodology” of teaching some of the students was identified (Lueth, 2008; Abdullah et al., 2011). With the students from the studio background, the flipped class room may have seemed close to each other, when their philosophies were not.

While the lecturer assumed that the basic concepts were already mastered by the students while watching the videos, the students did not experience it the same.

The students will have to be made aware of the differences and methodology such as CLASSE surveys of student engagement (University of the Free State, n.d.) used early on in the module to identify the difference between lecturer and student expectations in the module.

Conclusion

This research identifies additional variables that may influence the success of the implementation of the flied classroom, specifically when it is used in a service module, but not in other modules of a program serviced. The results of flipped classrooms in general also needs further research, specifically in the context of the University of Pretoria.

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Creating meaningful learning experiences in educational serious games with meaningful choices design.

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Sub-Themes

Developing curricula that align with the Digital Age in higher education

Abstract Introduction and Literature Review

Meaningful learning describes the process of knowledge acquisition in which new knowledge is generated when relatable links are created to existing knowledge. It is beneficial as it promotes deeper understanding and retention, allowing students to develop critical thinking skills and connect learning to real-life applications. For meaningful learning to take place, an authentic scenario is needed for the knowledge to become personally significant to the student. Serious games are games designed for a serious purpose, often that of education and training. They provide a means to create safe, authentic learning situations in which learners can actively develop the skills needed. As meaningful learning is concerned with learning experiences, design approaches that are concerned with shaping experiences should be explored to design effective educational serious games. This introduces a meaningful choice design that is concerned with shaping player experiences in a game. This study explores the relationship between these concepts.

Purpose

This study explores how the use of meaningful choice design can, if at all, affect the overall meaningful learning experience of an educational serious game. This is done by determining whether a serious game can be considered meaningful learning activity, how meaningful choice design be used in serious games to enhance meaningful learning, and how these methods affect the learning experience of the players.

Methodology

The serious game was played by the postgraduate students at the University of Pretoria's BEng - Mining Engineering degree in the form of action research and data were collected using questionnaires, focus groups, automatic logging, and observation. The overall procedure requires participants to play the serious game and fill in a questionnaire regarding their experiences, once the data were analysed, a focus group was conducted to further inquire about discovered topics. These findings where they cross-examined and analysed along with observation and automatically logged data. Using coding and the constant comparative method, categories were identified, and findings were drawn.

Results

Results from the study showed that the educational serious game supported the five characteristics of meaningful learning, with all participants identifying the characteristics and how they affect their overall learning experience, making the act of playing the serious game a meaningful learning activity. The data also showed that by applying meaningful choice design in a serious game players'

play experience was enhanced. This enhanced experience positively affected the learning experience of the serious game.

Conclusion

Applications of meaningful interaction, supporting player agency, and having consequences linked to player actions allow players to personalise their experience positively and contribute positively towards the overall learning and gameplay experience.
These techniques were used in the context of a serious game but can transfer to other learning contexts to improve the learning experience and strengthen knowledge creation.

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