



The Application of a Humanistic Pedagogy-Based Evaluation Tool to Capture Educators' Perceptions of the Value of Digital Technologies to Enhance Teaching and Learning in Higher Education

N. Vokwana^(✉) and L. Baleni

University of Fort Hare, Alice Campus, Alice 5700, South Africa
{nvokwana, lbaleni}@ufh.ac.za

Abstract. The COVID-19 pandemic has accelerated the prevalence of 21st-century digital learning technologies in numerous curriculum-related learning environments. Institutions of higher education progressively tuned to use learning technologies to resource and support teaching and learning environments in either face-to-face or blended or hybrid approaches. However, there is limited research on educators' perceptions of the value and worth of digital technologies in their practice. In order to capture and portray the educator's perceptions of the worth and value of digital technologies, an evaluation tool designed based on Humanistic Pedagogy (HP) was developed for this purpose. The HP theory was used as an underpinning theoretical and methodological framework to carry out the research. The selection of humanistic pedagogy was intentional since HP is considered a radical approach. The key research question for this study was "What are the educator's perceptions of the worth and value of technology digital technologies to enhance teaching and learning? The evaluation tools were administered to the academic educators teaching across various faculties at the university. The data was analysed using qualitative data methods. The study argues that the capacitation of educators on instructional design and technology integration should be guided by a humanistic approach to create spaces for educators to voice their perceptions about the value and worth of digital technologies.

Keywords: Curriculum development · Humanistic Pedagogy · Digital technologies · COVID-19

1 Context of the Study

The context of this study was located within the curriculum development unit at the institution under study. The Curriculum Development unit has a capacity development mandate and is meant to advise the academic staff in the design, development, delivery, and review of programmes and modules. The unit ensures that the university offers programmes that meet national and international standards. Furthermore, the unit ensures

that each programme meets relevant professional bodies' requirements and accrediting agencies' requirements. Through curriculum development workshops, training, and one-on-one consultations, the unit advises on articulation matters, constructive alignment, technology integration, and instructional design.

The curriculum development unit embarked on a research journey through the University Capacity Development Programme (UCDP) on the Scholarship of Teaching and Learning (SoTL) grants. The research project was titled: *"The development, adaptation, and validation of instructional design tools for quality Blended Learning programme/module design"*.

In this research project, the curriculum development unit developed and adapted various instructional design tools for quality Blended Learning programme/module design. The tool discussed in this paper was an online questionnaire based on specifically selected principles of humanistic pedagogy. The purpose of the development of this tool was to capture educators' insights and perceptions of the worth and value of digital learning technologies after exposure to curriculum design training and workshops. In this paper, the evaluation tool was used to capture, specifically the instructional design and technology integration aspects of the workshop. In the context of this study, therefore, the teachers are regarded as learners while the curriculum development consultants are regarded as facilitators of that learning process.

2 Introduction

The coronavirus disease 2019 (COVID-19) pandemic has advanced the adoption of blended learning design across institutions of higher learning in education globally [14]. As a result, for the first time, the term "Blended Learning" has resurfaced several times in the recent institution's renewal strategic plan for 2022–2026. According to the strategic plan for 2022–2026.

"Renewal will not only be limited to embracing the new technologies through digitisation and automation of business systems in general; but will manifest in re-imagining learning and teaching, incorporating blended learning, ensuring the basic foundations of quality are in place and re-circulating academic programs to adapt to the new, improved reality at the institution X."

Blended learning design is defined as an approach that creatively deploys online digital tools into face-to-face classrooms with the intent of enhancing learning. The incorporation of these online resources fosters social-like interactions between "student-faculty, student-student, content-student, and student-additional learning material" [14].

The success of Blended learning design relies on educators' knowledge to select and use digital learning technologies creatively to transform the traditional classroom into lifelong learning experiences for 21st - century students [4]. The study argues that the educators' perceptions of the value of technology are key drivers that could fast-track the adoption and creative deployment of digital technologies into teaching and learning while developing lecturers' knowledge of relevant pedagogical knowledge frameworks needed for teaching with technology.

In the sections following, we discuss the literature review and theoretical framework underpinning the study. The study further adopted aspects of humanistic pedagogy to formulate a theoretical framework for the study. Thus, evaluation tools were designed based on the concept of humanistic pedagogy as a decolonizing pedagogy to voice educators' perceptions of the worth and value of digital technologies to enhance the quality of learning and teaching in the digital age post-COVID-19 era.

The study was premised on the interpretivism paradigm. Qualitative research methods were used to respond to the research questions posed in this study. In the methodology section, data collection tools, and data analysis are discussed in detail. A Humanistic Pedagogy-based evaluation tool was used to capture educators' perceptions of the value and worth of digital technologies for instructional design to enhance the quality of teaching and learning. Furthermore, the study reports on the discussion of the findings of the study, and finally, the key outcomes of the study are summed up with a conclusion section.

3 Literature Review

3.1 Pedagogy

Bernstein described pedagogy as a process that occurs within two distinct points of message relay (knowledge transfer) [2]. The first point of the message relay is the acquirer of knowledge, and the second point is the supposedly "accredited provider and evaluator of knowledge [2]. The author further argues that learning occurs upon recontextualising the acquired knowledge away from the site of acquisition and reproduction into new knowledge forms, practices, and procedures. Bernstein [3] categorized this type of pedagogy as institutional pedagogy.

In this paper, we acknowledge that the study was premised within the institutionalised pedagogy since the dialogue occurred within the official curriculum design workshops of the institution under study. The theory of pedagogic device further provides a model for analysing the manner in which canonical knowledge is recontextualized, transformed, reproduced, and made accessible as pedagogic communication at the program design/module level for classroom and curricula [3]. Bernstein views pedagogy as socially transformative in nature [3]. In this paper, the curriculum development workshop was regarded as the first site of knowledge production on issues of instructional design and technology integration.

The academic staff were offered a "planning to teach" capacity and therefore were expected to recontextualise knowledge gained and relocate it as pedagogic communication into their own practice. Bernstein argues for pedagogy in an ideal context [3]. However, in such countries as South Africa which were under a collection of various colonial systems for longer periods, scholars argue that curriculum development and design have remained one of the areas in higher education that need attention for decolonisation [9, 11, 16]. There are calls across the globe for social transformation and decolonising higher education in South Africa [7]. In the section below, we review the literature on Decolonising pedagogy.

3.2 Decolonising Pedagogy

Du Plessis stated that one of the traits of the colonial system in South Africa was the use of the education system to maintain control through tactics such as dictatorship, authoritarianism, and many other socially unjust approaches [7]. In decolonization, the author argues for collaborative efforts to reimagine the future while embracing the diversity of opinions and views that each individual brings into higher education without any forms of segregation [7].

Thus, Luckett [12] described decolonizing theories as those that gave an ear to the subjugated voices and create safe spaces for people to express themselves. This means to decolonise is to critique and renew the curriculum using bottom-up approaches and open up to silenced voices or marginalised groups [5]. The decolonizing theories further challenge any forms of segregation whether through racism, colonialism, or oppression [9]. Scholars argue that while efforts to end the traits of colonialism in all sorts of social spheres, the deconstruction of this regime needs attention in Higher education as it recently led to South African movements such as #FeesMustFall calling for the decolonisation of higher education [5, 9]. In this paper, we argue that a humanistic pedagogy-based tool can be used to capture the voices and views of educators on the value of digital technologies to enhance teaching and learning practices. Thus, the humanizing pedagogy is regarded as a social transformative theory that is decolonial for the creative deployment of digital tools to enhance quality in teaching and learning.

3.3 Humanistic Pedagogy

The humanistic pedagogy came to life as a paradigm that sought to address issues concerning the “pedagogy of the oppressed” [8] thus, qualifying the approach as revolutionary and by inference decolonial in nature [6]. The power dynamics held by a teacher in a learning and teaching environment is critiqued as imprisoning [5]. However, the humanistic approach calls for mutual humanization where the consciousness of the student becomes a key driver to academia rather than an authoritarian worldview [8]. Ideally, the 4IR and digital era presents more opportunities for Technology-enhanced environments with the purpose of decolonizing pedagogy.

However, the adoption of any technology for learning and teaching purposes without considering such humanistic aspects as learners’ cultural, linguistic, or familial, is considered dehumanizing [6]. The author summed the operationalisation of humanising pedagogy beyond theory into ten principles and practices:

- (i) The reality of the learner is crucial.
- (ii) Critical consciousness is imperative for students and educators.
- (iii) Students’ sociocultural resources are valued and extended.
- (iv) Content is meaningful and relevant to students’ lives.
- (v) Students’ prior knowledge is linked to new learning.
- (vi) Trusting and caring relationships advance the pursuit of humanization.
- (vii) Mainstream knowledge and discourse styles matter.
- (viii) Students will achieve through their academic, intellectual, social abilities.
- (ix) Student empowerment requires the use of learning strategies.

- (x) Challenging inequity in the educational system can promote transformation

The author argued that in order to integrate humanistic pedagogy into practice educators needed to transform their knowledge dispositions and skills through these principles in order to humanise pedagogy. In the era of increased technology uptake to enhance the quality of learning and teaching Stommel, Friend, and Morris proposed the concept of critical digital pedagogy to avoid authoritarian tactics that have been characteristic, especially in the adoption of institution-wide technologies such as LMS [15].

3.4 Critical Digital Pedagogy

Stommel, Friend and Morris began work on the digital pedagogy laboratory around the year 2012 [15]. The origin of this lab was a concern that while there were opportunities for technology-enhanced learning but educators should raise awareness of the authoritarian that the digital era could possibly bring into learning and teaching spaces [15]. The author argues that curriculum designers should ask critical questions for any specific tool marketed to the teaching and learning communities instead of assuming an enhancement preposition in the curriculum.

Like in the decolonising and humanising pedagogy, critical digital pedagogy considers learning as rather a process centralized around the consciousness of the content, learning outcomes, and assessment practices deployed in any specific subject matter [8]. This leads to active learning and lifelong learning instead of passively learning a certain set of facts and ideas. The role of technology in digital pedagogy then demands a critique of how each new digital tool or any technology-enhanced environment enforces active learning for students to become lifelong learners who are conscious of the learning process [15]. In conclusion, digital pedagogy re-affirms the principles of humanising pedagogy and re-affirms the role of humans and humanity in the facilitation of lifelong learning using digital tools. In the section following, we discuss the theoretical framework of the study and we select four principles of humanistic pedagogy as relevant to the context of the evaluation tool and its purposes.

3.5 Theoretical Framework

Humanistic pedagogy was used as both the theoretical and methodological framework of the paper. The study selected four principles of humanistic pedagogy out of ten, namely: (i) Content is meaningful and relevant to student's lives; (ii) Critical consciousness is imperative for students and educators; (iii) Student empowerment requires the use of learning strategies and (iv) Students' sociocultural resources are valued and extended. Figure 1 is the theoretical framework of this study.

Humanistic pedagogy is a radical approach to pedagogy that considers human effects such as human liberation [17]. Thus, the online questionnaires were designed according to the four selected principles of humanizing pedagogy to respond to the research question of the study which was interested in the educator's perceptions of the worth and value of digital technologies enhancing student learning. The study argues that in order to develop the pedagogical knowledge of lecturers for teaching in the digital era, the blended module design workshops on curriculum design need to incorporate humanistic

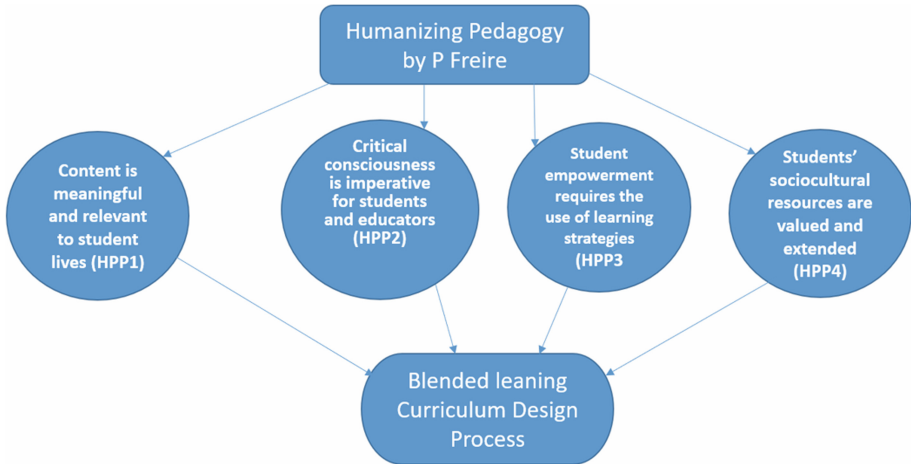


Fig. 1. Humanising pedagogy framework

pedagogy to attain insights into lecturers' perceptions of the value and worth of digital technologies. For example, TPACK defines teaching and learning in the digital age as an amalgamation of technological knowledge, pedagogical knowledge, and content knowledge to design instructional content that students can easily understand [13].

The SAMR also guides the deployment of digital learning through its various stages. The first stage of SAMR is Substitution which argues that one could deploy digital technologies to simply substitute a traditional tool with a digital tool without any functional change. The second phase is Augmentation and, in this stage, the role of digital tools is to enhance the learning process. The third stage is Modification, where digital technologies are deployed to bring positive change in the learning process. The last stage is Redefinition and, in this stage, the tasks that could not be done traditionally are made possible through the creative deployment of digital technologies [10]. This study also acknowledges the educator agency as another teacher domain perceived in education generally, important in bringing into play the active role and contribution of educators in shaping the overall quality of education.

4 Research Methodology

The study is premised on the interpretivist research paradigm which is a research approach that acknowledges the diversity in human beings. Interpretivism argues that there is no single reality but a world that is multifaceted and complex with multiple realities as constructed socially by diverse human interests [1]. The interpretivism approach guided the facilitation of conversations between academic developers, lecturers, and digital technologies to enhance constructive alignment in the curriculum design workshops. The approach also encourages these key stakeholders to develop and socially construct the meaning of the worth of digital technologies through exposure to multi-digital technologies as a collective. The data were collected using qualitative research methods where google online surveys were used as the main data collection tools. The

purpose of this study was to understand educators' perceived value and worth of digital learning technologies for enhancing student learning experiences. The respondents were 17 educators institution-wide.

The data were analysed qualitatively using automated bar charts from google forms and transcribed verbatims from questionnaires. Questionnaires were administered at the end of the curriculum design workshops to collate data from educators about the content of the curriculum design workshops and training.

4.1 Humanistic Pedagogy-Based Evaluation Questionnaire

The data was collected through online open-ended questionnaires that were designed to evaluate the instructional design and technology integration aspects of the curriculum design workshops and training in the University. The online questionnaires were created using Google Forms and were made of 8 questions which were a mix of closed and open-ended question types. Figure 2 is an extract of a section from the online questionnaire.

In Fig. 1 were the first questions of the survey formulated and grounded by the first principle of Humanistic pedagogy. Del Carmen Salazar argues that humanising pedagogy should incorporate "content that is meaningful and relevant to students' lives" [6]. The various pedagogy theories (theory of pedagogic device, decolonizing, and digital) discussed above-put emphasis on the process of learning by being conscious of the content, learning outcomes, and assessment. The first two items of the questionnaire required that the participants reflect and think about the content of the workshop and its applicability to their own practice. Bernstein argues that pedagogy is a process of acquisition by the learner from the site of knowledge production that undergoes a recontextualisation process and is reproduced in a new site [2]. In the case of this study, the

The evaluation form for the The Curriculum design workshop held on the 03-05 November 2021 via MS Teams

The content was as expected *

	1	2	3	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The content of the workshop was applicable to my practice *

	1	2	3	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Fig. 2. Example of the questionnaire item based on the HHP1

first and second item of the questionnaire was meant to capture teachers' perceptions and views of whether they saw possibilities of application into their own practice. As indicated above that the online questionnaire was a mix of multiple-choice questions and open-ended questionnaires. Figure 2 are examples of open-ended questions of the evaluation questionnaire.

Similarly, the questions above were designed based on the four selected principles of humanizing pedagogy. For example, HPP4 states that "Student Empowerment Requires the Use of Learning Strategies". In the first question in Fig. 3 educators were required to voice out their perceptions and exercise reflective cognitive monitoring skills to gauge whether the information acquired during the workshops was worth integrating into their practice. The question item evaluated teachers' perceptions on the worth and value of the information gained and their thinking about readiness to apply knowledge independently in their own practice. Critical digital pedagogy also echoes the same sentiments arguing for consciousness, and awareness of the content and how knowledge should build a life-long learner through independence [15]. Similarly, as other items of the questionnaire, the insights of teachers' perceptions of the knowledge gained in the workshops and its applications in practice were fostered through prompts such as the second and third questions in Fig. 3. The question items were based on HPPs 2 and 3 respectively. HPP 2 states that "Critical Consciousness Is Imperative for Students and Educators" and HPP3 states that "students' sociocultural resources are valued and extended." Critical digital pedagogy and decolonising pedagogy all ascertain that the learning process should encompass critical questions about content and refrain from authoritarianism [15].

What do you intend to do with information gained from this workshop (utility value)? *

Long answer text

...

Future needs: Please describe topics you would like to learn more about in the next 12 months *

Long answer text

Any suggestions for improvements? *

Long answer text

Fig. 3. Opened-ended question items of the evaluation tool

4.2 Data Analysis

The responses from the collected online questionnaires were analyzed through automated analytics and charts generated by google forms. Google forms allow the researcher an opportunity to generate a survey and distribute the link generated to the participants of the workshop and allow them to evaluate the workshop anonymously. In this study, the participants evaluated the instructional design and integration of technology into the curriculum. The advantage of google forms is that it analyses the responses of the survey and provides response distribution ratings for Likert scale type of questions. Furthermore, Google forms further provides long-term responses as comments that are grouped together for each question item while keeping the confidentiality of the participants as these comments are not linked to any individual.

5 Findings and Discussion of the Study

As indicated, this study aimed to gain insights into lecturers' perceptions of the value of digital tools to enhance teaching and learning. The research question for this paper was "What are the educator's perceptions of the worth and value of technology digital technologies to enhance teaching and learning??" The results presented in this paper expressed the overall perceptions of lecturers about workshops on the aspects of instructional design and integration of technology to enhance the quality of teaching and learning. Digital pedagogy argues that the voice of educators is sometimes found missing especially in the selection of institution-wide technologies such as LMS [15]. Meanwhile, the decolonizing pedagogy argues that decolonizing theories are those interventions able to create safe spaces for expressions of the voices of the silenced. Thus, the principles of humanising pedagogy were adopted as principles that should inform curriculum development practices such as evaluation questionnaires designed to collect data for this paper. Del Carmen Salazar and Bernstein argue that humanising pedagogy puts emphasis on learning as a process of becoming critical consciousness about the knowledge produced in the knowledge production site [2, 6]. Thus, the first two items of the survey looked at the educator's insights as learners in the workshops in terms of their satisfaction with the content of the workshop.

5.1 Content that is Meaningful and Relevant to Students' Lives_HPP1

The open-ended questionnaires had two items that were meant to attain insights into educators' views of content expectations of the curriculum design and review workshops. Figure 4 shows the results of the educators' insights on their expectations of the content covered.

The results indicated that 94.1% of the educators indicated that they strongly agreed that the content covered in the workshops met their expectations while 5.9% disagreed. In Fig. 5 were insights about the applicability of Content of the workshop into their practice.

The results indicated that 88.2% of educators strongly agreed that the content was applicable to their practice while 5.9% agreed and 5.9% disagreed.

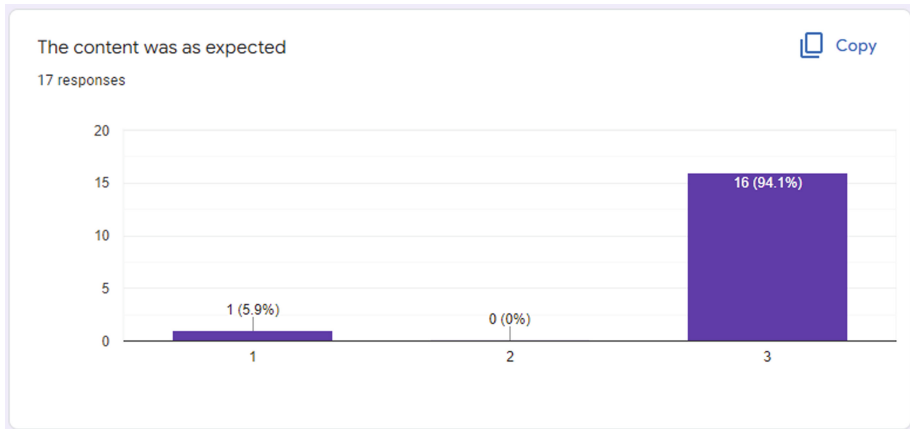


Fig. 4. Results of the educators' expectations

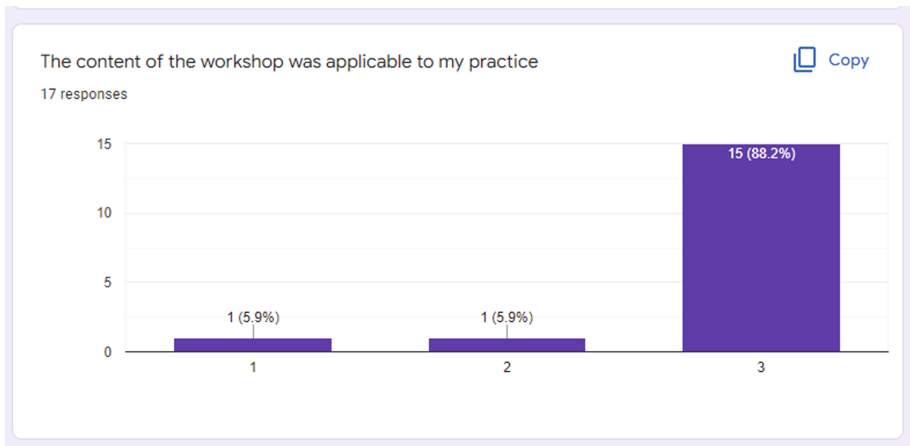


Fig. 5. Views of educators on the applicability of the content

The responses for Question 1 and Question 2 were coded and aligned with HPP1. HPP1 suggests that the humanizing pedagogy should incorporate “Content Is Meaningful and Relevant to Students’ Life”.

The higher percentage of the lecturers who strongly agreed that the content met their expectations meant that the lecturers concurred with the sentiments of instructional design and technology integration as valuable and worth development for enhancing instructional design and technology integration into their own practice.

5.2 Critical Consciousness is Imperative for Students and Educators_HPP2

In order to get insights into the critical consciousness of the lecturers about technology integration and instructional design of the workshop, three question items were used,

Questions 3, 4, and 8. For example, Question 8 asked whether lecturers had “Any suggestions for improvements?”. Below is the series of teacher responses to question 8 items. Pseudonyms were used to classify educators’ perceptions and insights on the value of digital tools learned in the workshop for instructional design purposes.

Educator A: “More of practical sessions”

Educator B: “More practice on Digital tools.”

Educator C: “Send readings and activities prior”

Educator D: “Time was bit limited yet there was more that one wanted to know and also do practical demonstrations. Otherwise, this has been the best and well informative workshop. One cannot stop appreciating the great work that was done by TLC.”

Educator E: “I don’t really have complaints, the facilitators were very professional, eager to listen and allow everyone to participate. Having your voice heard boost confidence and motivates full participation. Thank to TLC team.”

Educator F: I am really enjoying the trainings. I have noticed that, if the trainings were done face-to-face, they were gonna be even more powerful because it would be more easy to even look through together and help each other on how to align and use the different types of models that were taught.”

According to del Carmen Salazar in humanising pedagogy “Critical consciousness is imperative for students and educators” [6]. Stommel, Friend and Morris argue that critical digital pedagogy considers issues such as “problem-based learning, so it is the decolonising pedagogy [15]. In this question item, the educators who were learners in the workshop were offered an opportunity to critique the workshop and think about what could be done better to improve both the workshop and their needs for capacitation.

In the verbatims mentioned above, lecturers were consciously applying their reflective cognitive skills to voice out the manner in which they received the advisory services offered by the curriculum development unit. Lecturers voiced areas of the workshop that could further improve their practice. This meant the evaluative instrument was able to create space for educators to consciously voice out areas of improvement that could bring more worth and value to instructional design and technology integration into their own practice.

5.3 Students’ Sociocultural Resources are Valued and Extended_HPP 3

The question items of the questionnaire that aligned with HPP3 of the humanising pedagogy was Question 7 which was crafted as follows “Future needs: Please describe topics you would like to learn more about in the next 12 months”. According to del Carmen Salazar, it is imperative that humanizing pedagogy is not a mere recitation of specific facts and ideas but should ensure that “Students’ sociocultural resources are valued and extended” [6] The theory of pedagogic device, digital pedagogy, and humanising pedagogy echo the same sentiments. Thus, it was important for the curriculum development unit to afford participants of the workshop an opportunity to capture topics that portrayed educators’ own needs in practice so that future follow-up work-shops address and value

their sociocultural resources and expand on these through follow-up training, one-on-one consultations, or training. In responding to this question item, educators mentioned a range of concepts that could be resourceful and worth expanding on. Various educators indicated that “

Educator A: I think more on the blended learning would assist me tremendously. I really need assistance in the move to incorporate more technology into my existing practices and what I have seen through this workshop has really alerted me to the potential that awaits. So for me, more of the same would be invaluable. Thank you.

Educator B: Designing rubrics for digital platforms

Educator C: Curriculum Design with Instructional design and Online Assessment

Educator D: Any topics that will inform us on how to include Technology in teaching and learning.

Educator E: eBooks

Educator F: OER (Open Educational Resources)

Educator G: more lectures are needed on transforming pedagogy with technology

Educator H: Improved ways of recording lectures, without boring the students when they listen.

Educator I: Decolonisation and gender issues in HEIs

In the verbatims above the educators were voicing out what they personally adopted from the workshop as personal resources for their immediate teaching contexts and the manner in which they thought these resources could be expanded for use in their own teaching. This meant the evaluation instruments for the curriculum development unit captured educators’ perceptions and views of various digital technologies that could be creatively deployed in their personalized teaching context. Bernstein argues that pedagogy is indeed the recontextualization of knowledge into new forms of practice and standards [2]. Digital pedagogy regards this process as conscious learning that allows active learning and lifelong learning in the digital era.

5.4 Student Empowerment Requires the Use of Learning Strategies_HPP 4

Lastly, the evaluation instrument for curriculum development and design probed educators’ perceptions of how they saw themselves using the gained information. Del Carmen Salazar argues that a humanising pedagogy should offer learners an opportunity to monitor their own learning to facilitate independence and self-directed learning in their own practice [6]. To capture educators’ views of how they thought they could use the information gained during the workshop, Question 6 of the questionnaire was crafted as follows: “What do you intend to do with information gained from this workshop (utility value)?” Educators’ perceptions on the utility value of the knowledge gains were provided as verbatims below:

Educator A: I will be able to incorporate the “updated” Bloom’s taxonomy in all my future courses - every aspect of the course (design, implementation and

as-session) can benefit hugely but the information shared yesterday. The move to blended learning has been made so much easier through the material presented in the workshop. Thank you so much.

Educator B: inform my teaching. Try to use what was discussed into having more interactive classes

Educator C: I intend to revolutionize my courses with all the amazing information I gained.

Educator D: Use it to improve my online teaching and my assessment strategies in 2022 going forward

Educator E: will start now start to update my learning guides and include various ICT tools

Educator F: Use it to review and realign my module content based on the outcome and also use all the models that were taught to us in shaping our modules so that the learners can achieve more knowledge

The views voiced by the lecturers above meant that the instrument used was able to empower educators to incorporate learning strategies made explicit to them in the workshops to enhance and further develop their own practice. As discussed above, evaluation instruments based on humanistic pedagogy successfully captured and portrayed educators' views and voiced their thinking of how they perceived the knowledge gained as relevant, and applicable in their own practice. The instrument portrayed educators' views and perceptions on how they could creatively deploy knowledge gained on the workshop's instructional design and technology integration aspects. The curriculum development unit solicits such feedback to inform future workshops and the capacitation needs of the educators.

6 Conclusion

The study's overall objective was to understand educators' perceptions of the value of digital tools. The study indirectly cautioned against boxing educators to only select a few digital technologies as though educators only reacted to external social cues acknowledged. As indicated, this study's purpose was to have insights into educators' insights on integrating digital technologies into teaching and learning. The results presented in this paper expressed an overall perception of educators attributed to the satisfaction rate with the content covered in the workshops, the relevance of using digital technologies in their practice, and their future strategies of adopting various digital technologies to enhance teaching and learning. Findings show that the methodology used in this study can be used to develop and enhances the communication between the curriculum design practices and faculty practices to collaboratively develop TPACK and SAMR knowledge of lecturers. The study suggests that TPACK can fast-track the development of knowledge needed by lecturers to creatively deploy digital tools to design a curriculum that challenges the students' Higher-order thinking skills. Both creativity and communication are the key digital skills that are key for 21st-century learning.

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