

CHAPTER 1

INTEGRATING AUTHENTIC PEDAGOGY AND DIGITAL CREATIVITY TO SUPPORT HEALTH SCIENCE STUDENTS IN THE DEVELOPMENT OF SELF-DIRECTED, INTERPROFESSIONAL INDIVIDUALS

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Abstract

Global trends in higher education (HEd) focus on the development of lifelong learning skills for a complex world and on cross-disciplinary expertise. This necessitates reconceptualising curricula to adopt a more authentic, student-centred approach to teaching, learning, and assessment, promoting the development of not only graduate attributes but also lifelong, self-directed learning (SDL) skills. According to the literature, the development of SDL skills is best promoted through authentic learning settings (Goldman et al., 2009; Jennings, 2007; Taylor & Hamdy, 2013). Within the health sciences domain, authentic learning reflects professional practice and means that students should be able to collaborate within an interprofessional team (Van Woezik et al., 2021). Due to the significant transformation in the current workplace, part of the authenticity of teaching, learning, and assessment practices within HEd should include the development of much-needed digital competencies. Utilising such digital competencies through the use of “digital tools and technologies to explore creative ideas and new ways of displaying ideas, research, or work” is known as digital creativity (University of York, 2019, p. 1). However, the literature on the affordances of authentic pedagogy (teaching, learning, and assessment), including digital creativity, in supporting the development of health sciences students as self-directed, interprofessional individuals is scant. This qualitative study examined the benefits of integrating authentic pedagogy and digital creativity in developing health sciences students as self-directed, interprofessional individuals. Interprofessional collaboration; digital tools as enablers of creativity and collaboration; real-world application of knowledge; development of key self-directed learning skills; and barriers to engagement emerged as the major themes. The findings demonstrate that when students are immersed in meaningful, complex, and collaborative tasks, they do not merely acquire disciplinary knowledge or technical skills. Rather, they engage in processes of professional becoming that encompass cognitive, relational, and intrapersonal dimensions of learning.

Keywords: authentic pedagogy, digital creativity, self-directed learning, interprofessional education

1 Introduction and background

“If we teach today’s students as we taught yesterday’s, we rob them of tomorrow.” (Dewey, 1915, p. 167)

HEd is tasked with delivering a knowledgeable and skilful workforce that has the attributes and competencies to succeed in an increasingly diverse and globalised environment (Altbach et al., 2009; Goulart et al., 2022). HEd is not only aimed at promoting critical thinking skills (Barnett, 2015; UNESCO, 2021) but also provides opportunities for collaborative learning, sharing skills and values, as well as developing communication skills and greater autonomy (Van Woezik et al., 2021). Educators in HEd are called upon to adapt their pedagogy to address workplace needs and to foster the development of responsible members of society (Jacobs, 2015; Suyo-Vega et al., 2024). Within the domain of Health Professions Education (HPed), HEd institutions bear the responsibility of guiding students to reflect on global responsibilities, uphold legal, moral, and ethical principles in their actions, and recognise the broader implications of these considerations for their future careers as healthcare professionals. According to Patel-Junankar (2018), learner-centred pedagogy is at the heart of teaching and learning for health sciences in the 21st century. Hence, authentic pedagogy assumes a pivotal role in fostering authenticity in HPed (Jakubik, 2022; Lombardi, 2007). Now more than ever, due to the half-life of information, specifically within the current technological advancements (Bearman et al., 2023; Marshall et al., 2024; Sarun et al., 2026), “teamwork, interprofessional learning, and reflection” should be the focus for authentic learning (Pawlina & Drake, 2016, p. 6). By integrating these skills into the educational process, HEd actively contributes to the formation of authentic and responsible citizens capable of addressing and solving global challenges. To this end, authentic pedagogy emerges as a powerful vehicle (Falkner & Stålbrandt, 2023).

Authentic pedagogy refers to exposing students to diverse perspectives and encouraging them to consider multiple viewpoints. Authentic pedagogy is grounded in constructivist learning theories, prioritising real-world relevance, higher-order thinking, and collaborative engagement (Koehler &

Mishra, 2005). By mirroring professional practices, authentic pedagogies equip students to transfer academic knowledge to practical contexts. In turn, this facilitates a broader understanding of global issues and emphasises the need for collaborative, responsible solutions (Carmichael, 2015). Authentic pedagogies emphasise the need for students to learn and demonstrate the ability to apply knowledge and skills in real-world contexts. As more educators in HEd value authentic standards and assessments, resources are needed to help faculty develop these pedagogical strategies (Watagodakumbura, 2013). Educators in HEd should adapt their pedagogy to address workplace needs and call for responsible members of society. In this context, authentic pedagogy can serve as a vehicle to encourage learners to develop open-minded thinking throughout the learning process and to offer authentic, unique, and creative solutions to problems (Anderson, 2019; Watagodakumbura, 2013). Key strategies include cooperative, problem-based, and inquiry-based learning; technology-enhanced collaboration; authentic assessment; and the use of digital tools for creative output. These methods not only improve academic performance and motivation but also prepare learners for the demands of a rapidly evolving, interdisciplinary workforce (Johnson & Johnson, 2018; McLachlan & Tippet, 2023; Janse van Rensburg, Coetzee & Schmulian, 2022).

The literature underscores the clear benefit of integrating authentic pedagogies with technologies to adequately equip students for the demands of the contemporary professional world (Bizami et al., 2023; Raynault et al., 2023; Yang & Goh, 2022). In the digital age, a re-evaluation of teaching, learning, and assessment becomes imperative, aligning these elements with real-world considerations. This adjustment not only responds to the evolving landscape but also supports the cultivation of students' 21st-century skills, encompassing communication and collaboration, creativity, innovation, and technological proficiency (Redecker et al., 2012). Raynault et al. (2023) advocate for a more seamless integration of authentic pedagogies with technology to better prepare students for their future careers. This integration encompasses a diverse range of pedagogies that cater to varied needs, facilitating effective student learning, and connecting

learning to practical, relevant contexts to foster deeper understanding and application of knowledge, skills, and attributes (Lison, 2020).

Digital creativity expands the scope of authentic pedagogy by integrating technology to foster collaboration and innovation, thereby enhancing the learning experience. Blogs, wikis, and collaborative platforms (e.g., Padlet) enable reflective practices, critical thinking, and group dynamics (Birt et al., 2018; Henriksen, 2026). The most basic definition of digital creativity is that it encompasses “all forms of creativity driven by digital technologies” (Lee & Chen, 2015, p. 12). According to Shao et al. (2022), digital creativity is a form of creativity and involves using technology to explore, create, and communicate ideas in innovative ways (Liu, Lee & Huang, 2023). Integrating digital tools such as e-learning platforms, virtual simulations, gamification, and collaborative digital environments enhances creative thinking, engagement, and cross-disciplinary collaboration. This is particularly impactful when combined with authentic cross-disciplinary collaboration, assessment, and collaborative projects. The use of digital tools, however, is not without its challenges. Barriers to the successful implementation thereof include unequal access to technology, varying digital literacy among educators and students, and the need for ongoing professional development (Aflalo, 2024). This is specifically important with the emergence of generative artificial intelligence. Therefore, effective integration requires institutional support, scaffolding, and a focus on both technological and pedagogical competencies (Artacho et al., 2020; Henriksen, 2026).

Whilst the ability to recognise new opportunities, generate creative ideas, adjust nimbly to changing circumstances, and use one's imagination to tackle challenging problems are all considered traits of creativity (Puccio, 2017), creativity is also a key characteristic of a self-directed learner (Guglielmino, 1977). The process by which people take the initiative, either with or without assistance from others, to diagnose their own learning needs, set learning goals, identify the relevant resources they need to learn, select and apply suitable learning strategies, and assess their learning outcomes, is known as SDL (Knowles, 1975). Self-directed learning has become an important focus of HEd, also specifically in health sciences

(Taylor et al., 2023). In interprofessional contexts, SDL requires students to balance individual contributions with collaborative problem-solving, fostering critical skills such as time management and adaptability. Self-directed learning is fostered through pedagogies that emphasise learner autonomy, goal-setting, reflection, and feedback.

Interprofessional education (IPE) is a cornerstone of health sciences education, preparing students to collaborate effectively across disciplines in complex healthcare settings (WHO, 2010). As healthcare grows increasingly interdisciplinary, educators face the challenge of fostering teamwork and individual autonomy. Self-directed learning has emerged as a vital competency for healthcare professionals, enabling them to adapt to evolving knowledge and practices (Van Woezik et al., 2021). Interprofessional education entails two or more professions learning about, from and with each other, enabling a “collaborative practice-ready health workforce” (WHO, 2010). Interprofessional education benefits from authentic, technology-enhanced approaches that bring together students from diverse backgrounds to solve real-world problems collaboratively (Aldriwesh et al., 2022; Fung et al., 2025).

Although there has been a shift toward more authentic pedagogies in the health sciences domain, research on combining digital tools with authentic approaches is scarce. The use of traditional (lecturer-centred) teaching, learning and assessment strategies may not fully capture the complexities of skills required for real-world scenarios, the workplace, and/or society. Health sciences students need to be exposed to authentic learning environments which require expert thinking and complex communication. Since the current generation of health sciences students has been raised in a rapidly evolving digital environment, they may view teaching, learning and assessment differently than health sciences educators. Furthermore, the complexity of the healthcare landscape necessitates that healthcare students be supported in becoming self-directed learners able to adapt to an ever-changing environment. This raises the question of the use of authentic pedagogy and digital creativity in health sciences education to prepare graduates who are work-ready, responsible members of society, and able to further their learning to adapt to change.

2 Problem statement and aim

Authentic pedagogy, emphasising real-world application and collaborative problem-solving, aligns with the goals of IPE. The literature suggests that authentic learning environments are the most effective way to foster the development of SDL skills (Goldman et al., 2009; Jennings, 2007; Taylor et al., 2023). Authentic learning in the context of health sciences is to enable students to work as members of an interprofessional team by reflecting on each other's professional experiences (Gilbert et al., 2010; Van Woezik et al., 2021; WHO, 2010). Owing to the profound changes in the modern workplace, developing critical digital competencies should be a component of authentic teaching, learning, and assessment approaches in HEd (Janse van Rensburg et al., 2022). There is, however, a scarcity of research on the benefits of digital creativity and authentic pedagogy (teaching, learning, and assessment) in developing health sciences students into self-directed, interprofessional individuals – autonomous, collaborative, and equipped with creative problem-solving skills for complex, real-world contexts.

The purpose of the qualitative study [NWU-00070-24-A1] is to explore the affordances of authentic pedagogy and digital creativity towards the development of health sciences students as self-directed, interprofessional individuals. The objective of this chapter is to discuss health sciences students' perceptions of authentic pedagogy, including digital technologies, in relation to their development as self-directed, interprofessional individuals.

3 Research design and methodology

This research study is anchored in a constructivist-interpretivist paradigm. This study focuses on examining, exploring, and understanding undergraduate health sciences students' perceived experience of how authentic pedagogy fosters self-directed, interprofessional individuals. When engaging in authentic learning activities, students get the opportunity to interact as social beings, and many constructed realities exist because of students knowing, being and doing that is moulded by previous lived experiences and their interactions with others (McMillan & Schumacher,

2006). We sought to capture, understand, and describe undergraduate health sciences students' perceptions and feelings regarding their involvement in authentic pedagogy to foster their self-directedness and interprofessional identity.

This qualitative study employed interpretive description, as this research method is more suitable for health sciences education research in finding practical solutions to problems faced by researchers in HPED, and for generating reliable and meaningful knowledge (Teodoro et al., 2018). Teodoro et al. (2018) further argue that interpretive description enables researchers to explore and gain insight into participants' unique perceptions, subjective beliefs, perspectives, and lived experiences on matters related to the world of health. The empirical research in this study entailed asking students, once they had submitted their final interprofessional group work (IPGW) assignment (i.e., their website), to complete a reflective activity. The reflection activity consisted of an introductory paragraph and eight open-ended questions. The online reflection was housed on QuestionPro, a cloud-based survey and research platform (QuestionPro, 2024). Students had six days to complete the reflection, and could do so at a time and place that best suited them.

The population for this study consisted of undergraduate health sciences students enrolled in a specific module (WVGW) at the three campuses of a South African higher education institution ($n = 1,553$). The researchers employed non-probability sampling, with the primary method being all-inclusive voluntary sampling. A total of 1,137 students provided voluntary informed consent to participate in this study. However, since analysing all 1,137 responses can be wasteful and impractical (Sharma et al., 2024), the researchers randomly selected a 10% sample ($n = 113$) for analysis. This was done in Microsoft Excel using the =RAND() sorting method. Data saturation was reached after analysing 46 participants' open-ended reflective questions.

As part of the WVGW module outcomes, students must work in an interprofessional group comprising members from various health and social care disciplines to complete learning activities. These IPGW activities form

part of the formal curriculum, fall within the notional hours of the module, and participating in the IPGW activities is part of the module's pass requirements. Participating in the IPGW activities is therefore compulsory. The WVGW students worked in interprofessional groups of 5 to design a wellness clinic website using Google Suite. Students had to apply the theory, select appropriate media, and present information in a digital, creative way to convey health-related information effectively. The IPGW commenced early in the second semester and concluded with a final assignment (the website). One component of this final assignment was a reflective questionnaire that prompted students to reflect on their learning experience through their involvement in IPGW. The reflection was completed anonymously. It is essential to note that although all students were requested to complete the reflection activity as it forms part of the IPGW teaching and learning activities, they had the option, after being fully informed, to either consent to or withhold consent for their anonymised reflection to be used for research purposes. Providing consent was entirely voluntary, and the researchers used only the anonymised reflections of students who gave informed consent. The reflection activity comprised eight open-ended reflective questions and was designed to be completed within 20 minutes.

Before research commenced, ethics approval was obtained from the relevant Research Ethics Committee of the Faculty of Health Sciences at the HEd institution where the study took place.

The reflection activity consisted of eight open-ended questions; however, only the data from the following four questions are included in the analysis for the purpose of this chapter:

- Looking back on the IPGW activities you did, how did the IPGW activities require you to apply your knowledge and skills to a new situation or environment, namely, working with students from another discipline or disciplines to design a wellness clinic website?
- What aspects of the IPGW activities were most valuable to you? Please motivate your answer.

- What (if anything) did you gain from participating in the IPGW activities?
- How did you experience the interprofessional collaboration where you had the opportunity to engage with and learn from students from other disciplines? Please elaborate on your answer.

Data analysis only started after the semester ended. The data-analysis software ATLAS.ti Version 25 was used, and Tesch's (1990) approach to data analysis guided the data analysis process. During data analysis, the following steps, as described by Creswell and Clark (2018), were followed: Preparing the data, exploring the data, analysing the data, representing the data analysis, and interpreting the results.

The accuracy and credibility of the findings were maintained throughout the research process (Creswell & Clark, 2018). The researchers ensured the accuracy and credibility of this research's findings by using a guiding research question and by assessing the validity and reliability of the data sources (Creswell & Clark, 2018; Poggenpoel & Myburgh, 2004; Shenton, 2004). Although the purpose of qualitative research is not to generalise, transferability (the ability to apply the findings in a similar environment) was ensured by providing a rich description of the participants, the data-generating methods and instruments, as well as the data analysis and findings (Poggenpoel & Myburgh, 2004; Shenton, 2004). The target population and participants were described in a manner that clearly outlined the study's context, without compromising anonymity and confidentiality. The research methods applied and the data analysis were well documented and described, providing sufficient information to replicate the study. Dependability was ensured through a clear and appropriate research process, as well as proof of consistency in data collection and analysis (Shenton, 2004). The researchers focused on leaving a clear audit trail and analysing data until saturation was reached. Confirmability was of special concern, as the researchers were also the lecturers in the WVGW module. Taking on this dual role could have influenced objectivity (Shenton, 2004; Tobin & Begley, 2004). Team research helped mitigate excessive subjectivity, and the investigators remained

mindful of maintaining objectivity throughout the data analysis. Although the researchers worked collaboratively with the Research Support Member (RSM), willing participants were fully informed in advance of the lecturers' roles as researchers in this study.

Inductive thematic analysis using ATLAS.ti identified recurring themes, highlighting how students perceived the value of authentic pedagogy and digital tools in fostering SDL.

The ethical principles of respect for participants, justice, and beneficence were upheld during the research. Respect was ensured through the maintenance of privacy and confidentiality. Justice was ensured by treating participants fairly in the recruitment and contact processes.

4 Results and discussion

This qualitative investigation explored the affordances of authentic pedagogy and digital creativity for the development of self-directed, interprofessional individuals within an online IPGW context. Students from diverse health sciences disciplines, languages, races, and campuses collaborated in online groups to design a wellness clinic website using Google Suite. The task required integrating disciplinary perspectives, collaborating on content creation, and producing multilingual blog posts in English and two other official languages of the HEd institution where the study took place. Four open-ended questions elicited students' reflections on their learning experiences (see §4). For reporting purposes, the researchers used three identifiers, namely response number, report timestamp, and question number (e.g., Student 46, 24 August 2024, Q1). However, none of the identifiers can be linked to any specific student and are therefore anonymous.

Five interrelated themes emerged: (1) Interprofessional collaboration, (2) Digital tools as enablers of creativity and collaboration, (3) Real-world application of knowledge, (4) Development of key self-directed learning (SDL) skills, and (5) Barriers to engagement. Together, these themes illuminate how authentic pedagogy and digitally mediated learning

environments can cultivate not only disciplinary understanding but also professional identity, relational competence, and learner agency. The findings are interpreted through the lenses of authentic learning (Herrington et al., 2014), self-directed learning (Knowles, 1975; Garrison, 1997), and cooperative learning (Johnson & Johnson, 1999, 2018). These frameworks provide a coherent theoretical scaffold for understanding how students' experiences reflect deeper processes of becoming self-directed, collaborative professionals in complex, technology-rich environments.

4.1 Theme 1: Interprofessional collaboration

A dominant theme across student responses was the transformative potential of interprofessional collaboration. Students consistently reported that the IPGW activities enhanced their communication skills, largely because they were required to navigate diverse perspectives, opinions, and ways of thinking. Working with peers from different health sciences disciplines, languages, and campuses created a space in which students had to articulate ideas clearly, listen attentively, and negotiate meaning.

'Working with students from other disciplines exposed you to different ways of thinking and problem solving.' (Student 2, 24 August 2024, Q1)

'The most valuable aspects of the IPGW activities were collaboration and interdisciplinary learning. Working alongside students from different disciplines enriched my understanding and provided diverse perspectives, which enhanced the overall quality.' (Student 3, 24 August 2024, Q2)

These experiences resonate strongly with the principles of cooperative learning, particularly positive interdependence and promotive interaction (Johnson & Johnson, 1999; 2018). The task design required students to rely on one another's disciplinary expertise to construct a coherent and meaningful website. Learning was therefore not an individual endeavour but a shared experience in which progress and success depended on collective effort.

Students indicated that collaboration broadened their perspectives and helped them recognise the value of group work. Many noted that they gained insight into what other health professions entail, which enhanced their understanding of how different disciplines contribute to holistic patient care.

'The most valuable aspect of the IPGW activities was learning to collaborate with students from different disciplines. This allowed me to broaden my perspective, especially when combining my mental health knowledge with their expertise in treatment, rehabilitation, and physical health, leading to a more holistic approach to wellness.'
(Student 13, 24 August 2024, Q2)

This aligns with interprofessional education literature, which emphasises that learning with, from, and about others is foundational to effective collaborative practice (WHO, 2010; Van Woezik et al., 2021). Importantly, students did not merely acquire abstract knowledge of other professions; they engaged in situated, task-oriented collaboration that mirrored real-world interprofessional dynamics.

The diversity within groups was widely valued. Students reported that working across disciplines fostered patience, empathy, and respect for others' viewpoints. Several students reflected on how they became more tolerant and sympathetic toward peers whose backgrounds, communication styles, or disciplinary logics differed from their own.

'It [IPGW] required me to be patient with my teammates, to use my communication skills. To be sympathetic to understand one's situation.' (Student 26, 24 August 2024, Q1)

Such reflections echo the social and relational dimensions of learning that authentic pedagogy foregrounds. Authentic tasks situate learning within complex social contexts, requiring students to grapple with ambiguity, difference, and interdependence (Herrington et al., 2014). In this study, diversity was not an incidental feature but a deliberate pedagogical resource that appeared to deepen learning and professional identity formation.

Beyond cognitive gains, students highlighted affective and identity-related outcomes. They reported developing friendships, confidence, leadership skills, and a sense of belonging through their collaborative engagements.

'It [IPGW] made me more confident in myself to work in a group.'
(Student 27, 24 August 2024, Q3)

'New connections and friendships, management and leadership skills...' (Student 41, 24 August 2024, Q3)

These outcomes extend the notion of learning beyond skill acquisition to include relational and intrapersonal growth. From an SDL perspective, such developments are significant. Knowles (1975) conceptualised SDL as a disposition characterised by autonomy, confidence, and readiness to engage in learning. The emergence of confidence and leadership within collaborative contexts suggests that students were not only learning about interprofessional work but were also becoming more agentic learners within it.

In this sense, interprofessional collaboration served both as a means and an outcome of learning. It enabled knowledge construction while simultaneously cultivating professional dispositions aligned with health professions practice.

4.2 Theme 2: Digital tools as enablers of creativity and collaboration

A second prominent theme concerned the role of digital tools in enabling creativity and collaboration. Students reported that the IPGW activities required them to integrate technological skills in ways that pushed them beyond familiar practices. Using Google Suite for collaborative website development required experimentation, problem-solving, and creative decision-making.

'It [IPGW] challenged my creative thinking on designing the website.'
(Student 25, 24 August 2024, Q1)

Rather than perceiving technology as merely instrumental, students experienced it as generative. Many noted that the complexities of working with digital tools sparked new ideas and stimulated creative thinking.

'It [IPGW] required me to be creative and think out of the box.'
(Student 39, 24 August 2024, Q1)

This reflects the affordances of digital environments to support design-oriented learning, where students are producers of knowledge artefacts rather than passive consumers. The overwhelming majority of students identified the creation of the wellness clinic website as the most valuable aspect of the IPGW. They attributed this value to several interrelated factors: the transferability of digital skills, opportunities for creativity, the application of disciplinary knowledge, and the translation of the blog posts into multiple languages.

'The website was the most valuable to me, because it taught me to adapt, work with others and communicate better online, and I learned new skills like how to create a website and how to present myself well online, which I can use in my own practice one day.'
(Student 18, 24 August 2024, Q2)

From an authentic learning perspective, the task embodied key design principles: it was complex and connected to real-world practices (Herrington et al., 2014). Designing a wellness clinic website mirrored professional activities such as health communication, patient education, and interdisciplinary consultation. The requirement to address a health topic from multiple disciplinary perspectives further reinforced the task's authenticity.

The multilingual component added an additional layer of complexity and cultural responsiveness. Students had to consider audience, meaning, and accessibility across linguistic contexts, thereby engaging in forms of knowledge translation that are central to health professions practice. Students also reported significant gains in technical competence. Learning

to use collaborative digital platforms, manage shared documents, and design web-based content was perceived as a valuable outcome in its own right. The following quote is pertinent:

'It [IPGW] also taught me how to design a site I never knew how to do before IPGW [activity] 2.' (Student 15, 24 August 2024, Q1)

These findings align with emerging scholarship on digital creativity, which highlights how technology can expand students' expressive repertoires and support innovative knowledge construction (Henriksen, 2026). Importantly, digital tools did not replace collaboration; they mediated it. The shared digital workspace became a site of negotiation, feedback, and co-construction, reinforcing the cooperative learning principle of group processing (Johnson & Johnson, 1999; 2018).

From an SDL perspective, the technological demands of the task required students to take responsibility for their own learning. They had to seek resources, experiment with unfamiliar tools, and troubleshoot problems collaboratively. Such experiences reflect Garrison's (1997) conception of SDL as comprising self-management, self-monitoring, and motivation. In this context, technology functioned as a catalyst for learner agency rather than a barrier.

4.3 Theme 3: Real-world application of knowledge

Students consistently framed the IPGW activities as preparation for real-world practice. The wellness clinic website was perceived not merely as an academic exercise, but as a task that mirrored authentic professional demands. Students described how the activity enabled them to apply theoretical knowledge in ways that felt purposeful and relevant to their future careers.

'The IPGW activities helped me to see the thought process and expertise of students in different fields in to better understand what awaits me in the future when I work with professionals from other professions. I applied all I learned in my module and my communication module to work on this project, and I also learned

much in the practical environment instead of just theory.’ (Student 24, 24 August 2024, Q1)

This perception is central to authentic learning, which argues that learning is most powerful when tasks resemble the complexity, ambiguity, and situated nature of real-life practice (Anderson, 2019; Herrington et al., 2014). By requiring students to collaboratively design a digital artefact that integrated multiple disciplinary perspectives, the IPGW task positioned students as emerging professionals rather than passive recipients of content. Students further indicated that their engagement in diverse interprofessional groups fostered respect and awareness of other professions and disciplines. They came to appreciate not only what other disciplines do, but why those contributions matter in addressing complex health challenges.

‘New-found knowledge and respect for other professions.’ (Student 1, 24 August 2024, Q1)

‘I’ve broadened my perspective, as I have expanded my understanding of different fields in Health Sciences.’ (Student 2, 24 August 2024, Q1)

These reflections align with the goals of IPE, which aim to prepare students for collaborative practice through meaningful engagement across professional boundaries (Barr et al., 2005; Reeves et al., 2016; WHO, 2010). Importantly, students did not merely learn about interprofessionalism; they experienced it through shared problem-solving and co-construction. Many students described the IPGW as rewarding because it supported both professional and personal development. The learning experience extended beyond disciplinary competence to include identity formation, confidence, and interpersonal growth.

‘I found it [IPGW] to be a rewarding experience. I was able to pick up new viewpoints and methods from interacting with students from other disciplines, which increased my comprehension of how several disciplines work together to achieve a common goal. Additionally, it required me to modify my way of thinking and speak clearly, which

helped in my professional and personal development.’ (Student 5, 24 August 2024, Q4)

From an SDL perspective, such experiences contribute to the development of students who are not only knowledgeable but also reflective, adaptable, and motivated to continue learning. Guglielmino (1977) emphasised that self-directed learners are characterised by a readiness to learn in response to real-life demands. The perceived authenticity of the IPGW tasks appeared to activate this readiness by making learning feel consequential and meaningful.

4.4 Theme 4: Development of key self-directed learning skills

A fourth theme relates to the development of core SDL capabilities. Students reported improved accountability, time management, and problem-solving skills. Working in diverse groups required them to take responsibility for their contributions, meet deadlines, and coordinate efforts across schedules and campuses.

‘A sense of accountability and time management.’ (Student 31, 24 August 2024, Q3)

Students also noted that exposure to varied perspectives enhanced their problem-solving abilities. Differences in disciplinary thinking and personal approaches compelled them to reconsider assumptions, negotiate solutions, and integrate multiple viewpoints.

‘I gained better communication skills and better problem-solving skills. I can solve conflicts in a righteous way. I learned to be able to listen and respect one’s opinion.’ (Student 26, 24 August 2024, Q3)

‘Working with students from various disciplines challenged me to adapt my problem-solving and communication because each person contributed distinct viewpoints and areas of expertise.’ (Student 5, 24 August 2024, Q1)

These experiences reflect Garrison’s (1997) model of SDL, which conceptualises self-direction as a dynamic interplay between self-

management, self-monitoring, and motivation. The IPGW environment required students to manage their learning processes while remaining responsive to the group's needs. Furthermore, peer feedback emerged as a particularly valued dimension of learning. Students indicated that feedback from group members contributed meaningfully to their understanding and improvement. They also highlighted the importance of asking for and offering help.

*'Feedback from my peers [was the most valuable aspect of IPGW].'
(Student 36, 24 August 2024, Q2)*

*'I learned the importance of working with others and asking for help
when needed.'* (Student 30, 24 August 2024, Q3)

Such practices align closely with cooperative learning principles, especially individual accountability and group processing (Johnson & Johnson, 2018). Learning was not confined to lecturer–student interactions; it was distributed across the group through dialogue, critique, and mutual support. From an SDL standpoint, the ability to seek, interpret, and use feedback is a foundational competence (Guglielmino, 1977; Knowles, 1975). These findings suggest that the IPGW created conditions in which students could rehearse the behaviours of self-directed learners (i.e., monitoring their progress, identifying gaps, and mobilising social resources) to support learning. Notably, students also associated these processes with growth in confidence and leadership.

*'I've gained confidence, now I'm not afraid of sharing my ideas no
matter what.'* (Student 44, 24 August 2024, Q3)

These intrapersonal outcomes are not marginal; they are central to SDL. Learners who lack confidence or a sense of agency are unlikely to take ownership of their learning. The IPGW context thus functioned as a developmental space in which students could experiment with responsibility, voice, and initiative within a supportive collective.

4.5 Theme 5: Barriers to engagement

While the overall tone of student responses was positive, participants also articulated meaningful challenges. A lack of communication and the perceived arrogance of some group members were cited as sources of frustration, leading to reduced cooperation.

'Sometimes it [IPGW] was fun, sometimes not, in most times it was frustrating as there was a lack of communication and arrogance.'
(Student 22, 24 August 2024, Q4)

Students described the IPGW as difficult and, at times, stressful – particularly when they or their peers lacked basic social or collaborative skills. For some, this was their first sustained experience of group work in an online environment.

'It [IPGW] was a very difficult experience, and stressful, as working with people is the most stressful thing in the world due to a lack of communication.' (Student 31, 24 August 2024, Q4)

These barriers are neither unexpected nor undesirable. Cooperative learning theory emphasises that effective collaboration requires explicit development of social skills and structured opportunities for group processing (Johnson & Johnson, 2018). Similarly, authentic learning acknowledges that complex, real-world tasks are inherently challenging and may initially provoke uncertainty and discomfort (Herrington et al., 2014). Such tensions can be productive. Struggle, when adequately supported, can prompt learners to reflect, adapt, and assume greater responsibility for managing both tasks and relationships. The reported difficulties underscore the importance of scaffolded authenticity by designing challenging learning experiences that provide guidance in communication, conflict management, and online collaboration. Rather than undermining the value of IPGW, these barriers highlight the developmental nature of becoming a self-directed, interprofessional individual.

4.6 Synthesising students' overall experiences

When invited to reflect on their overall IPGW experience, students overwhelmingly offered affirmative responses. Many acknowledged that the process was difficult initially, yet ultimately described it as “good,” “beautiful,” and “worth it.”

‘I had a good experience, because I got new views and opinions from others on different topics, and I learned how I can contribute to a wellness clinic in the future. It was fun stepping outside of my comfort zone.’ (Student 18, 24 August 2024, Q4)

Students also characterised the experience as transformative, noting that it fostered a sense of belonging through strong collaboration.

‘I worked well with my teammates, and they brought a sense of belonging.’ (Student 32, 24 August 2024, Q4)

‘The interprofessional collaboration during IPGW activities was a transformative experience. Engaging with students from various disciplines allowed me to see challenges and solutions from different perspectives.’ (Student 3, 24 August 2024, Q4)

Others emphasised the privilege of learning from different disciplines, describing the experience as amazing, enriching, eye-opening, and rewarding.

‘The experience was amazing, getting to know how other people think.’ (Student 26, 24 August 2024, Q4)

These reflections tie the preceding themes together. They integrate cognitive, relational, and affective dimensions of learning into a coherent narrative of becoming. Students did not merely acquire skills; they experienced shifts in how they saw themselves and others. Belonging is particularly relevant in this regard. Contemporary scholarship increasingly recognises belonging as foundational to engagement, persistence, and identity development in higher education (de Beer et al., 2009; du Toit-Brits, 2022). Within the IPGW context, belonging emerged not from homogeneity but from working through difference. Diversity became a source of

connection rather than division. Such outcomes resonate with the core aim of authentic pedagogy: to situate students within meaningful communities of practice where knowledge, identity, and agency co-evolve. They also directly support the development of SDL skills. Students who experience themselves as capable contributors within a collective are more likely to assume responsibility for their ongoing learning.

5 Conclusion

This chapter set out to explore the affordances of authentic pedagogy and digital creativity for the development of self-directed, interprofessional individuals within an online interprofessional group work (IPGW) context. The findings demonstrate that when students are immersed in meaningful, complex, and collaborative tasks – such as the co-construction of a wellness clinic website – they do not merely acquire disciplinary knowledge or technical skills. Rather, they engage in processes of professional becoming that encompass cognitive, relational, and intrapersonal dimensions of learning.

Across the five themes, a coherent pattern emerged. Authentic tasks grounded in real-world relevance fostered engagement, purpose, and readiness to learn. Cooperative structures created conditions for interdependence, dialogue, and shared responsibility. Digital tools extended students' creative and collaborative capacities, enabling them to produce knowledge artefacts that transcended traditional academic outputs. Within this environment, students enacted the core behaviours of self-directed learners: planning and managing their work, seeking and using feedback, negotiating meaning with others, and adapting in response to challenge.

Crucially, learning extended beyond competence. Students described growth in confidence, leadership, empathy, and a sense of belonging. Many experienced the IPGW as transformative – initially difficult yet ultimately enriching and rewarding. These affective and identity-oriented outcomes are not peripheral; they are foundational to the development of health professionals who are capable of learning with, from, and about others in complex, uncertain contexts.

The challenges students reported (i.e., communication breakdowns, frustration, and stress) underscore that becoming self-directed and interprofessional is a developmental process. Such capacities are cultivated through experience, tension, and guided practice. This highlights the importance of scaffolded authenticity: designing learning environments that are demanding and real, while intentionally supporting the social, emotional, and regulatory dimensions of collaboration.

Taken together, the findings suggest that IPGW, when authentic and enabled through digital creativity, offers more than an instructional strategy. It constitutes a pedagogical space in which students rehearse the dispositions, practices, and identities required for work in the health professions. In doing so, it positions HEd not merely as a site of knowledge transmission, but as a formative arena for developing self-directed, relationally competent professionals prepared for lifelong learning in an interdependent world.

6 Limitations and recommendations

6.1 Broader implications

This study contributes to the Scholarship of Teaching and Learning (SoTL) by illustrating the practical interplay between authentic pedagogy, digital creativity, and SDL in interprofessional contexts. It also underscores the need to carefully integrate digital tools to address barriers in group dynamics and equity. This research provides actionable insights for designing effective interprofessional education programmes by bridging theory and practice.

6.2 Implications for practice

To enhance the effectiveness of authentic pedagogy and digital creativity in fostering SDL, the following recommendations are proposed:

- Institution-wide structured digital and artificial intelligence literacy training to provide introductory workshops on using digital tools like Google Suite and generative artificial intelligence tools. This could

provide equitable access to technology resources, helping to mitigate disparities.

- Facilitation of equitable group dynamics by incorporating peer evaluation earlier in the module/programme to promote balanced contributions, and supporting students to recognise and use feedback to improve their learning.
- Curriculum design enhancements, including the alignment of IPGW activities with established SDL and IPE frameworks (e.g., Grow's SDL model or relevant competency frameworks). Integrating explicit reflective prompts to deepen critical thinking and metacognition could also be considered.

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