Special Article

Incorporating the 4As to Navigate ChatGPT: Academic Integrity, Acquisition, Analysis and Application. A Nursing Student and Faculty Perspective

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Abstract

Nursing faculty must prepare graduates as knowledge consumers and innovators to improve digital literacy. The 4As –refers to Academic Integrity, Acquisition, Analysis, and Application, while the ChatGPT is an artificial intelligence app (created in November 2022) https://openai.com/blog/chatgpt that can quickly gather information for the user.

The fourth technological revolution is here and nurses as members of a discipline we must reimagine and build bridges to address the widening chasm currently evident between education and practice.

An innovative learning assignment utilizing ChatGPT as an adjunct knowledge assist was explored from both a student and faculty perspective. Insights and recommendations for further course enhancement are offered.

Keywords: artificial intelligence, curriculum, nursing sciences, technology.

Introduction

The fourth technological revolution is here and nursing education is scrambling to catch up, resulting in graduates who may be ill-prepared to transition as digital consumers and partners in care delivery (Buchanan et al. 2020; Kavanagh & Sharpnack 2021; O'Connor et al. 2023; Ronquillo et al. 2021). This fourth phase encompasses the digitalization of knowledge reflected in human-machine learning, robotics, data mining and analytics (Aungsuroch & Gunawan 2019; Kavanagh & Sharpnack 2021; Kwak, Ahn, & Hee, 2022). A focus on a technological or digital competency as a graduate outcome has not been explicitly embedded or highlighted in nursing curriculum for a variety of reasons.

The authors, two fourth year baccalaureate nursing students and a seasoned faculty member, have three purposes for this paper. First, to provide an overview of the state of nursing education with respect to artificial

intelligence (AI) and ChatGPT. Second, to introduce a fourth-year scholarly writing assignment which integrates ChatGPT as an adjunct writer/knowledge source framed by Ray's (1989, 2021) definition of technology.

Finally, to provide recommendations from both a student and faculty perspective for nursing education which is currently absent in the literature. Technology is part of the landscape of our society and as educators we must engage in pedagogical innovations to ensure graduates are practice-ready beyond psychomotor skills to engage as digital knowledge consumers and innovators (Dergaa et al. 2023; Kavanagh & Sharpnack 2021; King & Barry 2014; Locsin 2017; Wolf et al. 2019).

Literature Review

Digital Response of Nursing Education

As previously stated, faculty have not effectively or efficiently responded to the digital/technological revolution occurring in healthcare by ensuring graduates are equipped as digital consumers and innovators (Buchanan et al. 2020; Kavanagh & Sharpnack 2021; Kwak, Ahn, & Hee, 2022; O'Connor et al. 2023; Ronquillo et al. 2021). These reasons include faculty who are not prepared or experienced, fear of the unknown, or those who are opposed due to ethical considerations (Abdulai & Hung 2023; Alkhaqani 2023a; Buchanan et al. 2020; De Gagne 2023; Lim 2023; O'Connor et al. 2023; Taskiran 2023). Nursing students have demonstrated inherent curiosity and competency utilizing AI in their daily lives through their connectivity with smart devices (Abdelaliem, Dator, & Sankarapandian 2023; Labrague et al. 2023; Taskiran, 2023). This consumer ability and familiarity transfers to their professional role and use of AI in formal education programs (Abdelaliem, Dator, & Sankarapandian 2023; Kwak, Ahn, & Hee 2022; Taskiran 2023). Meaningful teaching practices which build upon previous digital competencies should improve curiosity and empowerment as demonstrated by readiness and motivation to learn (Buchanan et al. 2020; Labrague et al. 2023; Taskiran 2023).

However, nursing faculty have held on to

pedagogical assumptions which have guided curricular decisions; including a heavy focus on content rather than context, synchronous static learning, and a fear of a digital unknown (De Gagne 2023; Kavanagh & Sharpnack 2021; Wolf et al. 2019). A paradigm shift is necessary in which technological competencies are scaffolded as both content and context as curricular decisions and grounded in relational ethics and informed by Nursing Science (King & Barry 2014; Locsin 2017; Ray 1989, 2021). ChatGPT is one teaching and learning strategy that has the potential to extend the learning experience beyond the classroom and graduation to enhance knowledge acquisition, analysis, and application while adhering to academic integrity principles.

What is ChatGPT?

ChatGPT was introduced in November 2022 as an AI powered chatbot designed to generate human-like text responses (AlAfnan et al. 2023; OpenAI 2022; Sun & Hoelscher 2023). ChatGPT falls under the category of general AI striving to emulate human cognitive abilities, problem solving skills, and furthermore, being able to adapt from inputted data (AlAfnan et al. 2023; Sun & Hoelscher 2023). The latest iteration, ChatGPT version 3.5, is proficient in answering questions, generating content, offering explanations, and engaging in meaningful conversations (OpenAI 2022).

The Assignment

Premise

The premise of the evaluative strategy was to assess higher order thinking skills (HOTS) in a written scholarly assignment in a fourth-year theory course in a baccalaureate nursing program. HOTS must be developed in learners to understand how knowledge shapes their everyday life and work practices; including analysis, creativity, critical reflection, collaboration, curiosity, humility, synthesis, voice and always joy and wonder as attributes for professional development. This iterative growth must be nurtured by respectful discourse and humanistic relationships through the provision of a variety of learning opportunities to achieve mastery and academic achievement.

Utilizing a HOTS framework to guide the design of meaningful learning facilitates personal awareness while fostering curiosity for ongoing learning (Maykut et al. 2019). ChatGPT was chosen as an AI platform to begin the HOTS process to analyze the strengths and limitations of technology for the learner's future nursing practice. Due to word limit constraints, only the students' analysis of the ChatGPT response is included.

Process

Students were introduced to the idea of integrating and analyzing a ChatGPT response during orientation to the course. The response was utilized as an initial brainstorming idea to expand the student's knowledge of concepts. The assignment was discussed with respect to expectations of academic integrity and professional responsibilities. A detailed rubric and an article (Sun & Hoelscher 2023) were provided to establish a framework to scaffold their scholarly paper.

Step One.

The students (in pairs) choose one of two questions to upload to the ChatGPT. The questions were: (1) How might nurses embrace a JEDI (justice, equity, diversity, and inclusion) perspective when engaging with their clients or (2) How might nurses promote relational inquiry with their peers? These questions were chosen based on the faculty's expertise and scholarship in Caring Sciences and the need to nurture this humanistic response in learners for their future practice.

Step Two.

The students then analyzed the content from the ChatGPT's response. If there was additional clarification required – perhaps different word choices (other than those above) these were also included. Specifically, students were asked to analyze the text as to strengths and potential gaps, or implicit biases noted.

Step Three.

The students then answered both of the following questions (without the use of AI) in context of Ray's Theory of Bureaucratic Caring (1989, 2021) both of which have been provided.

The questions were: (1) How might and should AI facilitate/inform your future practice from an ethical and technological perspective and (2) What recommendations would you suggest for nursing education (2 maximum)?

Students' Analysis of the ChatGPT's Response

The student writers chose the second question to explore in the assignment. ChatGPT was asked,

> "*How can nurses promote relational inquiry with colleagues?*"

in 500 words or less. This question was chosen to assess the app's ability to explain relational inquiry's definition, process, and significance in nursing. The aim was to explore nurses' role as clinical leaders in facilitating peer engagement in relational inquiry to improve patient and peer interactions. ChatGPT's response was a 15-item list including concepts such as active listening, empathy and compassion, conflict resolution skills, and mindfulness and self-care (OpenAI personal communication October 19, 2023). Strengths and challenges of the platform will be addressed and integrated in the student response section. For a wholesome response, readers can download the app and read the ChatGPT's response themselves. The student's initial submission for credit in the course has been italicized to support current perspectives in the literature. As well the original statements were supported by literature and have been removed and included in the preamble.

Noted Strengths of the Summarized Text

ChatGPT has the capacity to gather published knowledge to create timely responses as human-like answers (Alkhaqani 2023b; Dergaa et al. 2023; Sun & Hoelscher 2023). Within the response below the students recognized the importance of critically analyzing the text for accuracy of the summary, implicit biases, and emphasized the process (HOTS) over the outcome (text). Additionally, the verbiage and recognition of ongoing learning for their future practice has been exemplified.

> *Overall, the response by ChatGPT is impressive for its instant reply and*

provision of response that captures a wide variety of proposed solutions to encourage relational inquiry amongst peers.

The chatbot also mentions the benefits of having strong interpersonal relationships at work for nurses' well-being, high-quality care delivery, and a supportive work environment.

Moreover, it is also important to recognize that the AI chatbot's response is not colonial or biased. There were no misleading pronouns, and it also stimulated the idea that nursing is more than a nurse/patient relationship but also a relationship with self (self-care) and peer-to-peer. It is commendable that the AI chatbot encourages future curiosity and understanding by asking questions to better comprehend your peers' perspectives, experiences, and ideas.

Noted Deficits in the ChatGPT Response

There have been concerns raised regarding the app's response with respect to a lack of creativity and originality (Alkhaqani 2023b; Castonguay et al. 2023; Sun & Hoelscher 2023), the potential of implicit biases (Castonguay et al. 2023; Ghosh & Caliskan 2023; Sun & Hoelscher 2023), and inaccurate responses (Al-Tammemi et al. 2023). Also of concern is an increased risk of academic integrity violations by users (Alfan et al. 2023; Alkhaqani, 2023a; Cotton et al. 2023; Sullivan et al. 2023) and a focus on technology/digital literacy at the expense of strengthening relational practice (Abudali & Hung 2023). Text generated by AI/ChatGPT has been bolded, italicized, and found in quotations marks – to signify that these words are not the authors.

Although ChatGPT's fast response deserves praise, its drawback lies in the possibility of inaccurate responses due to lack of certain attributes such as critical and logical thinking, understanding of abstract concepts, and emotional intelligence. This is evident through ChatGPT's response to

the question as an oversimplified string of solutions. The response reflected an inadequate grasp of what relational inquiry grounded in Nursing Science and failed to include the philosophical tenets of the human experience nor the authentic benefits of encouraging other nurses the practice of relational inquiry. Instead, the app only interpreted the question as pertaining to the promotion of relational inquiry among peers. A distinct response that is more in touch with the humanistic approach is one that defines relational inquiry as a reflective and intentional process that examines interconnections among people, situations, contexts, and processes. Hence, the idea that individuals are shaped by and shape others through their interactions is not highlighted.

Moreover, ChatGPT's responses lacked references and when queried, it replied as follows (OpenAI personal communication October 19, 2023):

"I don't have direct access to external sources or the internet to provide specific references. If you're looking for references related to a particular topic or need citations for specific information, I recommend consulting academic databases, books, or scholarly articles on the subject. You can use databases like PubMed, Google Scholar, or your university's library resources to find relevant references. If you have a specific question or need information on a particular topic, feel free to ask, and I'll do my best to provide information or explanations based on my training data up to 2022."

This raises concerns about response credibility, accuracy, reliability, and currency. ChatGPT also acknowledges the potential for errors by cautioning users with the statement:

"ChatGPT can make mistakes. Consider checking important information at the bottom of the chat

box.''

Hence, users must exercise accountability and use ChatGPT's information responsibly and critically.

Discussion

Students *Perspectives.*

As learners we were excited and found the experience and the assignment a refreshing venture into the world of technology. Typically, discussions surrounding technology in academia are shrouded in the fear of being labeled as cheating or plagiarism creating a hesitancy to fully embrace the potential of technology, notably AI. What struck us as particularly invigorating was the Professor's enthusiastic and forward-looking attitude, which not only dispelled these concerns but also infused a sense of excitement within the class. This departure from the norm not only challenged our preconceived notions but also hinted at the prospect of ensuring technology becoming an integral part of undergraduate nursing education. A paradigm shift occurred with a reconsideration of technology as a tool to broaden our understanding of subjects by offering new perspectives previously unexplored. This shift in mindset not only made the assignment more engaging but also sparked a broader conversation about the role of technology in shaping our academic journeys, preparing us for the dynamic demands as future professionals.

In reflecting on this assignment, one aspect that truly stands out, that we really enjoyed, was the transformative journey it took us on during the writing process. The exploration of the advantages and drawbacks of technology, particularly AI, offered a profound realization of the immense potential it holds for the future of nursing. We witnessed the marvels of embracing technology but also acknowledged the delicate balance required to preserve the human essence in nursing amidst AI integration. While extensively developed tools like ChatGPT have limitations such as lacking references, understanding the role of other AI tools (such as triage, documentation and bed management) for our future practice was an additional outcome. We, as future professionals, must consider gaps and limitations when we acquire, analyze, and apply knowledge curated by AI. The reflective aspect of the assignment underscored the importance of nursing students critically examining the role of AI in our daily lives while recognizing the need of a balance between the antithesis and thesis of caring (Ray 1989, 2021).

However, with the excitement of this learning experience a few dislikes also were evident. The largest challenge was the imposed word count (500 words as noted above for the ChatGPT response). The intricate topic of technology and its implications on nursing is expansive, and the word limit, albeit understandable, felt somewhat restrictive. We believe that certain aspects could have been further elaborated or additional noteworthy points could have been included if not for the constraints. Perhaps, in future assignments, a flexible word count range could be considered, allowing for a more comprehensive exploration of the subject matter without compromising the essence of brevity. The page limit for the assignment was eight to ten pages, exclusive of the abstract and the references.

Recommendations

Consistency amongst nursing faculty. Students are already using ChatGPT to write their papers which is supported in the literature. Anecdotally, we know of peers who have utilized ChatGPT to write their scholarly papers which may reflect not only an academic integrity violation but a lack of awareness of the many inaccuracies in the knowledge. We believe instead of disallowing the use of technology altogether an emphasis on both process and outcome needs to be reflective in assignments to strengthen HOTS for students. This would enable students to be exposed to a variety of technology, understand the importance of ethical implications, and structure learning grounded in humanistic education to offset a biomedical approach to their future nursing practice.

Fostering a growth mindset. Meaningful learning experiences which value continuous learning and adaptability must be created in undergraduate nursing education. Given the swift evolution of technology in healthcare, nurturing a *curiosity-driven approach* to exploring new tools and advancements becomes imperative to best prepare graduates for this unknown world of technology advancements. Additionally, integrating dedicated coursework or modules that delve into the overarching concepts behind emerging technologies, rather than solely focusing on specific tools, can further enhance our educational approach.

Adjunct knowledge assist. Much like how we have integrated Grammarly® into education, perhaps we can also integrate the use of chat GPT in general. We can explore the prospect of a ChatGPT for on-demand inquiries about nursing practices/skills, such as Foley catheter insertion or steps for IV placement, and its potential role in generating a test bank for studying. ChatGPT, a valuable resource for continuous learning, can assist nursing students in their journey navigating healthcare, generating step-by-step answers, and acting as a guide for self-paced learning through its generation of understandable explanations.

Faculty *Perspectives.*

Overall, the quality of the analysis and synthesis of the scholarly assignments in this class was impressive. Students clearly identified both the strengths and gaps in the app's response supported by Nursing Science literature. They were excited to engage with an AI assistive device without the fear or academic integrity concerns. As with any evaluative strategy ongoing revisions are necessary to ensure the assignment is congruent with the intended outcome of the course and prepares graduates for their future practice.

Recommendations.

Fostering digital competency. As a seasoned faculty member who has been teaching for over 25 years, I am considered a digital immigrant - I have not grown up with technology and as a result my familiarity is limited. My inherent curiosity and enthusiasm for teaching and learning served me well in this adventure. My own learning curve regarding ChatGPT was steep. I immersed myself in perspectives from diverse disciplines to not only understand the platform but to equip myself with insights on how to design a learning experience.

Educating and mentoring colleagues. Developing communities of practice to dialogue, teach each other, and capture passion for synergy is vital. As peers, faculty must support and encourage each other to trial new strategies. Also, of importance is including the student voice - what are their needs and desires. Creating assignments which intentionally blend technology and relational practice must be ensured (Ray 1989, 2021). Future questions for the next academic term include

> *"How should nurses care for individuals who have been human trafficked?"* and *"How should a trauma and violence- informed lens be incorporated into nursing practice?"*

Knowledge dissemination. Although by no means an expert in technology, my expertise in curriculum development and course design was beneficial. Developing a rubric which assessed and nurtured HOTS while upholding academic integrity was carefully considered. Educators must not only talk about technology but design and share innovative learning experiences which enhance relational and technological acumen for graduates. As a Caring Science Scholar, it is crucial that the student voice on issues such as this are heard, valued, and included.

Conclusion: As authors, we believe that nursing faculty must prepare graduates as knowledge consumers and innovators for their future practice. Incorporating ChatGPT and other AI tools into nursing education equips students for the technologically driven landscape of modern healthcare. Balancing the strengths and gaps associated with AI must be carefully considered to address the ethical and inclusivity concerns raised by scholars. The fourth technological revolution is here and as a discipline we must reimagine and build bridges to address the widening chasm currently evident between education and practice.

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