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Navigating the Terrain:

Emerging Frontiers in Learning Spaces, Pedagogies, and Technologies

Women in Higher Education Leadership: Diversity as Strength in Times of AI

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The integration of Artificial Intelligence (AI) into the higher education landscape has caused upset to many long-held practices in the sector as educators question the future. The male-dominated leadership landscape in AI reflects broader gender disparities prevalent in STEM fields. This position paper investigates the challenges women face in academic leadership within the context of AI and proposes strategies to address these disparities. By examining reflective narratives from three women leaders in higher education, we identify themes of visibility, recognition, and inclusive leadership. Our findings highlight the importance of mentoring programs and collaborative leadership models to support women in AI leadership roles. We argue that diverse leadership not only fosters innovative solutions and equitable access but is also crucial for ethical AI development. Promoting diverse voices in AI leadership can drive meaningful change, ensuring AI technologies benefit a broader demographic and align with ethical standards. Future research should focus on strategies to enhance visibility and support for women leaders in AI, addressing both gender and cultural dynamics.

Keywords: Women leadership, diversity, AI, technology enhanced learning, change, innovation

Introduction

The integration of Artificial Intelligence (AI) into education marks a transformative phase in the higher education landscape. AI's capacity to personalise learning, streamline administrative tasks, and provide sophisticated analytics on student performance are some of the current benefits. These new technologies are not merely introducing incremental changes as have been seen previously (for example Web2.0, interactive LMS tools or streaming media), but they offer a significant leap that is shaping the boundaries of traditional teaching, learning and assessment methods (Bearman et al., 2024). As we navigate this rapidly changing landscape, how can we ensure that AI does not act as yet another barrier to women in academic leadership positions and can we instead harness the benefits of AI to address such longstanding educational challenges?

The leadership landscape in the field of AI in education remains predominantly male dominated, echoing the historical underrepresentation of women in STEM (Field, 2023). This lack of female leadership perpetuates a narrow perspective on innovation and policymaking. Diverse leadership is crucial as it fosters inclusive decision-making, promotes equitable access to resources, and drives innovative solutions that resonate with a broader demographic (Dattner et al., 2017). Fjeld et al. (2020) analyse AI principles across four continents, noting cultural differences that shape consensus on these principles. Encouraging and elevating women and other underrepresented groups into leadership in AI and education is crucial for creating a more balanced, equitable, and forward-thinking educational landscape. Wellner & Rothman (2020) posit that negotiating the world through the medium of technology, or what they term "I-technology-world", can compromise the personal and professional identity of a woman in the space of AI. They argue visibility matters, and AI compromises that for women, as it is inherently patriarchal and biased.

This concise position paper explores these challenges in more detail using three women leaders in higher education learning and teaching leadership positions to bring together some commonalities and make recommendations for future research.

The current landscape of leadership in AI

The lack of women in academic leadership positions is largely attributed to disparities in research productivity, with men producing more peer-reviewed publications (Obers, 2014). Women often prioritise teaching and family responsibilities over research, affecting their career progression and some studies suggest women enter management roles more by accident than through deliberate career paths, often without adequate preparation or mentorship (Acker 2014). Within university environments, there are additional challenges, relegating women to service-oriented roles that go unrecognised and undervalued (Moodley & Toni, 2017).

In the field of AI, there are many ongoing challenges faced by women. Despite their contributions, women remain underrepresented, holding only 16% of tenure-track faculty positions in AI and 26% of AI-related jobs (Wiggers & Davis, 2024). The gender gap is widening, driven by factors like lack of internship opportunities, workplace discrimination, and unequal pay contributing to this disparity and many women leave the tech industry due to these challenges (Wiggers & Davis, 2024).

Mentoring has been identified as a critical support structure for women in academic leadership roles (Bone et al., 2024) particularly when these programs are part of networking and group approaches by women, for women (Goerisch et al., 2019). Effective mentoring programs can provide guidance, support, and networking opportunities that are essential for professional growth and overcoming barriers in traditionally male-dominated fields. Studies have shown that women who have access to mentors are more likely to succeed in leadership positions and contribute to institutional change (Allen et al., 2021; Redmond et al., 2017).

A group of authors and researchers, brought together by a (women in academia leadership) mentoring program, researched these challenges and proposed co-design as a solution (Brown et al., 2023). Their findings highlight visibility, gravitas, and relationships as key to gaining a collective professional identity. Furthermore, women are known to engage in collaborative leadership models that emphasise inclusivity and teamwork (Dattner et al., 2019; Jones et al., 2014). Diverse leadership teams bring valuable perspectives that help address biases and ensure AI systems are fair and equitable. Promoting diversity in AI leadership ensures the development of AI technologies that align with ethical standards and benefit society.

Our Context

The authors of this paper came together through a formal mentoring community of academic women leaders. Using our own reflective narratives we explored our leadership contexts, philosophies, and purpose in the landscape of Generative AI (GenAI). Reflective narratives help make sense of how events can shape our identities and actions (Smith & Suby-Long, 2019).

Reflective narrative 1 – Elaine

I lead a team of academics and professionals in a business school learning and teaching innovation unit at a large research-intensive university. I began my career as an electronic engineer and then through further study and 3rd space roles, I have developed my expertise in technologies for learning and teaching. When leading transformation projects and integrating new technologies, I take a distributed leadership approach (Jones et al., 2014) harnessing others' skills and strengths to elevate their roles.

In my work supporting academic staff to improve the student learning experience I often encounter resistance to change. Academics are time-poor balancing teaching, research and governance/admin activities, making them hesitant to adopt new technologies or pedagogical approaches. Since GenAI's emergence in late 2022, while some early adopters have explored innovative practices, many remain sceptical about AI's benefits for learning and fearful of its unknown future.

We are a well-resourced university with leaders who have utilised student and staff working groups to develop guidelines and policy directions which have then been contextualised by the faculties through capacity building activities such as informal avenues such as assessment governance committees and more formal professional development activities (workshops, seminars, and training sessions to educate staff about GenAI, its potential applications, and benefits). I have observed a gap in how we educate students in these same areas. Female colleagues often feel they lack the expertise to fully support their students, while male counterparts seem more comfortable experimenting with AI in their classrooms, even without extensive knowledge.

When it comes to leadership in AI, there are a few strong voices in our institution operating at a national level and because of this visibility, most people assume they are the only experts. Inwardly, I see myself as a technology expert with a lot to give to the field and yet know I am not seen outwardly this way. Perhaps because I do not promote myself enough as I'm too focussed on supporting others to build their own capacity.

Reflective narrative 2- Ratna

I can identify with the concept of women as "other" in the AI discourse. I'm a granddaughter of Sri Lankan migrants to Malaysia and now have emigrated to Australia with my own family. As a woman of colour having lived in multiple countries for work and education, the fit is always awkward especially when it comes to negotiating leadership positions. Technology, including artificial intelligence, can be argued as a leveller for women to be on equitable footing as men, as the brawn factor does not diminish us. However, technology as a lens to mediate the world is very much a white, male gaze. So it is a double-whammy of race and gender which I have to constantly work within a larger context of successive foreign cultures in my lived experience.

The opportunity to be visible as a leader seems to be compromised by other colleagues who are male, and in many instances nurtured by white senior female leaders themselves. On the other hand it is also interesting to experience the new type of working relationship I find my colleague seem to be unsure about when dealing with me, as an "other" they are not very used to. It is a cautious conscientiousness amongst those who try to be inclusive. As a result, I am a lot more comfortable working in truly international environments or organisations rather than a single national one such as Malaysian or Australian. As everyone participating is an "other" to an extent, we can truly bring our uniqueness to the table, especially where AI is such a new area.

The GenAI disruption in higher education sees many scrambling to be authoritative and lead, especially in Australia, these colleagues tend to be male. I have a more considered approach, this may be due to my cultural and mothering background. While this may not always be the best approach, in times of profound uncertainty, steering the ship in one direction often leads to equal time undoing the outcome.

Reflective narrative 3- Caroline

I feel quite privileged to hold a leadership position in a School where almost 50% of the leadership team are female, this is made more unique in that we are a school focussed on research and teaching in major branches of science, a discipline where female leaders are in the minority.

I am a leader in the teaching and learning space rather than technology. Although my role includes the use of technology to support teaching and learning it is not the major driver. As a member of a school of science we rely on teaching students' facts and then assessing them on their ability to remember them as well as the practical act of doing science. This "remembering" is where the majority of concerns around AI are based. Rather than embracing this technological shift, academics are reverting to traditional methods of assessment including the face-to-face invigilated exam. As a leader, I believe that we need to move away from the idea that learning is solely about the ability to remember facts when those facts are more accessible than they have ever been, but this is done with a concern that our jobs as educators may soon be redundant or changed significantly.

I struggle to reconcile whether my opinion would be received differently if I was male or if it is more about the scientific field in general.

Discussion

Our three lived experiences as women in academic leadership, particularly with technology and AI, highlight the importance of inclusive leadership, challenges with visibility and recognition, and the critical need for a thoughtful approach to technological change in education.

Distributed and Inclusive Leadership:
Elaine notes how she adopts a distributed approach, focusing on harnessing the knowledge and skills of others to uplift their abilities and strengths. Ratna also emphasises the challenge of fitting into leadership roles as a woman of colour and compares her current context with the value of truly international environments where uniqueness is valued. Caroline highlights the gender balance in her leadership team and implies the value of diverse perspectives in leadership roles.

Distributed leadership (Jones et al., 2014) can enhance organisational effectiveness and adaptability and aligns with the concept of inclusive leadership, which values diverse perspectives and promotes equity (Dattner et al., 2017). We concur with Wiggers and Davis (2024) who support organisational policies that elevate women in AI, whether through hiring practices, educational opportunities, or creating more inclusive workplaces alongside decision-makers who use their influence to foster diverse and supportive environments that can help mitigate the gender gap in AI.

Visibility and Recognition in Leadership:
In Elaine's narrative, she feels less visible as a technology expert despite significant contributions, possibly due to a focus on supporting others rather than self-promotion. Ratna notes the additional challenges of being visible as a leader due to gender and racial dynamics, feeling more accepted in international contexts. Caroline questions whether her opinions are perceived differently due to her gender or the nature of the scientific field she is in. Visibility and recognition are key for career advancement and influencing institutional change (Allen et al., 2021; Brown et al., 2023; Obers, 2014) however, women often face challenges in gaining the same recognition as their male counterparts, impacting their leadership effectiveness and career progression (Bone et al., 2024). "Invisible labour" such as mentoring and administrative tasks, is often performed by women and is less recognised and rewarded (Redmond et al., 2017).

Gender and Cultural Dynamics:
This theme is linked to the previous two, understanding gender and cultural dynamics is essential for creating inclusive environments where diverse leaders can thrive (Obers, 2014; Goerisch et al., 2019). These dynamics influence perceptions, opportunities, and interactions in the workplace (Allen et al., 2021; Dattner et al., 2019). Ratna provides insights into the intersectionality of race and gender in leadership, experiencing cautious inclusiveness and finding comfort in international environments. Caroline also reflects on the gender dynamics within her field, questioning if her opinions are shaped by gender perceptions.

Challenges and Resistance in Technology Integration:
Elaine discusses academics' resistance to change, especially regarding new technologies and pedagogical approaches, noting scepticism and fear of AI. Caroline observes similar resistance in scientific disciplines, where traditional assessment methods are preferred due to academic integrity. Such resistance to change, particularly around AI reflects broader apprehensions about technological disruptions in education. A more discreet and supportive approach, as shown by our authors may help address these concerns (Brown et al., 2023).

AI and Educational Transformation:
We know that AI has the potential to revolutionise education, but it must be thoughtfully integrated to address ethics and enhance learning outcomes. Leaders are key to guiding this transformation. Since women tend to place greater emphasis on societal, ethical and political aspects of their work on AI compared to men (Wiggers & Davis, 2024), they are well placed to lead in this area, as seen in our three narratives. Elaine is actively involved in capacity building around AI, addressing ethical implications and promoting professional development. Ratna adopts a considered approach to AI disruption, influenced by her cultural and maternal perspectives which she contrasts with more aggressive male approaches. Caroline too faces challenges in shifting academic perspectives from traditional methods to embracing AI, stressing the need to rethink educational objectives beyond mere fact retention.

Conclusion and Future Directions

As AI moves from the hype cycle of urgency to intentional adoption, it's important to include diverse voices in the conversation. Currently men, particularly white men dominate this discourse. When women participate in the AI knowledge economy, they are often shaped by this prevailing lens. There must be advocacy for mentoring programs to support women in leading and raising visibility in technology roles within education. Intentional efforts to foster diverse leadership in AI and education are critical especially during innovation cycles, where visibility is key. Diverse voices must be part of the leadership shaping AI in education.

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