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Paramedicine educators' identity needs and impediments to professional emergence: A multiphase mixed-methods participatory approach

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Abstract

This research delves into how identity-needs and philosophies of paramedicine educators influence theoretical advancement and praxis in higher education. Through the lens of critical pragmatism, it examines the perceptions of paramedicine academics, their roles and the transitional challenges when moving from clinical practice to academia. It explores the potential of transformative pedagogy in fostering social consciousness, justice, and innovation. Challenges and benefits of a constructivist approach to paramedicine education and future orientation are assessed. Employing a multiphase mixed-methods participatory approach, researchers reached consensus on the guided themes (Phase 1) for staff collaborative engagement (Phase 2) during the inaugural 'Paramedicine Educators Forum', which featured participation of academic leaders and staff from four universities and one jurisdictional ambulance service. Phase 3 constituted meaning-making. The study unveils the intricate tapestry of paramedicine educators' identities and philosophies and their impact on theoretical advancements and practical applications in higher education. Conversations revolved around defining the role of paramedics in academia, the potential of transformative pedagogy, and the balance between producing competent paramedics whilst nurturing criticality. Discussions also addressed concerns for current undergraduate degrees capacity in preparing students for technological advancements and the potential for extended degree programs. The findings underscore the need to adapt paramedicine education to meet the evolving demands of the profession, with paramedicine educators playing a leading role in this transformation. These insights and theoretical framing may be instructive in providing guidance for educational policies and practices that shape the future of paramedicine education and may have transferability for allied health professions.

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Introduction

In recent decades, the paramedicine profession has undergone significant transformations, including the establishment of tertiary-based education as a prerequisite for entry into the field. This has been led by a change in basic professional assumptions resonating in many countries, including South Africa and countries representing the 'Anglosphere' of paramedic practice: Australia, New Zealand, the United Kingdom (UK), Canada, and the United States of America (USA) (Weber et al., 2024). However, Paramedicine's rapid growth has come with challenges. Simpson et al. (2023) opined that "...the seniority of the academic workforce is skewed substantially towards lower academic levels; this shortfall in senior academics creates risk for the sector and may be symptomatic of a workforce sustainability issue" (p. 206). This awareness of a threat to academic sustainability calls for a deeper understanding of the identity needs and related philosophical perspectives that shape the community of paramedic educators. As paramedicine programs extend their reach and entrench themselves within the academic landscape, the exploration of values, beliefs, and motivations that construct the educators' identity becomes relevant and imperative.

The primary research question was: *What is the value proposition of emerging paramedicine educators' identity and philosophic posturing for innovative paramedicine-student engagement, transition, and retention?* We considered the value proposition and opportunity costs associated with emerging paramedicine educators' identity (their being) and their philosophical stance (their knowing). Hitherto undocumented for this population, the aim was to document these educators' distinct identity and philosophical perspective that distinguishes them in paramedicine and among health educators. We sought to understand the value associated with methods of student engagement and facilitation of their transition into the field of academia, as well as their capacity to assist students stay committed and motivated throughout their educational journey.

Literature

Australia and New Zealand are providing tertiary education for paramedics at scale. In South Africa, Canada, UK and USA, the paramedicine tertiary sector has also witnessed remarkable growth (Weber et al., 2024). Since its inception in 1994, Australasian Paramedicine boasts 18 universities and one polytechnic college offering paramedicine programs at the undergraduate level (Simpson et al., 2023). These programs represent a fundamental pathway for aspiring paramedics and bring novel challenges for paramedic academics and the changing needs of the profession. In the dynamic healthcare education landscape innovative teaching methods have emerged. These pedagogical advancements are driven by the increasing emphasis on authentic learning (Chandler et al., 2016; Thompson & Houston, 2022), the integration of multidisciplinary care (Cameron et al., 2021), and the imperative for efficient utilisation of professional skills, all of which align with the accreditation standards of the paramedic profession (Aphra Paramedicine Board, 2021; Weber, Devenish & Lam, 2024).

Notwithstanding global and country level advancements, a noticeable gap looms in our comprehension of the paramedic academic workforce (Hill & Eaton, 2023). Research on

paramedic educators, as academic architects, is scarce. While they have the potential to wield tremendous influence, there has been an absence of in-depth exploration into their perspectives and subjective experiences. This critical void in our understanding, paradoxically at a time of tremendous professional progress, poses a challenge to the growth and sustainability of the paramedicine sector. To be prepared for the demands of tomorrow's healthcare landscape, it is imperative that we uncover the intricate facets of the paramedic educator's identity, considering their professional and personal intersectionality (in terms of oppressive forces) and the diverse narratives that weave the tapestry of these cadres. As paramedic education strives to adapt to these transformative changes and position itself for the future, profound questions emerge concerning the identity and philosophical stance of paramedic educators.

Being and Becoming an Educator in Paramedicine

Most caring professions are likely to have had the need for professional identity creation. Eastwood et al. (2023) refer to Paramedicine as an 'evolving identity', however Paramedicine academia, relative to other disciplines, has neophyte status. In reflecting on a 50-year journey of Physical Therapy alone, Jensen (2011) identifies the following developmental themes that may have transferability to Paramedicine (as a caring profession): a) Trail blazing: These are the early pioneers who reflected on the past or have a strong tie to historical roots of the profession; b) Educational transformation: The educational transformers may cross dimensions of the profession but also have a strong underlying message for educational change or transformation; c) Integration: The integrators take a more integrated "change" message across the dimensions of education, practice, and research; d) Patient centred: These lecturers again cross the dimensions of the profession, yet then return to what is most central: *patient care*; e) Knowledge generation: These lecturers also may cross dimensions of the profession, but one can sense the strong underlying passion for building the knowledge base of the profession; f) Macro view: This category is seen in lectures that have a large underlying core message.

In a recent editorial in 'Paramedicine', Eastwood et al. (2023) premise that... "Paramedicine's identity is evolving. As paramedicine strives for professional recognition, part of this process must involve defining and understanding the boundaries of the profession which will in turn inform its identity" (p.177). Hill and Eaton (2023) affirm that some exploratory work on identity in sociological theory for paramedic research exists such as the work by Johnston and Acker (2016) and professional identity among student paramedics by Johnston and Bilton (2020) exists but there is little known about how paramedics conceptualise of their own professional identity. To understand the profession and its direction it may be prudent to appreciate the characteristics of professional underpinnings, *vis-à-vis* the profession's signature pedagogy (if discernible). This is key to enhancing student engagement, facilitating successful transitions into the profession, and bolstering student retention within programs that prepare students sufficiently and facilitate their successful transition to the workplace (Munro et al., 2018). O'Meara's (2011) paper "So how can we frame our identity?" (p. 57) still holds relevance today. This paper follows the Standards for Reporting Qualitative Research (SRQR) (O'Brien, 2014).

Method

A critical pragmatist paradigm (Ulrich, 2016) enabled the mixed methods approach to use both quantitative and qualitative assessment which allow complex research problems to be addressed in a more meaningful way (Creswell & Creswell, 2018). Mixed methods research often takes a pragmatic, 'what works' approach, allowing researchers to use the tools they deem most appropriate to address their research question (Creswell & Creswell, 2018). Given this project's pragmatic nature and the stronger affinity toward exploration and participation, we also incorporated an interpretive approach. The interpretive view pertains to shared meaning-making (Giacomini, 2010) and the social constructivist belief that knowledge and meaning are constructed through collaboration and exposure to more knowledgeable sources (Schreiber & Valle 2013). This approach gives voice and reflexivity that empowers individuals, so their views are heard and understood. This, therefore, allows their collaborators to grow and construct new meanings and knowledge of their own. We believe this philosophical posture (Naidoo, 2011) is most appropriate to capture the diverse self-reported experiences, attitudes, and knowledge of participants.

Study Design

The study design employed a multiphase mixed-methods design (Greenhalgh et al., 2024). Like an embedded design, this approach allows researchers to conduct one study within another and structure their project to allow for simultaneous collection and analysis of quantitative and qualitative data (Palinkas et al., 2010) but is differentiated by two (or more) phases of data collection and analysis. This project used quantitative data to play a supportive role to the qualitative, as our purpose was exploratory (Palinkas et al., 2010). The inclusion of participatory research in mixed-methods design (Figure 1) is compatible and enabled by multiple phases.

Phase 1 describes the session aims, sub-questions and data generating activities undertaken (Table 1, Figure 2) to show constructive alignment (Biggs, 2014) and epistemological coherence. In Phase 1 consensus was reached after 6 months of critical reflection on key challenges (related to the considerations in Figure 1) facing paramedicine academia and online engagement thereon by authors (BF, NN, SM, AVN) as academic leaders of Paramedic programs. Their contextual and experiential knowledge and expertise in higher education (spanning ~100 collective years) led to Phase 2: The Forum offered opportunities for paramedic academics to explore their identity, philosophical posture (Naidoo, 2011), and developmental needs. The forum was designed with four facilitated guided themes tailored toward new academics with the goal of supporting their transition to academia, inadvertently initiating a community of practice across universities. Participants were supported in claiming professional identity, from which (qualitative/quantitative) data was generated. Phase 3 constituted a period of meaning-making and data triangulation.

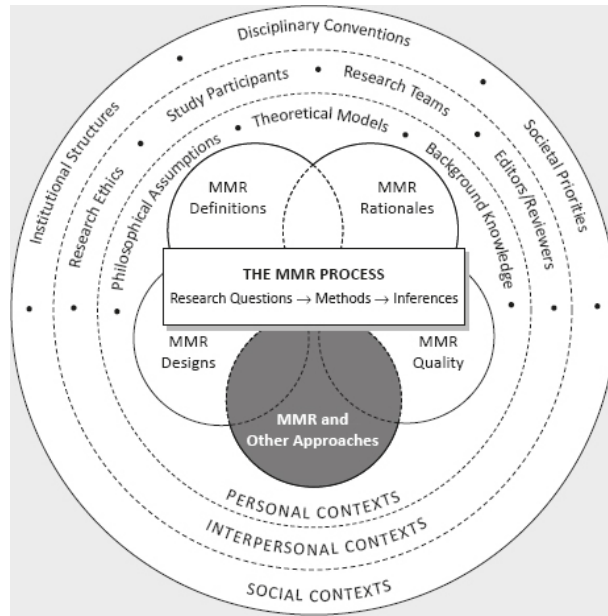


Figure 1

Mixed-methods and Participatory research design (Plano Clark and Ivankova, 2016, p. 136)

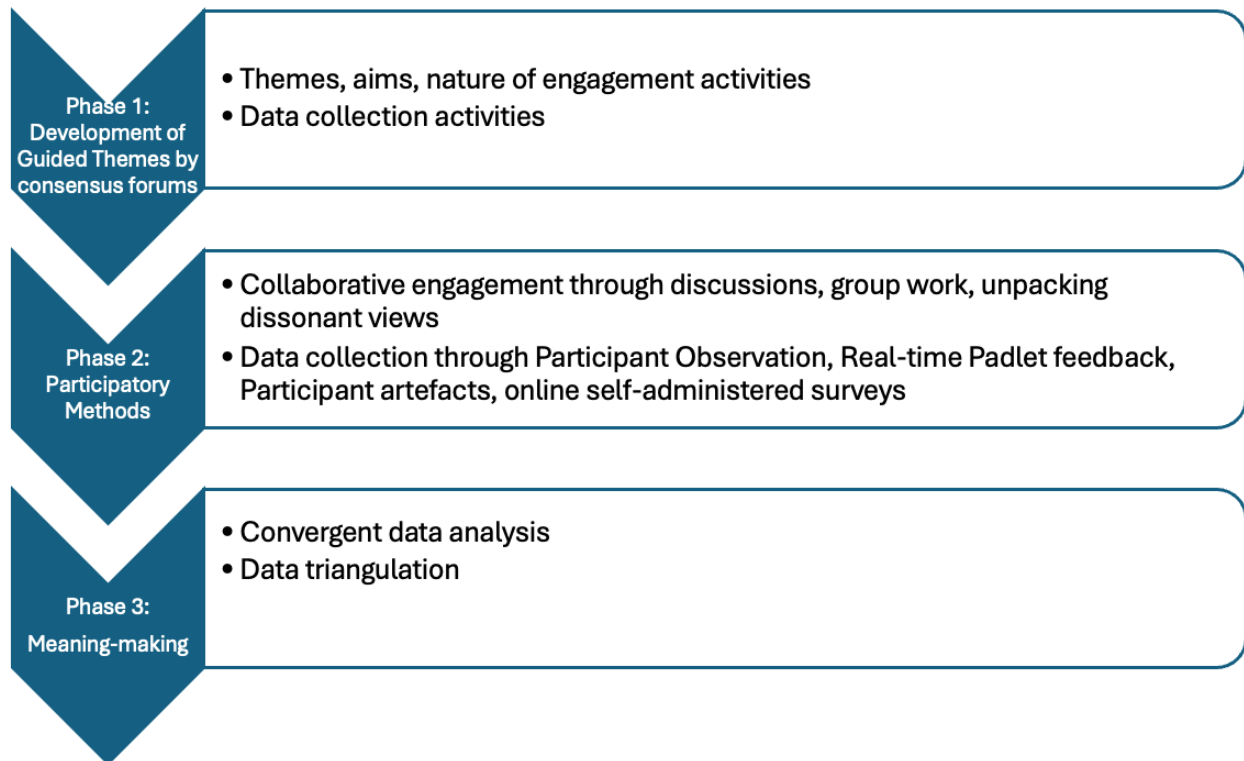


Figure 2

Multiphase mixed methods design

Setting

The inaugural "Paramedicine Educators Forum" ('The Forum') was conducted on 1st December 2022 at the University of Tasmania (UTAS) Sydney Campus. The attendees (and facilitators) consisted of academics from all four universities in the State of New South Wales (NSW), Australia, that offered undergraduate paramedicine programs: Australian Catholic University (ACU), University of Tasmania (UTAS), Western Sydney University (WSU) and Charles Sturt University (CSU). NSW Ambulance (NSWA), the universities' primary industry and clinical placement partner, was also represented.

Table 1

CONSTRUCTIVE ALIGNMENT OF A PRIORI THEMES, AIMS, SUB-QUESTIONS (PHASE 1) AND DATA COLLECTION ACTIVITIES (PHASE 2)

PHASE 1:			PHASE 2
A priori Themes	Aim/s	Sub-questions	Data Collection/ Participatory Activities
Identity, purpose, and professional identity for paramedic academics	<ul style="list-style-type: none"> i. To discuss paramedicine academics' professional identity and purpose during their transition into and retention in paramedicine education. ii. Discuss the challenges academics have with their transition and understand the ways the community is there to support them. 	How do paramedic academics self conceptualise their past and present identities respectively as clinicians and educators? What strategies might promote professional growth?	<p>A series of short presentations, self-administered surveys and group activities and discussions were undertaken. Topics included:</p> <ul style="list-style-type: none"> i. Paramedicine academics' identity crisis ii. Challenges in transitioning to academia iii. Facilitating growth in academics and their facilitators.
Transformative pedagogy to promote social consciousness and justice.	To determine how innovative technology can enhance student learning whilst promoting social consciousness, address social injustice and highlight social determinants of health.	How does transformative pedagogy promote social consciousness and justice; health practitioner responsiveness to intersectionality, social determinants of health, and disruptive innovation?	A demonstration of an innovative 3D animation tool that can be used in paramedicine education was undertaken; pre-and post-surveys and progressive discussion points explored how this approach to learning and teaching may be disruptive in paramedicine education.

Constructivist pedagogy and paramedic teaching – defending the paradigm.	<ul style="list-style-type: none"> i. To explore a constructivist approach to learning and teaching and to describe how this may enhance student development. ii. Apply constructivist assessment approaches with varying types of learning at various stages. iii. To explore the paradigm of Constructivist pedagogy within paramedic teaching in relation to engagement, transition, and retention. 	What are the challenges and benefits of implementing a constructivist approach to education in paramedicine, and how do these align with the broader goals of producing professional capacity?	<ul style="list-style-type: none"> i. Presentation, demonstration, and discussion of constructivist approach to learning and teaching. ii. Developing an assessment task through applying a constructivist approach to assessment design. iii. Develop an understanding of how using constructivism can assist with the academics' ways of knowing their teaching philosophy.
The Future of Paramedicine and Courses of Tomorrow.	<ul style="list-style-type: none"> i. Identify what the future of paramedicine may look like. ii. To examine the role of academics in preparing students for the future and how well undergraduate degrees currently prepare students for this. 	How well are current undergraduate paramedicine degrees preparing their students for the future of paramedicine?	<ul style="list-style-type: none"> i. Academics drew images on paper describing the outlook for paramedicine in 3, 5 and 10 years, which was followed by a group discussion. ii. Round-table conversation that utilised a series of guiding questions to inform the discussion. Example questions were: 1) <i>What does this (future direction of paramedicine) mean for paramedic education?</i> 2) <i>What needs to change in the way we teach our undergraduate degrees?</i>

Participants

The participants in Phase 2 were all continuing, fix-term or sessional paramedicine academics from all four NSW universities that offer paramedicine programs. Purposive sampling was used, although when invited, participants self-selected by their attendance. Colleagues from the NSW Ambulance Service were also invited to participate to promote collaboration with the universities and their main industry partner and to emphasize practice needs. The facilitators, although senior academics from each of the same universities, were not known to all the participants and mitigated the risk of undue influence.

Recruitment and consent

Ethical approval was granted for this study by the WSU Human Research Ethics Committee (H13567). Promotion of the Forum was through a flyer attached to an email and by word-of-mouth. Participant information sheets and consent forms were disseminated to attendees upon their arrival. Their involvement in Phase 2 was voluntary and responses gathered throughout the day were non-identifiable. QR codes linking to the self-administered surveys were provided.

Data collection instruments

Participant Observation (PO): PO played a crucial role in capturing both verbal and non-verbal communication among the attendees. The observer critically reflected on the interactions and discussions during the forum to identify dominant dissonant perspectives or areas of collective agreement. Emerging patterns from the PO were synthesised to gain deeper insights into the dynamics shaping paramedic educator identity. **Real-time Positionality Using Padlet:** The online tool, Padlet, was employed to collect real-time positionality data from the attendees. Participants were encouraged to provide instant feedback and opinions on specific topics during the presentations. This method facilitated immediate data collection and enhanced engagement. **Participant Artifacts:** Activities throughout the day encouraged participants to write and draw their discussions and collaborative thoughts on paper. These artifacts provided data on the discussion of concepts in each of the tables throughout the sessions and added additional depth to the analysis.

Online Self-Administered Surveys: Multiple surveys were distributed throughout the day and were designed to gather demographic information and pedagogic preferences from the attending academics. In addition to demographic data, the summative survey included Likert-scale and free-text responses to explore participants' experiences and perceptions of the forum. The sepsis animation survey was initially drafted and piloted by Authors NN, VH and AV. The other surveys were initiated by AVN. All survey variables enjoyed consensus approval from all authors to ensure face and content validity. The survey was modified based on feedback received. The qualitative responses to survey questions provided further triangulation and depth to the data collected and discussions on the Padlet-generated discussion board. Regarding Theme 2, attendees of the forum were requested to voluntarily participate in the pre- and post-surveys distributed on the day. Responses to both the pre- and post-surveys were included in the analysis if completion was greater than 50%. Hence, of the initial 33 respondents to the pre-survey, only 30 were included in the analysis and 22 were included in the post-survey analysis.

Data analysis

Phase 1 generated (by reflection and consensus finding) the guided themes, questions and methods to be implemented in Phase 2, where a convergent approach to data analysis was deemed appropriate. Convergent analysis allows for all the data to be merged concomitantly to generate the results (Creswell & Creswell, 2018). First, all qualitative data was uploaded to a shared GoogleDrive and analysed independently to develop the initial codes. Quantitative data was extracted directly from Qualtrics for statistical analysis. Finally, through collaboration, discussion, consensus finding, and data triangulation, the findings were synthesised (Phase 3) using a side-by-side approach to contrast findings (Creswell & Creswell, 2018). Regarding

Theme 2, the measure of agreement between the pre-workshop and post-workshop survey questions was analysed using Cohen's Kappa statistics. These test for systematic agreement or consistency between pre/post test results, indicating selections were not by chance. Weighted Kappa runs the same test; however, it considers that the questions are on an ordinal scale, so there *is* a difference between them. Cohen's thresholds are: ≤ 0 =poor, .01–.20=slight, .21–.40=fair, .41–.60=moderate, .61–.80=substantial, and .81–1=almost perfect (McHugh, 2012).

Results

The results derived from the triangulation of data collected during phase 2 are presented. Table 2 provides participant demographics, excluding facilitators. Thematic results established through the triangulated data follows. Data triangulation in this study involved using multiple methods or sources to gather and analyse data, ensuring a more comprehensive and reliable understanding of the workshop outcomes. This included methodological triangulation (using different data collection methods such as surveys, Padlet feedback and observations), data source triangulation (collecting data from various sources, such as different participant groups or time points), and analyst triangulation (involving multiple researchers in the analysis process to reduce bias).

In terms of population, Simpson et al. (2023) documents 161 full time Paramedicine academics in Australasia in 2022. Of all participants (n=33), the majority (n=25) responded to the summative survey and provided qualitative feedback on their experience. Table 2. describes the demographic aspects of the survey. Participants self-identified as female (n=17) or male (n=8); the majority were employed on a fulltime basis (n=17). Academics less than 34 years of age (n=11) and with no more than 5 years of experience in academia (n=14) had the highest representation. Masters (n=6) or PhD qualifications (n=3) were few.

Table 2

DEMOGRAPHIC DESCRIPTION

Age	18 - 24	25 - 34	35 - 44	45 – 54	55 – 64	65+
n		11	3	9	1	1
Gender (self-ascribed)	Male	Female	Non-binary	Self-described	Prefer not to say	
n	8	17				
University Employment Status	Casual	Part-time	Full-time	Fixed term contract	Continuous Employment	
n	3	4	17	1	7	
Years in academia	0 - 5	6 - 10	11 - 15	16 - 20	20+	
n	14	6	3		2	
Qualifications held	Diploma	Bachelors	Graduate Certificate	Graduate Diploma	Masters	PhD

n	4	17	7	1	6	3
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Theme 1 - Identity, purpose, and professional identity for paramedic academics

Participants discussed the dichotomy of emotions felt during the transition to academia from clinical practice; described by one participant as a career rupture, feeling as though he had "...left one thing without fully leaving and entered another career without fully parting..." (Participant 1). Some participants expressed a need to continue to maintain clinical currency by working as a casual 'on-road' (a literal but self-limiting reference to communities in need of emergency care) and expressed reluctance to lose the professional identity of a clinician while they were yet to fully identify as an academic, *bona fides* notwithstanding. Many participants stated that support and guidance from colleagues around university and course policy and procedures had helped to understand the intricacies of how universities work. Regular team meetings and mentoring sessions helped decipher the never-ending list of acronyms and complexities hidden in 'academic code.' Finally, taking the initiative to be involved in academic education sessions in the wider academic community enabled participants to witness the experience of seasoned academics. The final session 'how individuals, supervisors and the discipline can facilitate growth in the profession, revealed the concepts in Table 3.

Table 3

RESPONSE TO FACILITATION OF GROWTH

How do we facilitate growth at an individual level?	<ul style="list-style-type: none"> Facilitate entry points for new academics in a casual capacity, including casual involvement in research projects. Advertise these opportunities. Advocate for the paramedic academic career option more to students - promote honours as a 'test' in academia. Support a dual role – conjoint clinical and academic appointments.
How do we facilitate growth of supervisors?	<ul style="list-style-type: none"> Remove barriers - develop individual work plan – research fraction to facilitate growth of the individual and increase time allowances. Advertise research profiles of individuals to provide for research mentors. Advocate for research intensive academic positions. Network more with industry to develop collegiality and collaboration.
How do we develop growth of the paramedicine discipline?	<ul style="list-style-type: none"> As a collective, recognise our worth and focus on improving growth of the profession. Demystify the role of academics in industry. Remove barriers that silo academia from the rest of the profession. Step up and let education drive the profession more - stop taking a back seat.

Overwhelmingly, feedback on this session was positive. Recommendations from the group included conjoint appointments that provided opportunities to work in the tertiary sector and as a clinician, obviating the crisis of identity, and fractional workload that are conducive to supporting teaching and research. However, casualisation of paramedicine academia may be enabling of paramedicine programs in the short term but may be counterproductive to its sustainability.

Theme 2 - Transformative pedagogy to promote social consciousness and justice

This facilitation sought to inform understanding of how transformative pedagogy may promote social justice and practitioner responsiveness (Table 1). We approached this question through the development and field testing of original animation (as a pedagogic instrument) in paramedic education of sepsis management (as an intersecting clinical case) through the lens of transformative pedagogy. The 3-D animated case was designed to privilege intersectionality, rural health, equitable access, interprofessional education, and clinical practice. The patient role had the potential to be layered in the lesson plan with health literacy, parental and economic status, gender, and even vulnerability experienced by immigrant communities. The allocation of professional roles to historically disadvantaged actors challenged professional, racial, and gender stereotypes. The importance of interprofessional roles and the limitations of professional roles were stressed against rural health inequity.

Of the 30 participants who completed the pre-workshop survey (on beliefs and attitudes on video material). Most participants (n = 28; 93%) explicitly agreed videos are “important” or “very important” to their learning. Although 23% had occasionally used videos, 63% stated they use online videos to support their learning “most of the time” and 13% (n = 4) chose “always”. This showed explicit agreement related to video usage. Most of the participants (90%) explicitly believed it was important for educators to recognise online videos as integral to learning and there was also large agreement that videos should be incorporated within official learning material (80%). They were able to replay, enabling visualisation and explanation of topics, theoretical or abstract concepts, and skills. In this way, it reinforced lectures and readings. Visual learners are captivated, and information is connected to personal experience. Participants were engaged as practical application was efficiently demonstrated with intermittent pauses for group discussions to subjectify observations. It is also interesting to note that while 60% of participants explicitly agreed that the video material was engaging, motivated learning of the topic concerned and improved knowledge retention, 40% experienced a “moderate extent” of mental fatigue from the video material. For improvements to learning materials, participants recommendations included embedded reading, deeper engagement and discussion, feedback quizzes, retention of scaffolding, and multi-modal approaches. Participants volunteered that video material should be included into official course material for the following reasons: there is provocation of participation during the video presentation, it “breaks up the verbal barrage and shows where to get information if you prefer visual learning”, “combines visual and auditory means of learning”, demonstrates skills, videos are engaging unlike didactic style lectures, enhanced engagement and learning, and a video facilitates a case study by giving a quick overview and then facilitating knowledge consolidation to the point of completeness. Participants found video materials to be less mentally and physically fatiguing for both the facilitator and student by explaining the same point in diverse ways, prompting discussion, and connecting with students.

Of 22 post-facilitation survey respondents (with beliefs and attitudes specific to the sepsis case), 20 (91%) participants preferred the sepsis learning material with animations to traditional teaching. Participant feedback on the animations presented in the forum included: that they “...were useful for visual learners and helped aid discussions”, “really brought you into the

topic”, “helped bring it to life”, “I liked how it followed the patient and had a multicultural approach”, “the pathophysiology animations were excellent...”, and “...good, well timed”.

Where 32% (n = 7) experienced no mental fatigue during the Sepsis learning material, 36% (n = 8) experienced a small extent of fatigue, 14% (n= 3) experienced fatigue to some extent and to a moderate extent equally. No participant claimed a substantial extent of fatigue. Reasons provided for the mental fatigue included: “distracted with personal issues,” “lack of sleep” and environmental factors (lighting and temperature). Mental fatigue, it seems, was not directly attributable to the animation; in fact, discussions may have provided a mental rest. In relation to importance of videos for learning, there was explicit agreement on importance from 91%; 55% found it important that the university/ teaching staff recognise online videos as part of their learning and teaching, with 86% stating that videos should be incorporated within learning material.

The measure of agreement between the pre-workshop and post-workshop survey questions was analysed using Cohen’s Kappa statistics. This analysis is presented below in relation to the relevant questions. “How important are videos for your learning?” A Kappa value of 0.58 with p value 0.02 indicated moderate agreement between pre- and post-workshop answers. This kappa value indicates there is moderate agreement in the sample and the p-value indicates sufficient evidence to conclude that the relationship exists in the wider population. The question: “How important do you think it is for the university/ teaching staff to recognise online videos as part of their learning and teaching?” derived a Kappa value of 0.28 with a p value of 0.16 indicating fair agreement between answers. This kappa value indicates a lack of association in the sample and this p-value finds there is insufficient evidence of association in the wider population. The weighted kappa (0.18) with p value of 0.51 indicated slight agreement between answers. The statement: “The learning material with animations improved knowledge retention” derived a Kappa value 1.00 with p value 0.05 indicating perfect agreement between answers before and after facilitation. The kappa value indicates there is perfect agreement in the sample and the p-value indicates sufficient evidence that the relationship exists in the wider population.

The results from the pre-and post-participation survey, consistent with the participation in intermittent pausing of the video for discussion points, suggest video material enhances understanding, is engaging, motivates complex learning, and improves knowledge retention. This is also true for tutor training in problem-based learning (Bosse et al., 2010). Topics, such as sepsis within the context of equity and patient safety, that require an interdisciplinary response, seem well facilitated by video animation.

Theme 3 - Constructivist pedagogy and paramedic teaching – defending the paradigm

This section of our study explored the implementation of a constructivist approach to education in paramedicine, shedding light on the challenges and advantages of adopting this approach, and how it aligns with the overarching goal of nurturing professional capacity. Our research question is rooted in understanding the benefits and potential drawbacks of incorporating constructivist education in paramedicine and assessing its compatibility with the broader objective of developing proficient professionals. This session aimed to sensitise new paramedicine academics with the

concept and skills necessary for developing assessment tasks aligned with learning outcomes and teaching resources. The session began with an informative introduction to constructive alignment, covering its definition, manifold benefits, and foundational principles. Participants were prompted to reflect on their teaching philosophies and identify key learning outcomes for their students. Subsequently, small interactive groups were formed to explore constructive alignment using a structured template. The primary task assigned was to create an assessment aligned with predefined learning outcomes. Each group presented their assessment tasks to the wider audience, fostering an open forum for feedback and discussion.

Participants shared common difficulties and engaged with the principles of constructive alignment. Many were thrust into roles of designing assessments just one month into their academic roles, sometimes adopting an improvisational approach due to time constraints. The majority had experience in designing assessments, with a quarter possessing formal teaching qualifications. The session served as a platform for them to deepen their understanding of constructivism and how it could shape their teaching philosophies. It was noted that many universities employed a constructivist approach to education, a terminology not entirely familiar to all participants. Discussions emerged about how constructive alignment can enhance student engagement, smooth transitions into the profession, and contribute to student retention rates.

Several concerns were raised, including the efficacy of viva voce as an assessment method and the stress it imposed on students. There was a call for aligning assessment methods with their intended purposes. An interesting comparison of assessment practices emerged, with universities typically aiming to assess students to a minimum standard, often a subject of variation among academics. However, some paramedic educators in NSW required competency pass marks as high as 85%. Participants discussed the differences between university and vocational settings. While vocational teaching focused on imparting specific knowledge and skills for practical application, the emphasis in universities was on cultivating criticality and independence of thought. This led to a belief that a broader range of content might require specific assessment in vocational settings, while university assessment should ideally focus on evaluating higher order thinking skills. An intriguing debate arose about the balance between producing ready paramedics and nurturing critical thinkers.

The session concluded with participants acknowledging the evolving curriculum that increasingly emphasised critical thinking and decision-making. Despite the practical challenge of assessing every aspect of the curriculum at the university level due to time constraints, participants emphasised that everything taught was relevant to students' decision-making and clinical judgment. They recognised the value of skills that transcend direct assessment and contribute to a practitioner's overall competence. The belief was that universities should not solely be responsible for creating paramedics but should also take responsibility for shaping well-rounded global citizens. This discussion on assessment practices highlighted the complexities of evaluating students' knowledge and skills in paramedic education. The varying standards set by different institutions and educators reflect the ongoing debate about the purpose of higher education and what it means to be a capable professional.

Theme 4 - The Future of Paramedicine: Courses of Tomorrow

A consistent thread throughout the discussions was that undergraduate degrees may be producing paramedics for 'the now' and not the work environment they will be entering in the short, medium or long term. This was related to advancements in technology. Most academics' descriptions of the future of paramedicine incorporated significant advancements in technology and diagnostics. One example included the use of diagnostic ultrasound. Although technology was the focus of much of the discussion, participants believed there needed to be a greater focus on this in current paramedicine curricula. Academics described a lack of preparedness to teach this content as they may not have had the requisite knowledge or expertise. There were concerns about the level of exposure students would receive in their undergraduate degrees with how to practically perform skills using any recent technology, leading to students also being inadequately prepared. These changes and advancements in technology led to academics describing the need to move away from diploma-entry pathways and the eventual requirement for the paramedicine bachelor's degree to be four years of study, rather than the current two or three. Advancement in the post-graduate and research space was also discussed relating to the need for educational opportunities and wider access. Post-graduate studies in extended and advanced care paramedic pathways were also viewed as an area of significant development. Many academics acknowledged the research capabilities of paramedics will continue to expand but were not confident about the sufficiency of research support mechanisms.

In summary, the findings highlighted academics emphasised the necessity of forming a new professional identity and creating career pathways beyond the clinician role. Participants valued the importance of developing their profession's signature pedagogy, which supports professional growth and the expanding scope and nature of paramedicine.

Discussion

The aim of the Forum was to understand and enhance the capacity of paramedicine academics through individual and collective reflection on transitioning identities, transformative pedagogy instruments, constructive alignment, and envisaging the future. As paramedics have been registered health professionals in Australia since 2018 (Ahpra Paramedicine Board, 2023), it is an emerging academic discipline.

Paramedicine career support and progression

By consensus, there was a lack of occupational (and educational) psychology support for participants. The need for support stemmed from poorly defined career entry pathways. In paramedicine, there are no specialisations protected by the regulator. Jurisdictional ambulance services have non-portable 'Extended Care' or 'Intensive Care' quasi-specialist roles following employer-run short-course training. The absence of *bona fide* specialisation (i.e., with regulator registration/endorsement) is self-limiting. There is also no prescribed pathway to health professions education. Careers advisors and occupational psychologists may assist those with complex career needs. Evidence from paediatric specialist registrars suggests that career advice and support are sought from educational supervisors, rather than from career professionals (Lloyd & Becker, 2009). Documenting the experience of paramedics in the United Kingdom and higher education, Givarti et al. (2018) suggest there is a 'bargaining of professionalism' in emergency

care practice since the academisation of paramedicine education. Senior clinicians supervise paramedics in ambulance services, and educational supervisors aim to do so in universities to improve educator capacity but there is a disconnect in support for those in professional transition.

A future academic workforce needs talent scouts and mentors. Careers support may be enhanced by a best practice 4–stage shared framework to structure the engagement: self-assessment, career exploration, decision-making, and plan implementation (Richard, 2005; Klein et al., 2021). This career decision-making framework has parallels with clinical decision-making (Elton & Borges, 2014) that involves taking a history, patient examination/investigations, diagnosis formulation, and treatment plan implementation. When one has an overriding need to get any job as a ‘holding position,’ the absence of self-assessment and career exploration (McMahon & Watson, 2015) is likely to lead to dissatisfaction and maligned expectations, as expressed by participants.

It is prudent to acknowledge the phenomenon of ‘intersectionality’ among participants and the populations they represent including minoritised groups, immigrant communities, and social identities (Kerins, 2023). Among the mid-, early- and late-career academics at varying ages and levels of qualification/study, those who transitioned to education for the work-life balance (for family responsibilities or health reasons) were disappointed at how elusive this was. The multiple layers of perceived ‘oppression’ dominated the discourse rather than the layers of privilege and unrivalled opportunity for the academic elite. The multiple roles of paramedicine education: policy maker, influencer, knowledge disseminator/creator, skillful clinician and researcher were perceived as ‘burdensome,’ exacerbated by student debt, time/workload challenges and engagement hesitancy. Self-education in educator roles can be described as a ‘grudge purchase,’ with a dose of ‘buyer’s regret.’ Acquisition of post-graduate qualifications, as higher education ‘currency’, are requisite but expensive, requiring extended time in a part-time position and disruptive impositions on work-life balance.

Dealing with diversity, equity, and inclusivity

Regarding paramedicine education, “If engagement is to become a meaningful social justice practice, then monoculture ideation in emergency care education must be challenged” (Naidoo & Matthew, 2021, p. 59). Among our data, the capacity to deal with diversity was noticeably underrepresented. The identity theme provided only a dichotomous paramedic clinician versus paramedic educator and the alignment was to the former. There was insufficient appreciation for the intellectual championing of diversity. Technology enhancement was accepted without regard for data poverty. The paradigm of constructivism was endorsed without a call for social-constructivism or concern for inaccessibility of such philosophy for Culturally and Linguistically Diverse (CALD) communities. The view of the future of paramedicine exhibits no demonstrable concern for diversity representation, social justice, or decentering of the ambulance in the profession. Interestingly, equity and diversity were not given due expression as strategic imperatives. The challenge lies not in preparing ‘road-ready’ paramedics or critical thinkers; the discourse should shift beyond the euphemistic ‘downloading the past’ to prepare cadres for uncertainty (Jensen, 2011).

Competence in diversity requires an awareness of differing styles, values, beliefs, and practices. Diversity competencies have domains of knowledge, professional skills, and personal attributes. Knowledge includes that of history, language, religion, customs, values, predominant medical models (Makrides et al., 2023), support and services, local diversity and differences and an understanding of culture, conflict, potential problems, and socio-political/economic and institutional factors. Skills include techniques for learning and teaching about diversity and the ability to communicate accurately, to openly discuss diversity issues, to recognise conflict issues, to recognise and combat racism, to plan culturally appropriate teaching and to evaluate skills. Desirable attributes include empathic and flexible attitudes, acceptance of diversity, willingness to work with diverse clients, openness to new experiences and people, awareness of differences and similarities. It becomes important to develop cultural specialists in the team, to liaise internally and externally for support, to engage cultural brokers, and to consult expert panels. The inclusion of competence in diversity within paramedic education will have increasing importance the further the paramedic role expands into the community.

Regarding equity and inclusivity in education, our 3D animation is an example of virtual experiential learning. It demonstrated there is value in academics from all industries pursuing similar types of learning activities in the interest of equity and inclusivity. Such animation provides an alternative teaching method compared to what may be seen as normative and may be effective in promoting student engagement in online learning and for tutor training (Bosse et al., 2010). With the Australian Government (2024) aiming to increase attendance, completion rates and equity in higher education, such approaches may become even more valuable.

Developing paramedic educators

Of interest, most participants did not hold a qualification higher than the level they were teaching. Tertiary Education and Quality Standard Agency (TEQSA, 2021) outlines, “academic teaching staff must be qualified to at least one level of qualification (Australian Qualifications Framework [AQF] level or equivalent) higher than the course of study being taught or have equivalent relevant academic or professional or practice-based experience and expertise” (TEQSA, 2021, para. 3). To align this framework, many universities are basing their employment eligibility of academic staff on ‘equivalent practice-based experience’ (TEQSA, 2021). This raises two questions: if staff do not meet minimum criteria for the job undertaken, how fair is it to level performance criticism? If suitably experienced, what affirmative steps are there to enable post-graduate qualification or early exposure to paramedicine education as a career pathway?

It seems existing formal and informal opportunities to become paramedicine educators are poorly exploited. Formal approaches to developing medical educators have included workshops, seminars, short courses, sabbaticals and fellowships, degree programs, peer coaching, augmented feedback, and online learning. Salinitri et al. (2015) describe a theoretical framework for the development of a PBL facilitator training program (across disciplines) that uses the constructivist approach as the program’s guiding philosophy. Informal approaches to developing medical educators include work-based learning, communities of practice, mentorship and role-modelling, and organisational support, and development. There are many mechanisms and motives for becoming a medical educator (Patterson et al., 2018). The nature of paramedicine

responsibilities may include preceptorship and clinical supervision. Participating in staff development and training opportunities may facilitate a shift from doing clinical work to teaching it. Of course, pursuing an advanced degree will enable an education lens and encourage belonging to a community (of experts) where one can be mentored or undergo role-modelling.

Paramedicine and paramedicine education exists to fulfill an unmet need/social contract in our society; in this case to be the face of the health-care system in emergency contexts. The question of: “Who am I?” is counterbalanced by: “What am I good for?” In this way, paramedic education is a social endeavour, notwithstanding the shifts in relationship between society and professions (Kurtz, 2022). The reciprocal meaning is that the societal mechanisms must enable uptake by actors in education and that the educators position themselves through their own ‘noble purpose’ or contribute to the social capital agenda of higher education institutions. This study demonstrated a need for strong paramedicine educational leadership. The *ad hoc* nature of paramedicine educator recruitment and the continued unmet need for a stable academic workforce suggests a serious leadership deficiency and a market failure to deliver on academic eligibility. This is affirmed in that once recruited, new academics receive inconsistent or deficient mentoring and have maligned expectations. Universities as employers have work expectations in the form of job descriptions, but if the expectations are beyond one’s experience (and qualification), performance expectations become moot and unfair. There is a need for change management to migrate knowledge users to knowledge producers and facilitators of curriculum. A deep contextual awareness is needed. Mentorship and stewardship capacity should be extended beyond institutional endeavours to develop staff and prioritise their career progression to avert premature attrition (and resultant crises) and build sustainable capacity (Steinert, 2018).

Theoretical Framing to guide paramedicine educator development

Finally, Figure 3 (Adapted from Jensen, 2011) is indicative of what is possible and likely to work for paramedic scholars and to enhance their capacity. Of relevance here is Situated Learning (Mausz & Tavares, 2017), Knowles’ principles of adult learning (Govindaraju, 2021) and Kolb and Fry’s Experiential Learning Cycle (Seymour-Walsh, 2019). Staff development program design must consider the organisational culture, set appropriate goals and priorities, conduct a needs assessment to ensure relevance, accommodate diverse needs through different programs and methods, promote buy-in, market effectively, prepare staff developers, and evaluate/demonstrate effectiveness in areas such as in Kirkpatrick’s model (Reio et al., 2017): reaction (views on the learning experience), learning (change in attitudes, knowledge or skill), changes in participant’s behaviour, and results (changes in the organisation).

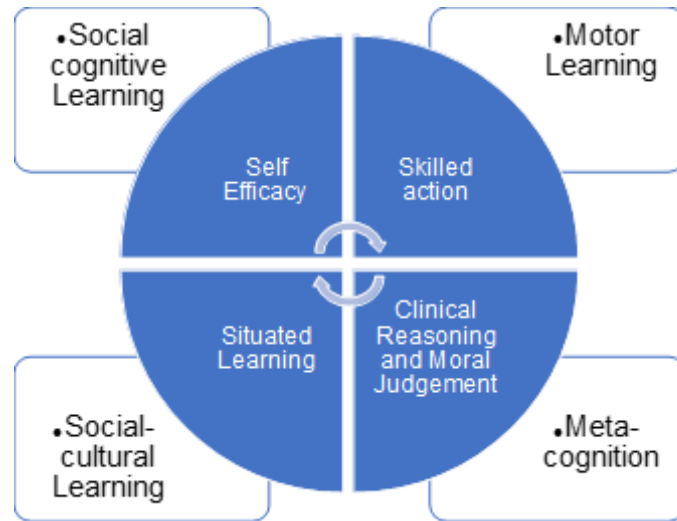


Figure 3

INTEGRATED LEARNING THEORIES APPLICABLE TO PARAMEDICINE

Quality appraisal of qualitative research

The quality appraisal of this research is framed by selected criteria (Northcote, 2012). The findings of this study contributed to our knowledge and understanding of the educational beliefs of university teachers. The research benefited the participants by privileging their voices. This study is contributory in advancing wider knowledge or understanding of deficiencies in career support policy, educative practice needs and the sustainability of paramedicine education. It was unprecedented in Australia that so many paramedicine educators could deliberate for an entire day on educational philosophy and practice after weeks of conceptualising themes. The outcomes include transferability or applicability to medical education contexts outside paramedicine. We ended with a future focus and contribution to research directions. Our methods have ontological and educative authenticity (Guba & Lincoln, 1989). The research has importance in that engaged academics precede engaged students. This was a rigorous, ethically conducted study involving the systematic and transparent collection, analysis, and interpretation of qualitative (and quantitative) data; it employed multiple methods that enabled data triangulation, openness, and clarity. We used multiple sources and facilitated multiple voicing when participants co-facilitated aspects. We maintained transparency of data gathering and analytical methods and aimed for thick descriptions. The study design is defensible by providing a research strategy that could address the evaluative questions posed. There is goodness of fit, integrity, an audit trail for transparency and participatory accountability. The authors demonstrated reflexivity in the many engagements before and after data collection with transparency of ideas reflexivity and triangulation. We claim credibility through plausible arguments and significance of the evidence generated. There is adequacy of interpretation. Lastly, Northcote (2012: p. 107) asks: "Do the research processes and findings communicate the emotional elements of how the participants and the researcher engaged in the research study?". We acknowledged the emotional

involvement of the participants and enthused co-researchers. The paper gives expression to the moral effort of researchers and affirms our commitment to paramedicine professionalisation.

Conclusion

The study provided insight into how paramedic academics self-conceptualize their past and present identities. There is concern for a perceived loss of clinician identity (Munro, O'Meara & Mathisen, 2019) (portrayed as an irreconcilable opportunity cost) on the one hand and frustration at the time, cost and effort associated with credentialing and transitioning toward a fully-fledged academic identity (a delayed value proposition). This is exacerbated by a lack of mentorship, inconsistent leadership, and limited access to bespoke or affirmative career development and progression programs. We affirmed that transformative pedagogy does promote social consciousness and justice, health practitioner responsiveness to intersectionality, and social determinants of health. A mechanism for this is posited as, among others, philosophical posturing or theoretical orientation, disruptive innovation in video animation design, using evidence-informed scripting, strategic role characterisation, and privileged interprofessional practice. The challenges and benefits of implementing a constructivist approach to education in paramedicine are presented. More elusive is the constructive alignment of goals to improve professional capacity. Current undergraduate paramedicine degrees prepare students well for the short-term future of paramedicine. The medium- to long-term preparedness is less certain given the academic workforce fluidity and national and international pressures on health care demands and our dynamic capacity to be responsive. We find Jensen's (2011) analysis to be rather instructive for progressively realising identity as Paramedicine academia: we need trailblazers; educational transformation; integration across education, practice, and research; patient centredness; knowledge creation and a macro perspective.

Recommendations

Industry and academics should collaborate to ensure university curriculums cover in-field developments in technology. Curricula must also ensure they include cultural diversity and ensure inclusive and equitable learning opportunities. The proposed integrated educational theories for Paramedicine may serve as an instructive frame for Paramedicine education. Second, research should explore what each university describes as "equivalent experience" in determining eligibility of staff and determine if this varies between universities, courses or even university campuses. Benchmarking this criterion within Paramedicine and across other health disciplines will promote equity or need for affirmative measures/pathways in the higher education sector. Third, paramedic academics require mentors. They need ongoing support from universities and their industry partners to maintain a pathway for educators. Lastly, Paramedicine needs to continue enhancing its online learning and teaching experience. Innovation in online learning and diversity of teaching methods must be promoted and supported.

Limitations

The study prioritized all four universities with paramedicine programs in one Australian state. Participant experience may be a limitation. All respondents to the feedback survey (n=24) felt the

forum reached its target audience of new and developing academics. Most of the participants (n = 20) explicitly agreed that this forum met their needs as a professional development opportunity. Many also explicitly agreed that they would change their practice because of the Forum (17/24) and that the Forum helped to break down barriers they were experiencing in the role (18/24). Those academics with 0-5 years of experience overwhelmingly viewed the Forum as having a greater impact on their teaching practices. All participants with 0-5 years of experience (n=13) explicitly agreed that they would change their practice as a direct result of the Forum. More experienced participants expressed little desire to change practice, interestingly. The possibility of ideological discordance between actors and researchers associated with 'occupation' and 'profession' may serve as a limitation in the analysis. Ideological discordance invokes politics of power among the intellectual elite (Kurtz, 2022) and may be limiting in the exposition of the sociology of [paramedic] work (Monteiro, 2015).

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