

TEACHING AND EVALUATING THE AFFECTIVE DOMAIN IN PARAMEDIC EDUCATION

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Introduction

The delivery of education in health professions, including paramedicine, follow standard curricula with learning and skills objectives. In Canada, paramedic education program learning objectives are generally reflective of the National Occupational Competency Profiles (NOCPs), whilst in the USA the National Standard Curricula are utilized. The Republic of Ireland and the United Kingdom also utilize national educational standards to guide program development. These guidelines utilize an adaptation of Bloom's taxonomy (Krathwohl et al., 1964) to allow educators to categorize the learning objectives they set for their students. These are commonly divided into three domains: cognitive (theoretical knowledge), affective (feelings and attitude), and psychomotor (practical skills).

Many paramedic educators will be familiar with the delivery and assessment of cognitive performance and psychomotor skills. For example, basic life support skills are taught and assessed through standardized written examination and skills testing. However, our assessment of the affective domain is limited because of the inherent difficulty in measuring learning gains in this domain.

The affective domain in paramedic education addresses learned behaviours that directly affect clinical and operational performance. McKeachie (1976) emphasizes the need to understand humans holistically; the cognitive and affective domains should not be viewed as separate entities. In fact several studies have shown that affect has a direct influence on cognition, and many authors believe that critical thinking relies on both cognitive and affective domains (CPAL, 2013; Hughes, 2008; Labouvie-Vief and Diehl, 2000).

in clinical practice, but should also be an integral component of education programs to promote the development of critical-thinking skills. Affective characteristics can be taught in an educational environment by integrating them into the core curriculum.

Discussion

We regularly set affective learning objectives for paramedic students, but how do we teach and assess these?

Simulation

One potential solution for teaching and assessing the affective domain is the use of immersive simulation. Immersive simulation aims to place the learner in their clinical environment as much as is physically possible in a simulation setting. Active engagement in a role, with associated psychomotor, cognitive and emotional aspects allows for effective learning to occur.

Immersive simulation can add much-needed real-life value to traditional education and assessment techniques, providing paramedic students with reproducible, targeted learning experiences that cannot be readily obtained using traditional techniques or in real patient care situations.

Simulation can assist in teaching the affective domain due to the unique ability to provide reproducible events (allowing for repeated exposure), the freedom to make mistakes (allowing for reflection and subsequent learning) and the ability to provide detailed feedback and evaluation to students (allowing for reflection on self-concept as a clinician)

Some recommendations on developing effective simulations include:

- Match the practitioners clinical space as closely as possible (space, temperature, time)
- Use equipment that is currently in use in the organization (monitor, stretcher, airway equipment)
- If using a manikin, use wigs, clothing, wounds, dressings, etc. to strengthen immersive element
- Use props to enhance critical thinking (medication dispensers, mobility aids, pets)
- Use a validated scoring tool for assessing simulation outcomes
- Remember that debriefing and reflection are the two most critical elements of a simulation (Kardong-Edgren et al., 2010; Olson, 2014)

Debriefing

Debriefing after simulation is a conversation reviewing the events, allowing learners to explore, analyze and synthesize their actions, thought processes and emotional states to improve performance in real situations.

A systematic review by Issenberg et al. (2005) of high fidelity simulation literature identified feedback (including debriefing) as the most important feature of simulation-based medical education.

Debriefing is a facilitated reflective process, allowing the learner or group to reflect on their performance, to discuss aspects of the events they were comfortable or uncomfortable with, and allowing individuals to analyze and assimilate the learning experience.

Fanning and Gaba (2007) in their article titled "The Role of Debriefing in Simulation-Based Learning", provide an excellent outline of the role of the facilitator, the structure of the debriefing session and practical points on debriefing.

Reflection


Evaluating the affective domain can also be achieved through a process of self-reflection on practice (Boyd et al, 2006). Reflective practice is "an approach to learning and practice development which is patient-centred and which acknowledges the untidiness and confusion of the practice environment" (Burns and Bulman, 2000).

Reflective practice remains a relatively unknown concept in paramedic practice compared to other health care professions, such as nursing, where it has been embraced as an essential foundation of professional practice and continuous development.

Learning to be a reflective practitioner includes not only acquiring knowledge and skills, but also the ability to establish a link between theory and practice, providing a rationale for actions. Reflective practice is the link between theory and practice and a powerful means of using theory to inform practice, thus promoting evidence-based practice (Tsingos et al., 2014). It can be used by both students and qualified paramedics to reflect on their strengths, weaknesses and areas for development.

Done regularly, reflective practice enables paramedics to pay attention to details of their clinical practice, and student paramedics to reflect on their learning experiences and their experiential placements. They will be able to anticipate upcoming situations as being new learning experiences, and in doing so, become more informed, safer and more skilful practitioners. This addresses key characteristics of the affective domain, namely attitude, self-concept, motivation and internalization.

Conclusion

The teaching and evaluation of the affective domain need not be a source of anxiety for paramedic educators. It can be easily incorporated into current curricula using simulation, facilitated debriefing after simulation sessions and an emphasis on reflection as both a student and a clinician. Facilitating development of characteristics of the affective domain in paramedic students may also assist in the further development of cognitive and psychomotor domains, moulding perceptive and versatile clinicians. 

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