ARTICLE IN PRESS

Currents in Pharmacy Teaching and Learning xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Currents in Pharmacy Teaching and Learning

journal homepage: www.elsevier.com/locate/cptl

Research Article

Inter-rater reliability of a reflective rubric to assess pharmacy students' reflective thinking

Cherie Lucas[a,b,*], Sinthia Bosnic-Anticevich[c], Carl R. Schneider[b], Kathryn Bartimote-Aufflick[d], Mark McEntee[e], Lorraine Smith[b]

[a] Graduate School of Health (Discipline of Pharmacy), University of Technology, Sydney, Australia
[b] Faculty of Pharmacy, The University of Sydney, Australia
[c] Woolcock Institute of Medical Research, Sydney Medical School, The University of Sydney, Australia
[d] Institute for Teaching and Learning, The University of Sydney, Australia
[e] Faculty of Health Sciences and Brain and Mind Centre, The University of Sydney, Australia

ARTICLE INFO

Keywords:
Assessment
Health education
Intra-class correlation coefficient (ICC)
Reflection
Reflective practice

ABSTRACT

Introduction: Many health education programs aspire to foster reflective practices to enhance the reflective thinking of students during their study years and throughout their professional careers. Given the increasing attention paid to incorporating reflective practice activities into health education and evidence attributed to rater variability, it is important for educators to carefully consider the assessment criteria and reliability of assessment tools. A reflective rubric was developed to assess pharmacy students' levels of reflection from a reflective writing task. This study investigates the inter-rater reliability (IRR) of a rubric as a tool to assess the levels of reflective thinking apparent in students' written statements.

Methods: The research involved four raters from different disciplines utilizing a rubric to assess a random sample of the same forty-three reflective statements from a cohort of two hundred and sixty-four students. The IRR was measured using the intra-class correlation coefficient (ICC), using a two-way random effects model (ANOVA) with absolute agreement, to determine reliability of the assessment tool among the raters.

Results: Results showed measures between the raters for (i) overall reflective statement scores, and (ii) average scores for stages of reflection with an "almost perfect" agreement, ICC = 0.81 (95% CI 0.61–0.90), ($F(42, 126) = 7.83$, $p < 0.01$); and ICC = 0.89 (95% CI 0.83–0.93), ($F(42, 840) = 12.49$, $p < 0.01$) respectively.

Discussion and conclusions: The proposed rubric utilized by four raters showed high agreement with each other's scores, and is a tool for academic assessment of pharmacy students' reflective thinking processes.

Introduction

In healthcare education, thinking reflectively is considered a desirable attribute for students to help them make better informed decisions and clinical judgments.[1–6] "Reflective thinking" is a deep-thinking process that develops metacognitive ability.[7–10]

* Corresponding author at: Graduate School of health (Discipline of Pharmacy), University of Technology Sydney, Australia.
E-mail addresses: cherie.lucas@uts.edu.au (C. Lucas), sinthia.bosnic-anticevich@sydney.edu.au (S. Bosnic-Anticevich), carl.schneider@sydney.edu.au (C.R. Schneider), Kathryn.aufflick@sydney.edu.au (K. Bartimote-Aufflick), mark.mcentee@sydney.edu.au (M. McEntee), lorraine.smith@sydney.edu.au (L. Smith).

http://dx.doi.org/10.1016/j.cptl.2017.07.025

1877-1297/ © 2017 Elsevier Inc. All rights reserved.

Please cite this article as: Lucas, C., Currents in Pharmacy Teaching and Learning (2017), http://dx.doi.org/10.1016/j.cptl.2017.07.025

Metacognition refers to higher order thinking processes that enable an individual to reflect on their thinking. Reflective thinking is a developed skill that assists students to apply and integrate their previous knowledge and experience in order to deal with complex clinical situations.[5,11,12] Reflective thinking has the capacity to create meaning from learning and bring about changes in behavior, beliefs, and attitudes in order to improve future tasks.[5,6,10,11,13]

One of the main reasons for reflecting on any learning process or experience is to come to new insights and understandings to better drive clinical outcomes. Developing reflective thinking skills enables consideration of ones' biases, attitudes, and firmly held beliefs.[5,14] Reflective thinking can improve clinical decision-making and judgments, thus potentially contributing to better patient health outcomes.[3,11] Thus, integrating reflective activities such as reflective writing within a pharmacy education program may be a solution to improve the reflective capacity of pharmacy students.[12] Conversely, there is evidence that suggests assessing reflective writing is problematic and complex, particularly if it is done as a process disconnected from practice.[15] Hence, implementation of reflective activities utilizing real world clinical cases may be a solution to be used in pharmacy education.[12]

Theoretical reflective frameworks

Frameworks that explain the reflective thinking process have been derived from models of reflection.[11,14,16–19] Effective reflective thinking involves description, interpretation, making inferences, and understanding of previous knowledge and personal experiences.[16,20] This exploratory process helps to develop an understanding of optimal alternative options by viewing situations from different perspectives.[14,17,20] Other models involving reflective thinking describe processes that differentiate reflection during an event ("reflection-in-action") from reflection after an event ("reflection-on-action").[11,18] These reflective models are useful in clinical practice because they form the framework to assist health practitioners to resolve problems they encounter in practice.[7] An extension to reflective thinking processes is critical reflective thinking processes.[9] It involves learning about and challenging one's own beliefs, assumptions, and biases, as well as considering the possible attitudes, assumptions, and beliefs of others.[5,13,19]

There is recognition of the relationship between experience and learning.[14,21] Traditionally, the introduction of experiential learning in clinical placements during health education programs has exposed students to some of the complexities of clinical practice.[20] However, experiential learning alone is not enough to develop the skills to make clinical judgments.[20] Kolb[21] has shown that reflection play an important role in the experiential learning process. Reflective learning activities integrated into pharmacy programs and incorporated into clinical placements may be a solution to equipping students with the skills to deal with such diversity and uncertainty in practice.

Although the use of reflection in higher education has been well documented, scaffolding of these learning tasks is not as well described.[22] For reflection to be successful in pharmacy programs, the need to scaffold this process across curricula is paramount. This will allow the pharmacy student to build on foundations for reflective learning.[5] Introducing the process of reflection into curriculum effectively requires a number of considerations including: (1) introducing the main concepts of reflection[23]; (2) facilitating class discussions by drawing from the underpinnings of educational theories[23]; (3) framing reflective activities within the learning context[24]; (4) providing guides and prompts with modeled tasks[24]; (5) deciding on the whether the learning task requires assessment and, if so, the type of assessment appropriate for the learning context; and (6) providing reliable tools to assess the outcomes of reflection. If such learning practices are integrated into health education, then appropriate, reliable assessment tools and valid coding systems are required.[25] In general, large cohorts are often assessed by many raters; thus, reliable assessment strategies that reduces possible rater variability is desired.[26]

Previous research has shown that despite rater training efforts, rater variability in scoring may still be a concern.[27–29] Poor agreement among raters can lead to unfair academic results. Furthermore, a student's approaches to learning tasks are affected by the type of assessment strategy.[9,30] If assessment strategies seem unfair or unreliable, then students may not put their best effort towards the learning task. Therefore, designing a reliable assessment tool that reduces the incidence of rater variability is desirable, particularly when assessing a complex construct such as reflective thinking.

There have been several studies investigating the utilization of a rubric for the assessment of reflective activities in health education.[22,31–38] However, only two studies to date reported the inter-rater reliability (IRR).[37,38] These studies were conducted in the medical practice context. Thus, a significant gap in the literature exists with a reliable assessment tool for the pharmacy context. Furthermore, the consideration as to how a reflective rubric could be utilized in terms of formative or summative assessment is essential.

A long-standing argument in the published literature as to whether reflection should be formatively or summatively assessed has been addressed.[10] This is because the notion of summing up with a numeral a conceptual idea such as reflection (that contains subjective elements) differs from other pharmacy related assessment tasks. Previous published literature has identified that although reflection contains subjective elements, the process of assessment is objective.[10,39] Furthermore, as assessments drive student learning, reflective tasks that are assessed summatively, may encourage students to place more effort towards the learning task.[10,40,41] Also, currently reflective rubrics utilized in medicine are in favor of this type of assessment.[42] Hence, a reliable reflective rubric for the use in pharmacy education has the potential to be a driving force for encouraging reflective practice.

The research objective for this study was to determine the inter-rater reliability (IRR) of raters' scores using a reflective rubric to assess stages and categories of reflection of students' reflective statements.

Methods

Before commencing this study and our previous studies on the effects of reflective thinking processes on students,[12,42] approval

Download English Version:

https://daneshyari.com/en/article/6840168

Download Persian Version:

https://daneshyari.com/article/6840168

Daneshyari.com