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Research Article

Skills and Dispositions of Critical Thinking after a Pilot Educational Intervention: Portfolio Evaluation

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Abstract

Background: critical thinking (CT) is a practical activity based on the balanced search for reason through skills and dispositions. Purpose: To analyze the perceptions of students on an educational intervention focusing on First Aid for the development of skills and CT dispositions.

Method: this was a qualitative, exploratory, and descriptive study based on the historical-cultural theory and activity, performed on 28 first- to third-year students of an undergraduate program in nursing. Interviews were conducted after a first aid course using an assessment portfolio. Data was analyzed using the content analysis proposed by Bardin.

Results: students reported acquiring CT skills throughout the course, despite their initial insecurity. The results confirm and find support in the cultural-historical theory and activity, indicating that the most fruitful learning is the one that precedes development, through clear definitions of teaching and learning activities.

Conclusions: based on the results, the teaching activity should not be limited to the assimilation of content to achieve skills and attitudes, but should also promote CT.

ABBREVIATIONS

CT: Critical Thinking; PBL: Problem Based Learn; AMDCT: Active Methodology for the Development of Critical Thinking

INTRODUCTION

Over the centuries, critical thinking (CT) has received many contributions from thinkers and researchers belonging to the Western philosophical tradition. In the last few decades, it has been widely discussed and investigated, both in conceptual terms and in the context of its multiple applications [1,2].

CT is a practical activity based on the balanced search for reason through skills and dispositions; the skills and dispositions are, respectively, the competence to perform certain action and desire to perform a certain action. These skills can be learned and evaluated by specific tests [3]. The skills are usually assessed: interpretation, analysis, evaluation, and judgment based on evidence. The provisions for the CP are seeking a clear hypothesis; search light weights; make use of reliable sources; consider different points of view with open / flexible mind; evaluate their own thoughts and beliefs and take into account the views and opinions based on the evidence [2-4]. Thus, CT is the way of thinking regarding any subject, content, or issue in which the thinker improves the quality of his thinking, skillfully assuming the control of the structures inherent to this process, and imposing intellectual standards on this thought [4].

In health, CT plays an important role in the academic and professional performance, and is considered the basis for the development of clinical reasoning and decision making. The stimulus through teaching problem-solving methodologies such as Problem Based Learn (PBL) assists in this process [5-7].

However, a meta-analysis has shown that, in Brazil, unlike

in foreign literature, studies on CT are scarce in the context of health and nursing education [8].

In view of this evidence [5-8], and considering CT as a disposition and a set of essential skills for the training of nurses, this study is justified by its purpose of analyzing students' perceptions of an educational intervention focusing on First Aid, conducted for the further development of skills and dispositions towards CT.

MATERIALS AND METHODS

This study was exploratory and descriptive, based on an assessment portfolio about a First Aid course conducted for the incentive of CT skills and dispositions. Theoretical support was based on the historical cultural theory [9] and the activity theory [10]. These theories state that man's interrelations with the world is not established directly, but mediated by instruments and by the signs. The teaching activity mediates human development. The study was conducted on 28 students from the first, second, and, third years of the undergraduate nursing program at the Federal University of Viçosa, between the months of October and November 2015. The students of the last year were excluded because they had already studied this content. The pilot educational intervention was applied in the form of a 25 hour First Aid course utilizing teaching methodology of PBL. For stimulation of CT depositions and skills, a clinical case analysis tool, called the active methodology to the development of critical thinking (AMDCT), was developed. This tool consists of a case, followed by guiding questions to stimulate thinking during the development of PBL. It relies on the skills of the Delphi Report and on the guiding questions of the Richard Paul's model [11]. For conducting the assessments before and after the course, an evaluative portfolio was used, in which students were required to respond to questions on how they started the course, what they had learned, and how they felt on completing the course. It is important to note that it has not used any quantitative test to measure the skills and dispositions of CP. Thus, we evaluated the perception of students reported in the portfolio. The participants' statements were analyzed using the content analysis technique proposed by Bardin [12]. The data analysis process was organized into three phases: pre-analysis, exploration of the material and processing of the results, and inference and interpretation. It is worth mentioning that the analysis was aimed at understanding the core meaning of the statements, and observing and arranging them according to frequency, as segmentation and comparable data.

Participants were identified by acronyms, according to their genre and interview order. The project was approved by a Research Ethics Committee, approval number 1.274.735 and CAAE 45536215.9.0000.5392

RESULTS

How I entered the course

On how the students entered the course from the first to the seventh session, based on their prior knowledge of daily life and of what they had already studied, they reported:

When I started the course, I had little knowledge and was insecure that the knowledge I had would be insufficient to act in such situations (F11).

When I started the First Aid course, I didn't have any knowledge about how I should act during an emergency. Our first situation was a car accident with a victim, and I was a little unsure, and somewhat scared (F16).

What I learned

Throughout the course, while activities, mobilizations, and interactions were being conducted, the students were building new meanings and understand the contents. In this phase, they reported:

I could practice and deepen my theoretical scientific knowledge. One issue that caught a lot of attention was on the day when the class was subdivided into six groups for discussion and resolution of a specific clinical case of providing assistance during a cardio-respiratory arrest. In that moment, it was very important to focus on some items, which I may not have focused on ... I learned to give more importance to small details (F24).

I came out that day with a clearer vision, feeling more secure about my actions, knowing how to perform during a cardio-respiratory arrest. Group work was also very important for this (M22).

How I felt after completing the course

At the end of the course, the participants mentioned the acquisition of specific CT skills and competencies and reported engaging in CT. Thus, on completion of the First Aid course, they said:

I'm leaving with a more reflective attitude, being able to process what happened, and at the same time, to act according to scientific and theoretical knowledge and not only through emotion, with a purpose to serve better (F18).

Classes were very productive as I acquired diversified knowledge about several subjects: patient with trauma, bleeding control, about the Heimlich maneuver, seizures, about poisonous animals ... I learned about reasoning and taking decisions regarding pre-hospital care and how I should act when faced with these accidents (M02).

DISCUSSION

In relation to previous knowledge, both groups reported little understanding of first aid in emergencies, in addition to insecurity and fear. During the course, this lack of knowledge and the fear were gradually overcome by majority of the students, by exchanging experiences. In the end, in spite of the natural insecurities presented before and during the course, the participants reported greater mastery over acting in emergency situations, and reported being able to assess, rationalize, and establish priorities for making appropriate decisions. It is also worth noting that the students mentioned the guiding questions of the AMDCT, referring to them as a method which facilitates the group discussion These findings corroborate and find support in the historical-cultural [9] and activity theories [10,13], which state that the type of education does not determine development and learning, but that the most useful learning is the one that

precedes development through clear definitions of the teaching activities (organization) and learning activities (means of appropriation of knowledge).

CONCLUSION

Based on the results, teaching should not be limited to the assimilation of content to achieve skills and attitudes, but should also promote CT ability in students. The First Aid course offered in the present study helped develop CT skills and dispositions due to the used the AMDCT associate with the PBL.

The small number of participants and the fact that the study was restricted to one college were the limitations of the present study. Thus, new studies that further this research though a strategy analysis are recommended.

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