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専攻分野の名称 : 博士 (教育学)
学位記番号 : 博甲第 241 号
学位授与年月日 : 平成 27 年 3 月 17 日
学位授与の要件 : 学位規則第 4 条第 1 項該当 課程博士
学位論文名 : Inquiry into the Structure and Mechanism of Problem-Based Learning

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学位論文要旨

Problem-based learning (PBL) is an educational approach wherein learners confront contextualised, ill-structured problems and strive for feasible solutions through group work. The objective of the study is to unravel the structure and mechanism of PBL from a holistic perspective, namely, from the cognitive, social, and internal aspects.

In essence, this study deconstructed the multi-layered structure and mechanism of learning generated through PBL by developing three sub-models that comprise a comprehensive conceptual model of PBL. In this process, the study uncovered that small-group discussion is an essential component that makes PBL a unique pedagogical approach and such interaction may help students be inspired, give birth to deeper self-reflection, and have a growing sense of gratitude and responsibility of being more knowledgeable and skilled to return the favour they received from others. Then, beyond the acquisition of content knowledge and interpersonal skills, PBL may contribute to broadening learners' perspectives and promoting their personal transformation. Genuine personal transformation, however, does not end at the individual level. It may go far beyond personal interests, concerns, and desires and create stronger awareness of one's social mission and responsibility to selflessly serve others. These positive changes that took place in the innermost part of learners suggest the significance and relevance of future research focusing on the professional growth of teachers and organisational strengthening of higher education institutions that engage in PBL.

The dissertation consists of six chapters and is organised as follows:

Chapter 1 is an introduction that presents the background, objective, method, and organisation of the study. The history and definition of PBL were also explained here.

In Chapter 2, a literature review provided an overview of PBL research, including an extensive knowledge base upon which the study was built. The author conducted a wide-ranging review and critique of the existing literature and identified the following deficiencies

in PBL research: (1) in non-medical disciplines, (2) on the internal aspect of learners, (3) on the teacher, (4) on the education institution, (5) on the comprehensive conceptual framework, and (6) in the non-English-speaking world. All things considered, the author purposefully stated that this study would shed light on the internal or affective aspect of learners majoring in non-medical fields in a non-English-speaking country (Japan). In addition, the study attempts to offer a theory-based inquiry into the structure and mechanism of PBL.

Chapter 3 presented two qualitative case studies implemented in two different private universities in Tokyo. The author closely examined what and how students learned in PBL from the perspectives of cognitive, social, and internal aspects. Despite the relative ignorance about the internal aspect of learners in previous research, the results of the study revealed that the internal aspect is inseparably linked with the other two aspects, and the three of them simultaneously undergo their own changes in the PBL process. That is, meaningful learning experiences seem to be no less importantly affected by the feelings or internal aspect of learners than by cognitive and social counterparts. Then, beyond knowledge building and skill acquirement, PBL may have contributed to expanding learners' horizons and promoting their personal development. Consequently, PBL was defined anew, from an angle different from that of previous research, as learning that can generate rich and varied emotions in learners concurrently as they face problems, enable them to acquire subject matter knowledge and relational skills through dialogue, and eventually guide them to the threshold of personal transformation.

Chapter 4 included a quantitative case analysis to complement and support the findings of the third chapter. Dahlgren et al. (1998) mentioned that small-group discussion is one of the most characteristic features of PBL. So, in order to accentuate this distinctive point, the author implemented individual PBL (with no discussion) and group PBL (with discussion) in a national university in the Kanto area of Japan. The comparative results of the study revealed that only group PBL students significantly increased their awareness of the importance of: (1) flexible and objective thinking and attitude, and (2) self-development and contribution to society. This suggests that only through group work, learners' internal inspiration is evoked, and they may feel a deeper sense of gratitude for their peers and become serious about being more knowledgeable and skilled to repay the favour they received. Such interaction with others may positively influencing their thinking and attitude, and sparking a zest for personal development and social contribution. As such, small-group discussion could be a vital component that makes PBL (orthodox PBL with discussion) a genuinely unique educational approach.

Chapter 5 is a general discussion; theoretical analysis was conducted for deeper deliberation and development of a conceptual framework of learning engendered through PBL. While drawing on the widely accepted model of knowledge creation (the SECI model) as a clue, the author critically analysed its weaknesses and flaws from new viewpoints, and finally created a hypothesised comprehensive conceptual model of PBL that consists of: (1) the sub-model of

knowledge creation, (2) the sub-model of relation building, and (3) the sub-model of personal transformation. Those three sub-models correspond respectively to the cognitive, social, and internal aspects of learning. The model demystified the structure and mechanism of PBL, illuminating that genuine personal transformation may go beyond individual concerns and desires and reach deeper awareness of one's altruistic mission and responsibility to contribute to people and society in a disinterested manner.

The author referred to the limitations and implications of the study itself. Since all the case lessons consistently dealt with an issue of international development conducted by a single facilitator, future research can change such impersonal and personal variables. Also, each conversion mode and its terminology of the three sub-models need to be more minutely examined and tested by additional qualitative, quantitative and theoretical analyses. Moreover, it was noted that PBL may propel not only student learning but also teacher learning that can be termed as teacher professional growth. That is, PBL may contribute to promoting the professional growth of teachers by enhancing their expertise, sociality, and reflective capacity. However, the dimension regarding the teacher should be investigated through increased accumulation of case studies especially focusing on it. Further research may also address organisational changes through the implementation of PBL over a certain period of time.

Chapter 6 briefly summarised and concluded what this study identified, clarified, and developed throughout the study. It also suggested the direction of future research on PBL. Whatever the case may be, PBL seems to have potential to become a powerful philosophical construct, guiding principle, and practical approach in higher education institutions if they strongly aspire to provide a problem-laden globalised society with students who possess a solid knowledge base, multi-faceted skills, and empathy and compassion for others.