

## Research on the Effectiveness of Online Guided Case Teaching in Problem-Based Learning: A Preschool Special Education Course

**Authors :** Chen-Ya Juan

**Abstract :** Problem-Based Learning uses vague questions to guide student thinking and enhance their self-learning and collaboration. Most teachers implement PBL in a physical classroom, where teachers can monitor and evaluate students' learning progress and guide them to search resources for answers. However, the prevalence of the Covid-19 in the world had changed from physical teaching to distance teaching. This instruction used many cases and applied Problem-Based Learning combined on the distance teaching via the internet for college students. This study involved an experimental group with PBL and a control group without PBL. The teacher divided all students in PBL class into eight groups, and 7~8 students in each group. The teacher assigned different cases for each group of the PBL class. Three stages of instruction were developed, including background knowledge of Learning, case analysis, and solving problems for each case. This study used a quantitative research method, a two-sample t-test, to find a significant difference in groups with PBL and without PBL. Findings indicated that PBL incased the average score of special education knowledge. The average score was improved by 20.46% in the PBL group and 15.4% without PBL. Results didn't show significant differences ( $0.589 > 0.05$ ) in special education professional knowledge. However, the feedback of the PBL students implied learning more about the application, problem-solving skills, and critical thinking. PBL students were more likely to apply professional knowledge on the actual case, find questions, resources, and answers. Most of them understood the importance of collaboration, working as a team, and communicating with other team members. The suggestions of this study included that (a) different web-based teaching instruments influenced student's Learning; (b) it is difficult to monitor online PBL progress; (c) online PBL should be implemented flexible and multi-oriented; (d) although PBL did not show a significant difference on the group with PBL and without PBL, it did increase student's problem-solving skills and critical thinking.

**Keywords :** problem-based learning, college students, distance learning, case analysis, problem-solving

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