

**Encouraging the Development of
Deeper Learning and Personal Teaching Efficacy:
Effects of Modifying the Learning Environment in a
Preservice Teacher Education Program**

Christopher J. Gordon

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Abstract

Through the development and implementation of modified learning contexts, the current study encouraged undergraduate teacher education students to modify their approaches to learning by reducing their reliance on surface approaches and progressively adopting deeper approaches. This outcome was considered desirable because students who employed deep approaches would exit the course having achieved higher quality learning than those who relied primarily on surface approaches. It was expected that higher quality learning in a preservice teacher education program would also translate into greater self-confidence in the management of teaching tasks, leading to improvements in students' teaching self-efficacy beliefs.

Altered learning contexts were developed through the application of action research methodology involving core members of the teaching team. Learning activities were designed with a focus on co-operative small-group problem-based learning, which included multiple subtasks requiring variable outcome presentation modes. Linked individual reflection was encouraged by personal learning journals and learning portfolios. Students also provided critical analyses of their own learning during the completion of tasks, from both individual and group perspectives. Assessment methods included lecturer, peer and self-assessment, depending on the nature of the learning task. Often these were

integrated, so that subtasks within larger ones were assessed using combinations of methods.

Learning approach theorists (Biggs, 1993a, 1999; Entwistle, 1986, 1998; Prosser & Trigwell, 1999; Ramsden, 1992, 1997) contend that learning outcomes are directly related to the learning approaches used in their development. They further contend that the approach adopted is largely a result of students' intent, which in turn, is influenced by their perception of the learning context. The present study therefore aimed to develop an integrated and pervasive course-based learning context, constructively aligned (after: Biggs, 1993a, 1996), achievable within the normal constraints of a university program, that would influence students' adoption of deep learning approaches. The cognitive processes students used in response to the altered contexts were interpreted in accordance with self-regulatory internal logic (after: Bandura, 1986, 1991b; Zimmerman, 1989, 1998b).

Longitudinal quasi-experimental methods with repeated measures on non-equivalent dependent variables were applied to three cohorts of students. Cohort 1 represented the contrast group who followed a traditional program. Cohort 2 was the main treatment group to whom the modified program was presented. Cohort 3 represented a comparison group that was also presented with the modified program over a shorter period.

Student data on learning approach, teaching efficacy and academic attributions were gathered from repeated administrations of the Study Process Questionnaire (Biggs, 1987b), Teacher Efficacy Scale (Gibson & Dembo, 1984) and Multidimensional-Multiattributitional Causality Scale (Lefcourt, 1991). In addition,

reflective journals, field observations and transcripts of interviews undertaken at the beginning and conclusion of the course, were used to clarify students' approaches to learning and their responses to program modifications.

Analyses of learning approaches adopted by Cohorts 1 and 2 revealed that they both began their course predominantly using surface approaches. While students in Cohort 1 completed the course with approximately equal reliance on deep and surface approaches, students in Cohort 2 reported a predominant use of deep approaches on course completion. The relative impact of the modified learning context on students with differing approaches to learning in this cohort were further explained through qualitative data and cluster analyses. The partial replication of the study with Cohort 3, across the first three semesters of their program, produced similar effects to those obtained with Cohort 2.

The analyses conducted with teaching efficacy data indicated a similar pattern of development for all cohorts. Little change in either personal or general dimensions was noted in the first half of the program, followed by strong growth in both, in the latter half. While a relationship between learning approach usage and teaching efficacy was not apparent in Cohort 1, developmental path and mediation analyses indicated that the use of deep learning approaches considerably influenced the development of personal teaching efficacy in Cohort 2.

The current research suggests that value lies in the construction of learning environments, in teacher education, that enhance students' adoption of deep learning approaches. The nature of the task is complex, multifaceted and context specific, most likely requiring the development of unique solutions in each

environment. Nevertheless, this research demonstrates that such solutions can be developed and applied within the prevailing constraints of pre-existing course structures.

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