Tale of a Two-Year Initial Teacher Education Program: Investigating Self-Efficacy Development of Teacher Candidates

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Background

Bandura (2006) defines efficacy as a multifaceted appraisal that reflects the level of difficulty individuals believe they can surmount. Hoy and Spero (2005) define teacher efficacy as one’s belief in one’s capacity to organize and execute the courses of action required to produce given attainments. Specifically, teacher efficacy has been defined as a measure of teachers’ evaluations of their own success in teaching (Duffin, French, and Patrick, 2012). Skaalvik and Skaalvik (2010) define teacher efficacy as teachers’ beliefs in their own ability to plan, organize, and carry out activities that are required to attain given educational goals. Duffin, French and Patrick (2012) recognized three related but distinct aspects of teacher efficacy. They are: Efficacy for Classroom Management (CM), Efficacy to promote Student Engagement (SE), and Efficacy in using Instructional Strategies (IS) (Duffin, French, and Patrick, 2012). Understanding and developing teacher self-efficacy is important because there are many implications, including improved self-efficacy, achievement, motivation, persistence, and positive behaviour in one’s students as well as colleagues (Hoy and Spero, 2005).

There are many implications of measuring teacher efficacy. Firstly, teachers with a high level of efficacy often invest more in their teaching, in terms of their level of aspiration and the goals they set (Hoy and Spero, 2005). By measuring the teacher efficacy and how we can foster it, we can understand how to better do so in teacher-education programs, to foster the development of teachers that are better suited to teach in the ever-changing, diverse world that surrounds us today. Secondly, there are implications to educational reform that can occur through measuring teacher efficacy. Hoy and Spero (2005) note that efficacious teachers are more likely to follow-up their doubts with reflection, motivation to learn, responsiveness to diversity, productive collaboration, and change-provoking disequilibrium. Lastly, there is a strong relation between teacher self-efficacy and teacher burnout (Skaalvik and Skaalvik, 2007). Therefore, it is also important to know how to better maintain feelings of teacher self-efficacy to improve teachers’ working conditions, which in turn, better student education and the potential for educational reform.

Research Purpose and Methods

This multiphase study investigates how the University of Ontario Institute of Technology’s enhanced Initial Teacher Education Program (ITEP) facilitates the development of teacher candidate (TC) self-efficacy. To do this, we measured the initial levels of self-efficacy of 222 TC participants, drawn from three cohorts enrolled in UOIT’s ITEP. Participants completed Bandura’s Teacher Self-Efficacy Scale (TES), comprised of 28 Likert-scale questions. The TES was shared with participants four times throughout the 16-month program, at the end of each semester (1, 2, 3 and 4). The reason for this was to explore the effects of courses, workshops, Foundations Fridays, and other academic planning on the development of teacher efficacy. In addition, participants also responded to open-ended questions regarding their learning and development as teachers. Data analysis included exploratory factor analyses, independent sample t-tests, and descriptive analyses using SPSS software. Content analysis of open-ended responses using a coding framework based not only on the theoretical constructs guiding this study but the topics that arose inductively via pattern-coding (Miles & Huberman, 1994).

Preliminary Findings

Exploratory Factor Analysis (EFA) Multiple EFA were conducted to determine the variance and correlation between the 28 individual Likert scale questions of the Teacher Efficacy Scale (TES). While most questions grouped together into factors that fit into generalized categories such as professionalism and classroom management, one item consistently behaved as an outlier. 28) To what extent can you infuse technology into your teaching as part of meaningful instruction (as opposed to just as ‘add-on’)?

Preliminary Content Analysis (PCA): Initial descriptive analyses showed an increase in self-reported beliefs regarding participants’ abilities to infuse technology into teaching as part of meaningful instruction between semesters one and four of the program; where 76.6% of TCs reported strong levels (responses from 7, 8, 9 combined) of efficacy regarding technology and meaningful instruction in semester one. This number increased to 83.46% at end of semester four.

Independent Sample t-test (257): An IST was performed to determine if the increase in digital literacy efficacy between semesters one and four was statistically significant. This analysis showed that the differences are not significant, despite the infusion of technology throughout the 16-month program. Consequently, we decided to investigate the reason(s) preventing statistical significance from occurring.

Preliminary analysis of the open-ended responses suggest participants learned a good deal about how to integrate technology with instruction even after the first semester. Due to issues related to obtaining the required approvals to conduct the research, we believe that the fact that survey data was not collected before the start of the program, is the main attribute to the statistical insignificance of the data.

Research Study Improvement:
- Move to pre- and post-program data collection (due to survey fatigue)
- Content analysis of open-ended responses
- Semi-structured interviews and focus-group interviews

Methods - Tale of a Two-Year Program: Initial Teacher Education Program (ITEP)

Methods:
- TES & Open-Ended Questions
- Data Collection
- Multiple Data Analyses

Next Steps

Program Improvement:
- Continue to focus courses and assignments in B.Ed. on digital literacies, STEM initiatives, digital learning portfolios, and self-reflective activities
- Consider feedback from open-ended responses

Longitudinal Study:
- This study is part of a broader longitudinal study
- Extend data collection to graduates
- In Canada, there are very few studies that explore the outcomes, successes, and challenges of teacher candidates as they begin, progress, and complete their ITEPs and begin working in the field.

References


Faculty of Education, 2018.


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