

Teacher Education and the Roots of Icelandic Student Teachers' Instructional Self-Efficacy

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ABSTRACT

The focus in this study is on the antecedents of Icelandic student teachers' instructional self-efficacy in classroom management and ability to support learner engagement. We examine how student teachers' instructional self-efficacy relates to their experience in the teacher education programme, including campus preparation and practice teaching in schools. Data were gathered from 191 compulsory school student teachers. The results show that experiences with problem behaviour in the classroom are negatively related to student teachers' efficacy in classroom management. Further, perceptions of the relevance of campus experiences are strongly related to student teachers' efficacy in classroom management. The implications for practice and future research are discussed.

Keywords: *instructional self-efficacy, learner engagement, classroom management, teacher education, structural equation modelling*

Manuscript received: 09.04.2021. Manuscript accepted: 10.12.2021.

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Citation: Björnsdóttir, A., Christophersen, K.-A., Elstad, E., Jóhannsdóttir, T. & Turmo, A. (2022). Teacher education and the roots of Icelandic student teachers' instructional self-efficacy. *Nordic Studies in Education*, 42(2), 127–142. <https://doi.org/10.23865/nse.v42.3129>

Introduction

The recruitment of new schoolteachers is a concern in many countries; moreover, many teachers quit the profession within their first years of teaching (Darling-Hammond, 2012). This has been the case in recent decades in Iceland (Jóhannsdóttir & Björnsdóttir, 2018). This unfortunate situation has led coordinators of teacher education programmes to reflect on how they can put more emphasis on preparing student teachers to face these challenging aspects of their future teaching career. Because student teachers are met with diverse challenges, they must be able to master a range of skills during their placement in practice schools, as well as in their upcoming roles as teachers. However, some skills seem to be more vital than others when implementing good teaching practices, including teachers' instructional self-efficacy beliefs, which are considered by several researchers to be a key component of these practices (Skaalvik & Skaalvik, 2007, 2010; Woolfolk et al, 1990).

Bandura defined self-efficacy as “beliefs in one’s capabilities to organise and execute the courses of actions required to produce given attainments” (Bandura, 1997, p. 3). Self-efficacy beliefs influence individuals’ thoughts and feelings, which in turn enable or inhibit actions (Bandura, 1986) and thus concern students’ performance capabilities rather than their personal qualities (Zimmerman, 2000). Bandura (1993) stated that “teachers who lack a secure sense of instructional efficacy show weak commitment to teaching”.

The term ‘instructional self-efficacy’ encompasses student teachers’ feelings of uncertainty regarding both their classroom management skills and ability to engage learners. Briefly stated, the term involves teachers’ belief in themselves to be capable of successfully carrying out classroom instructions (Ibrahim et al., 2020). Instructional self-efficacy predicts students’ engagement level and teachers’ classroom management skill (Maclellan, 2017); quite often, teachers with a high level of instructional self-efficacy are more persistent and make greater efforts to overcome classroom challenges than teachers with lower levels of it (Tschannen-Moran et al, 1998). These issues are therefore highly relevant in teacher education. The enhancement of student teachers’ self-efficacy should therefore be emphasised in teacher education programmes because it is likely to help them cope with challenges and improve their professional performance .

Our research adds to the corpus of research literature on teacher education focusing on how student teachers’ experience of a teacher education programme may influence their instructional self-efficacy when preparing for their professional life (Zee & Koomen, 2016).

Teacher education programmes include both on-campus academic studies and practice teaching in schools, both of which are considered important parts of teacher training. Hence, we presume that the antecedents of student-teacher instructional self-efficacy are based on both campus preparation in the form of teacher education programmes and off-campus experiences in practice schools. The purpose of this article is to explore the way in which the teacher education programme for compulsory

school teachers at the University of Iceland enhances student teachers' instructional self-efficacy.

The Context: Compulsory Schools and Teacher Education in Iceland

Iceland faces challenges in terms of its school performance and recruitment of an adequate number of qualified teachers. This is a serious situation because both teacher characteristics and teaching quality influence pupil achievement (Seidel & Shavelson, 2007). In 2018, the Programme for International Student Assessment (PISA) revealed that Icelandic 15-year-olds' reading and science competence had deteriorated since the turn of the century, while their competence in math had slightly improved (OECD, 2019a). Compared to the Organisation for Economic Cooperation and Development (OECD) average, only a small proportion of pupils in Iceland performed at high levels of proficiency. Moreover, pupils living in rural areas achieved lower scores than those living in the Reykjavík area (Menntamálastofnun, 2019); in addition, lower socio-economic status is related to PISA scores (Gísladóttir et al., 2019; Jónsson, 2019). These trends are worrisome for all stakeholders, including politicians, educators, and parents, and the difficulty of recruiting qualified teachers adds to their concerns. On the other hand, when compared to other OECD countries (OECD, 2019b), most Icelandic students feel a sense of belonging in their compulsory school. They are also more satisfied with their life in general, and incidents of truancy and bullying are lower. According to OECD figures (2019a),¹ the average score for discipline problems in Icelandic classrooms among 15–16 year olds is similar to the average score in OECD countries. However, the results of the OECD Teaching and Learning International Survey (TALIS) indicate that Icelandic teachers spend more time managing classroom behaviour and lose more instructional time due to students' disruptive behaviour than their counterparts in other Nordic countries (Ólafsson, 2019).

The current compulsory school teacher education at the University of Iceland dates back to a reform implemented in 2008, when the then three-year B. Ed. in teacher education was extended to five years, thus requiring students to obtain a master's degree in order for them to qualify as a teacher. At the University of Iceland, the aim of this change was to make teacher education more research-based and increase the emphasis on practice teaching in collaboration with schools (Bjarnadóttir, 2012; Sigurðardóttir et al., 2018). A five-year teacher education can be either an integrated five-year programme combining theoretical education in universities and practice teaching in schools or a consecutive two-year programme in practical pedagogy and didactics for those who already have an undergraduate degree (BA/BS) in one or more of the compulsory school system's teaching subjects. Traditionally, the University of Iceland's five-year integrated programme has enrolled the majority of Iceland's compulsory

1 For instance, 24% of pupils in Iceland (OECD average: 26%) reported that in all or most lessons, their teacher has to wait a long time for pupils to be quiet (OECD, 2019).

school student teachers. Students take credit-awarding school subjects, including didactics and general educational theory, while practice teaching in schools is connected to both academic areas (Sigurðardóttir et al., 2018). Similar to many other teacher education programmes, practice teaching at the University of Iceland is organised so that student teachers first observe lessons before taking them over (either partially or completely). Student teachers are supervised by school mentors during their practice period, although only a small percentage of these mentors have formal training. It is common for a teacher educator from the university to visit the practice school to observe student teachers' performance toward the end of their practice period.

After the extension of teacher education in Iceland from three to five years, the number of applicants to teacher education programmes declined. The student drop-out rate also increased, which resulted in a sharp drop in the number of graduates (Jóhannsdóttir & Björnsdóttir, 2018). A recent study has revealed that in 2011, 48.6% of certified compulsory schoolteachers who were under the compulsory retirement age in Iceland were not working in the profession (Eyjólfsson & Jónsson, 2017). Indeed, although only 65% of student teachers who graduated from 2002 to 2012 had begun working as teachers within five years of graduation, it appears that students graduating from five-year teacher education programmes are more likely to enter the profession. For example, a survey of the first three cohorts of graduates from the five-year programme at the University of Iceland showed that over 91% of graduates started teaching right away, and 96% were teaching two years after graduation. This is a considerably higher proportion than that of previous graduates of the three-year programme (Sigurðardóttir & Kjartansdóttir, 2018). The new teachers were generally satisfied with their five-year education; however, they felt that 1) there was too much emphasis on academic theory, and 2) the practical training needed improvement (Sigurðardóttir et al., 2018; Sigurðardóttir & Kjartansdóttir, 2018).

Because of the current low number of graduates, it has become even more important to explore the factors related to student teachers' instructional self-efficacy. This highlights the need to create conditions that will further motivate student teachers to enter the teaching profession. The participants in Eyjólfsson and Jónsson's (2017) study described the importance of receiving formal support from either a mentor teacher or the principal when they were taking their first steps as teachers, as receiving this support enhanced their self-confidence and well-being and decreased the likelihood of their quitting the profession.

Similarly, "self-confidence" is a term that is closely related to self-efficacy. Therefore, it is interesting to explore further student teachers' experience in their teacher education programme to understand how this relates to their instructional self-efficacy. More knowledge about both university-based studies and school-based practice teaching is needed. Acquiring more information about these two aspects of teacher education and their interrelation may enable the initiation of appropriate measures to improve teacher education programmes in Iceland. The problems involved in recruiting an adequate number of qualified teachers in Icelandic schools and ensuring

that those who enter the profession are likely to continue stressing the importance of gaining a better understanding how teachers' self-efficacy beliefs are encouraged in teacher education programmes.

Theoretical Framework

Teacher education lays the foundation of all teaching skills, making the quality of teacher education very important. Bandura (1997) proposed that it is not enough to have knowledge and be motivated to perform tasks; rather, the concept of self-efficacy is a type of generative capability in which cognitive, social-emotional, and behavioural sub-skills must be orchestrated for a person to fulfil an occupational role such as teaching. According to Bandura (1997, p. 3), "Self-referent thoughts activate cognitive, motivational, and affective processes that govern the translation of knowledge and abilities into proficient action." Therefore, a teacher's efficacy beliefs act as important organising and motivational forces in their instructional practice. Teachers develop adequate self-efficacy when they overcome the obstacles confronted in their work, manage classroom behaviour, and influence pupils' achievement (Tschannen-Moran et al., 1998).

Thus, in addition to equipping student teachers with appropriate teaching skills, it is important that teacher education programmes create opportunities for student teachers to build adequate instructional self-efficacy. Student teachers prepare themselves for teaching through taking on-campus courses as well as participating in off-campus experiences in school practice, both of which are presumed to support them in overcoming any future obstacles and/or challenges they will face their occupational role as teachers. Receiving personal support from their academic mentors is believed to help student teachers cope with managerial challenges in the classroom as well as their ability to engage pupils in academic tasks (Jónsdóttir, 2012; Zeichner, 1992). We are assuming here that the perceived relevance of campus courses to teaching practice, challenges in classroom management, and support from school mentors are important factors that are related to student teachers' instructional self-efficacy, including classroom management and learner engagement (see Figure 1).

Extensive research has focussed on several aspects of teacher efficacy (for instance, Gibson & Dembo, 1984; Hoy & Woolfolk, 1993; Klassen et al., 2010; Tschannen-Moran & Woolfolk Hoy, 2001, 2007; Künsting et al., 2016; Teiget et al., 2019) and student teachers' sense of self-efficacy in teaching (for instance, Hebert et al., 1998; Liaw, 2009; Lin & Gorrell, 2001; Woolfolk & Hoy, 1990; Depaepe & König, 2018). In this study, we focus on two aspects of student teachers' self-efficacy: self-efficacy linked to classroom management and self-efficacy linked to learner engagement and cognitive activation in classroom situations (Skaalvik & Skaalvik, 2007). We have identified these as two aspects of instructional self-efficacy. Furthermore, we argue that successful experiences in classroom management and learner engagement are important conditions for students to develop the long-term motivation needed for them to become a teacher.

Disciplinary problems may make significant cognitive demands on student teachers' level of awareness during their school practice (Reschke & Hegland, 1999; Şad & Göktaş, 2014). Teaching situations during practice teaching may involve complex challenges that might be experienced as demanding. For instance, a student teacher may need to manage challenging pupils while also managing teaching content. Classroom management tasks are unique in that disruptive situations must often be tackled on the spot; in other words, a student teacher has a very limited amount of time to decide how best to manage an unexpected situation. (An experienced teacher will often tackle such problems more quickly and easily.) All these aspects together place demands on a student teacher's cognitive capacity (Leinhardt & Greeno, 1986). For student teachers who do not possess procedural knowledge regarding classroom management and instruction (like experienced teachers do), situations that require both academic knowledge and behavioural management can be demanding. One plausible explanation for why this is so is overloaded cognitive processing capacity (Feldon, 2007; Paas et al., 2004; Moos & Pitton, 2014). When student teachers get more experience, this might nurture a basis for the proceduralisation (Anderson, 1987) of adequate classroom management skills and, over time, reduce the pressure on their cognitive processing capacity. Additionally, when a repertoire of actions based on managerial skills has first been established, it will become easier for student teachers to tackle disciplinary challenges that arise in their classroom.

Student teachers may be uncertain about their classroom management skills when they are developing their ability to maintain discipline while simultaneously coping with certain pupils' disruptive behaviour. Therefore, we assume that disruptive behaviour in the classroom (pupils breaking the rules or making noise) is negatively related to student teachers' instructional self-efficacy (Hypotheses 1 and 2, Table 2). We do not propose that this relationship has a one-way causal explanation; for instance, a student teacher's behaviour itself may elicit pupils' disruptive behaviour (i.e., a reciprocal relationship).

Student teachers are particularly vulnerable at the beginning of their teaching careers and, as a result, require substantial support from their fellow students and school mentors. Student teachers require support and supervision in the form of feedback from the school mentor both during and after their practice teaching lessons. We assume that school mentors play a crucial role in helping student teachers overcome experiences in classrooms that may negatively influence their efficacy beliefs. Meetings with school mentors at the practice schools where student teachers are through dialogue given clear and direct feedback about their teaching performance and what is expected of them during their school practice will support student teachers' understanding of what they should do to improve as teachers and how to prioritise daily tasks (Lejonberg & Tiplic, 2016). Studies have shown that student teachers' self-efficacy increases during teacher education but decreases during their first year of teaching (Woolfolk Hoy, 2000; Woolfolk Hoy & Burke-Spero, 2005).

These findings indicate that the support of school mentors during student teachers' practice teaching periods is an important opportunity to enhance instructional self-efficacy. School mentors in Icelandic compulsory schools are experienced teachers who are willing to take on the task of supporting their student teachers. Therefore, we expect that Icelandic school mentors' support in the form of dialogue is positively related to student teachers' instructional self-efficacy (Hypotheses 3 and 4, Table 2).

Similar to other countries, teacher education in Iceland forms the foundation of knowledge on which student teachers are supposed to develop instructional skills, including a mastery of subject content, classroom management, and other aspects of teachers' work; that is, they are to form knowledge about instruction, or so-called declarative knowledge. By practising the use of this declarative knowledge in professionally relevant situations, it is internalised and partly automated, in turn becoming procedural knowledge. The foundation on which to build these skills is the perception of the relevance of on-campus teaching to a teacher-education programme. While scant research is available on how campus-based teaching influences student teachers' instructional self-efficacy, some studies indicate that perceptions of campus-based teaching's relevance may nurture instructional self-efficacy (Christophersen et al., 2016; Juuti et al., 2018). We assume that the higher the perceived relevance of campus teaching, the more instructional self-efficacy is nurtured (Hypotheses 5 and 6, Table 2).

We do not believe that the relationships between the exogenous and endogenous variables in the hypothesised model are to be understood via nomological necessity, much like what happens in a clock (the covering law principle, Hempel, 1965). However, in our view, what happens in connection with teacher education is also not as volatile as when clouds form in the sky (the metaphor originated in Popper, 1972). We are unable to assert particular and detailed causal processes that explain student teachers' school practice; rather, the concept that we rely on is mechanisms: "mechanisms are frequently occurring and easily recognizable causal patterns that are triggered under generally unknown conditions or with indeterminate consequences" (Elster, 1998, p. 45). We believe that experiences during practice teaching in schools and perceptions of messages in campus courses may have consequences for the self-efficacy of student teachers because these experiences are antecedent factors. Our subsequent empirical investigation aims to explore the strength of these relationships.

Material and Method

Instrument of Measurement

We designed a multi-item survey (see Table 1) based partly on our own constructs and items (where we relied on principles deduced from Haladyna & Rodriguez, 2013) and partly on adapting existing instruments of measurement (Skaalvik & Skaalvik, 2007) to our own research purposes.

Table 1: Research instrument

(Numbers correspond to the items in the model).

Perceived Relevance to Campus Teaching (PP)
 On a 7-point scale, with “disagree completely” and “agree completely” as the two extremes, the students were asked to indicate their views on the following statements:

W35. In the educational theory teaching, I am given practical examples from actual teaching.
 W38. In the educational theory teaching, the connection between pedagogic theory and practice is made clear.
 W40. In the subject didactics teaching, I am familiarised with academic content that is relevant for the work of a teacher.
 W42. In the subject didactics teaching, the connection between subject didactic theory and practice is made clear.

Perceived Feedback from School Mentors (SS)
 On a 7-point scale, with “disagree completely” and “agree completely” as the two extremes, the students were asked to indicate their views on the following statements:

W51. Mentoring meetings at the practice school help me to understand what I should do to improve as a teacher.
 W53. The school mentors at the practice schools give me clear and direct feedback about my performance.
 W54. The feedback from the school mentors at the practice schools is closely related to what I have actually achieved.
 W55. The feedback from the school mentors at the practice schools makes it clear what is expected of me as a student teacher.

Perceived Discipline Problems During Teaching Practice (PB)
 On a 7-point scale, with “never” and “very often” as the two extremes, the students were asked to indicate to what extent they have experienced discipline problems during their teaching practice:

In the final period of practice, you taught one or more classes. How often did the events listed below occur during your classes?
 W83. Pupils disturbing their fellow pupils in their work
 W86. Pupils breaking class rules
 W88. Pupils making unnecessary noise
 W90. Pupils leaving their desks without asking for permission

Self-Efficacy in Classroom Management (CM)
 On a 7-point scale, with “to a very little extent” and “to a very great extent” as the two extremes, the students were asked to indicate their assessments of the following statements:

To what extent will you, as a future teacher:

W10. Manage to tackle the most troublesome pupils?
 W11. Manage to get the pupils to follow school rules?
 W12. Manage to create a safe environment for all pupils?

Self-Efficacy in Cognitive Activation of Pupils (EN)
 On a 7-point scale, with “to a very little extent” and “to a very great extent” as the two extremes, the students were asked to indicate their assessments of the following statements:

To what extent will you, as a future teacher:

W6. Manage to motivate those pupils who show little interest in schoolwork?
 W7. Manage to make pupils believe that they can do well at school?
 W8. Manage to stimulate pupils to value learning?

Survey Investigation

A survey was carried out among 244 Icelandic student teachers enrolled in all years of a five-year integrated compulsory school teacher education programme at the University of Iceland. The number of respondents in the analysis is 191 (244

participated, but not all of them answered all questions, and some are therefore excluded). These student teachers are enrolled either in campus-based classes or online learning with periodic face-to-face sessions. Around half of the student teachers were online students. The survey was designed so that student teachers were asked to recall the extent to which they had experienced their studies as relevant during their practice period, the experiences they had with their practice school mentor, and their perceptions of the relevance of their on-campus courses.

Data were collected during the spring semester of 2017. The survey was introduced to student teachers during on-campus lessons in which both student teachers in the online programme and campus-based student teachers were present; subsequently, a link to the survey was sent to the students' university email accounts. Students were told that they did not have to participate; moreover, the survey was anonymous and did not require the approval of a school-based ethics committee.

Table 2: Descriptive statistics ('Skew' means 'skewness' and 'Kurt' means 'kurtosis')

LATENT VARIABLE	ITEM	ISLAND						
		MIN	MAX	MEAN	SD	SKEW	KURT	ALPHA
En	w6	1	7	5.36	1.11	-0.51	0.52	.89
	w7	1	7	5.65	1.07	-0.80	1.43	
	w8	1	7	5.28	1.05	-0.37	0.76	
Cm	w10	1	7	4.77	1.35	-0.37	0.09	.80
	w11	1	7	5.09	1.21	-0.64	0.64	
	w12	1	7	5.58	1.17	-0.74	0.66	
Pp	w35	1	7	4.23	1.62	-0.06	-0.59	.90
	w38	1	7	4.01	1.59	-0.08	-0.59	
	w40	1	7	4.70	1.55	-0.45	-0.38	
	w42	1	7	4.32	1.59	-0.31	-0.57	
Ss	w51	1	7	5.64	1.44	-1.17	1.29	.90
	w53	1	7	5.61	1.67	-1.20	0.64	
	w54	1	7	5.90	1.48	-1.47	1.62	
	w55	1	7	5.54	1.71	-1.20	0.68	
Pb	w83	1	7	4.50	1.57	0.06	-0.80	.87
	w86	1	7	2.73	1.60	1.00	0.19	
	w88	1	7	3.42	1.61	0.44	-0.65	
	w90	1	7	3.09	1.74	0.66	-0.52	

Analytical Method

Structural equation modelling (SEM) was used as an analytical method (Kline, 2005). (In fact, SEM is suitable for confirmatory factor analysis and path analysis.) Assessments of appropriateness are based on the p-value of the χ^2 -value, RMSEA (root mean square error of approximation), TLI (Tucker Lewis index), GFI (goodness-of-fit index), and CFI (comparative fit index). The criteria $p > 0.05$; TLI, GFI, and CFI > 0.95 ;

and RMSEA < 0.05 indicate a good match, while $p > 0.05$; TLI, GFI, and CFI > 0.90; and RMSEA < 0.08 indicate an acceptable match between model and data (Blunch, 2008; Kline, 2005). Measurement models and structural models were estimated with the help of IBM SPSS 19 and AMOS 19. Measurements of Cronbach’s alpha varied between 0.80 and 0.90, which is an acceptable rate. Kurtosis and skewness were also acceptable.

Results

The fit indices RMSEA = 0.069, $p < 0.05$, TLI = 0.935, GFI = 0.887, and CFI = 0.947, indicate that the model fits the data acceptably.

The Estimated Structural Model

Figure 1 shows the estimated structural model in which self-efficacy in learner engagement and self-efficacy in classroom management are the dependent variables. Ellipses represent the terms that are to be measured, circles represent measurement

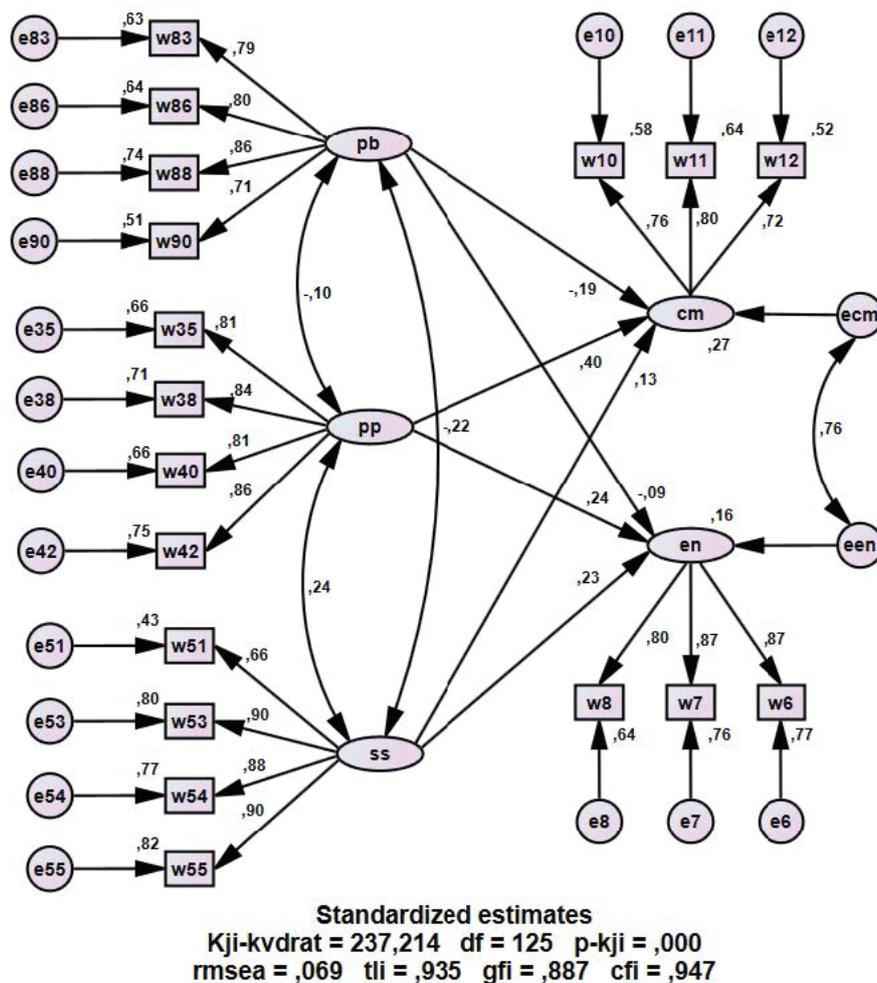


Figure 1: Hypothesised model of relationships between the endogenous variables (self-efficacy in classroom management (CM) and cognitive activation of pupils (EN)) and the exogenous variable (experiences on campus (PP) and practice teaching in schools (SS), as well as perceived discipline problems during teaching practice (PB)).

errors, and rectangles represent the measured variables. The structural model consists of terms with paths (arrows) between them. The path arrows indicate theoretical common causes (reciprocal relations cannot be excluded), and the figures (standardised regression coefficients) reflect the measured strength of the connections, which increases with the numerical value.

In Table 3, the hypotheses and results of the research are listed.

Table 3: Hypotheses and results

HYPOTHESIS	WORDING	RESULT OF RESEARCH
1	Problem behaviour in the classroom is negatively related to student teachers' self-efficacy in classroom management.	The association ($b(pb \rightarrow cm) = -.19$) in Figure 1 is somewhat weak, but the loading of the relationship is as expected. The hypothesis is somewhat supported.
2	Problem behaviour in the classroom is negatively related to student teachers' self-efficacy in cognitive activation.	The association ($b(pb \rightarrow en) = -.09$) in Figure 1 is weak, but the loading of the relationship is as expected. The hypothesis is not supported.
3	School mentors' support, in the form of dialogue, is positively related to student teachers' self-efficacy in classroom management.	The association ($b(ss \rightarrow cm) = .13$) in Figure 1 is weak and does not support the hypothesis.
4	School mentors' support in the form of dialogue is positively related to student teachers' self-efficacy in cognitive activation.	The association ($b(ss \rightarrow en) = .23$) in Figure 1 supports the hypothesis.
5	The higher the perceived relevance of campus teaching, the more self-efficacy in classroom management is nurtured.	The association ($b(pp \rightarrow cm) = .40$) in Figure 1 is quite strong and supports the hypothesis.
6	The higher the perceived relevance of campus teaching, the more self-efficacy in cognitive activation is nurtured.	The association ($b(pp \rightarrow en) = .24$) in Figure 1 is quite strong and supports the hypothesis.

Discussion

The purpose of this study was to explore the roots of Icelandic student teachers' instructional self-efficacy. More specifically, we wanted to estimate the strength of the relationships between assumed exogenous variables and the endogenous variables of self-efficacy through referring to the two aspects of instructional self-efficacy, i.e., classroom management and learner engagement. The hypotheses and indicators were based on previous research (Skaalvik & Skaalvik, 2007, 2010). However, we are not aware of any previous studies of instructional self-efficacy among Icelandic student teachers.

Although the associations between problem behaviour in the classroom and student teachers' self-efficacy in classroom management and learner engagement are rather weak, the loadings of these associations are as expected. Our study is therefore best understood as a first approach to investigating the variance in Icelandic student teachers' instructional self-efficacy. Our theoretical model is only a parsimonious model of *explanans* and *explananda*. In future research, we can imagine having a

richer set of variables that may serve as possibilities for explaining instructional self-efficacy. School practice in overly demanding school classes might be unfruitful for the development of student teachers' self-efficacy in classroom management. If their self-efficacy becomes too low after their initial experiences as classroom teachers, they might drop out of teacher education altogether. However, reducing encounters with realistic challenges during training may be regarded as preparing prospective teachers for a deceptively easy teaching environment. One view is that "Greater efficacy leads to greater effort and persistence, which leads to better performance, which in turn leads to greater efficacy" (Tschannen-Moran et al., 1998, p. 234). However, the means of the self-efficacy items used in this study are very high; indeed, they are a great deal higher than the neutral midpoint. One plausible inference is that prospective teachers' "confidence in their current efficacy often does more harm than good, especially in the context of teacher education" (Wheatley, 2005). If so, this overconfidence leaves teachers vulnerable to reality shock and serious problems when faced with the demands of full-time teaching. Similarly, the idea of emphasizing teacher efficacy confidence may backfire when pupils are highly confident of their ability but view ability as something that one simply possesses or does not possess. It could also backfire when students who are focused on proving their ability to others (i.e., performance goals) give up quickly after experiencing failure.

The path coefficients (standardised regression coefficients) showed a rather weak relationships between problem behaviour and instructional self-efficacy. Despite these associations, we will not exclude problem behaviour from the explanatory scheme of instructional self-efficacy in future studies. Rather than rejecting this theoretically-based assumption, it is more reasonable to adjust or reformulate it. A straightforward falsification of hypotheses based on this study is hardly advisable, although empirical evidence must be taken seriously. Qualitative studies of both student teachers and school mentors may be appropriate to better understand student teachers' perceptions of problem behaviour. One conundrum is the negative relationship between student teachers' perceptions of problem behaviour and perceptions of school mentors' support. School mentors' support in the form of dialogue related more strongly to the student teachers' self-efficacy in learner engagement than to self-efficacy in classroom management. We feel that richer conceptualisations of school mentors' communication (judgementing versus developmental mentoring, cf. Hobson & Malderez, 2013) could further reveal potentially important aspects of school mentoring. Peer mentoring is also an interesting factor that may nurture instructional self-efficacy. Student teachers may find it easier to cognitively inspire their pupils, but they rely more heavily on their mentors to give them good advice regarding classroom management. One inference we have formulated is that school mentors must work closely with student teachers and address the challenges and improvement efforts needed to nurture student teacher efficacy, as explained by Jónsdóttir (2012).

The strength of the perceptions of on-campus teaching's relevance indicates that campus experiences are important for building student teachers' instructional

self-efficacy (Pendergast et al., 2012). If the associations between the independent and dependent variables represent causal relationships, our findings suggest that the on-campus part of teacher education programmes is important. This is an inference that should be emphasised in a time when teacher education programmes are receiving criticism. One trend in several countries is emphasising school-based teacher education with shorter periods devoted to on-campus teaching and studying academic literature. The results of this Icelandic study show that the variance in the perceptions of the relevance of on-campus experiences has the potential to influence student teachers' instructional self-efficacy. Further research might contribute to a better understanding of what functions well and what functions poorly in this regard.

Shortcomings of the Study

As with all similar studies, this study confronted certain limitations from a methodological stance (for instance, a cross-sectional approach), as well as a conceptual perspective (for instance, parsimonious modelling). We acknowledge these shortcomings and argue that they create a foundation for future studies. First, it should be emphasised that relatively little quantitative research has been carried out in relation to Icelandic student teachers' self-efficacy; therefore, we do not have a solid foundation for empirically related research. Potential extensions may focus on examining the effects of other potentially relevant constructs derived from complementary theoretical frameworks. We will continue with more research on this topic ourselves, and we hope that our study contributes to the corpus of research literature on student teachers' attitudes, identities, and beliefs.

Another limitation is the use of self-reported questionnaire data, as the subjective component of such data is undeniable. While independent judgements can provide meaningful data about an employee's work performance, it is difficult to carry out this process while honouring promises of anonymity. However, qualitative studies may better contribute to our understanding of how student teachers and school mentors experience several aspects of school practice in teacher education programmes. One unanswered question is how coherent the theories promoted on campuses and during actual mentoring sessions at schools are.

A further limitation is the fact that we did not have the opportunity to couple student teachers' self-reporting with objective performance-related goals. It was simply not possible to examine the associations between self-efficacy and several other interesting measurements, such as student attainment, in the wake of student teachers' practicum and the importance of student teachers' subject/didactical subject knowledge.

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