Motivational antecedents of student teachers' time-on-task

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Abstract
Studies have indicated that the learning results are closely related to how much effort a student puts into the course and how effectively the student works with the learning material. Adequate time-on-task is crucial for student teachers because it allows them to develop their teaching skills, build strong relationships with students, adapt to classroom challenges, and ultimately become more effective educators. It is a critical component of their teacher preparation and development. Time-on-task in a teacher education program can be considered a coarse-grained measure of study intensity. The purpose of the present study is to explore factors that could explain Faroese student teachers' time-on-task. Faroese schools received a PISA shock after the millennium. As one of several measures, the teacher education institute was incorporated into the country's sole university. The results show that it is their perceptions of the study requirements in teacher education that is most strongly related to time-on-task. Further, there is a tendency towards a weaker relation between self-discipline and time-on-task. A comparison with time-on-task in the other Nordic nations shows that time-on-task is somewhat low. If this is a problem, it might be important to increase the study requirements in Faroese teacher education.

Keywords
Teacher education; Faroe Islands, time-on-task; motivation; self-discipline; academic pressure.

Introduction
The Faroe Islands are a group of 18 islands in the northern North Atlantic Ocean between Scotland, Norway and Iceland. The Faroe Islands' population derives mainly from immigration from Norway several hundred years ago, but the nation has a distinct language which differs from other Nordic languages, along with a clear Faroese identity. The Faroe Islands are now a successful, modern nation with a well-developed welfare system. The society's success undoubtedly has something to do with the Faroese population's ability to exploit the fishing resources in the sea around the islands, but other sectors are also successful. The prosperity of Faroese society also depends on an educated population that sees and grasps opportunities to keep up with technological developments in various industries, and education plays a key role in those efforts.

Universal schooling must lay a knowledge-based foundation for further academic or vocational education. Therefore, the school is an important social institution in the Faroe Islands, as it is elsewhere. Faroese is the language of instruction at all school levels. In studies of what explains pupils' learning outcomes, the quality of teacher education emerges as an indisputably important factor. Because Faroese is the language of instruction, the possibility of migration of teachers from other countries is profoundly limited, and the Faroe Islands are therefore heavily dependent on educating their own teachers.

The Faroe Islands have over time been able to take responsibility for the development of Faroese education (Volckmar, 2019). However, the Faroe Islands experienced a shock when the results of the first large-scale, 2005 international survey in which the nation participated became available (Egelund,

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2005). A critical spotlight was cast on not only the functioning of the school system but also on its teacher education. One response was to transfer teacher training to the country's sole university to promote a more academic orientation (Harryson, 2023). The idea was that integration into the university would help raise the quality of teacher education's contribution to the school workforce. Faroese results in the international student assessments later improved to a significant extent (Norden, 2020). There is no direct connection between the PISA shock after the millennium and changes in teacher education as such, but the PISA shock heralded a serious perspective on the importance of the school system for Faroese society to be able to function well in a world of economic competition between countries. The Faroese population has, through its extensive businesses exposed to competition, experienced tough conditions in order to assert itself in competition with other countries. The school system undoubtedly has more tasks than preparing students for work in competitive businesses, but the PISA shock showed that the school's delivery of skills development is a factor to be reckoned with.

In 2022, the University of the Faroe Islands and its teacher education efforts were subject to an evaluation by an expert commission (Foley et al., 2022). These evaluation processes are used in the Nordic region and are often initiated by education authorities to control higher education. The Faroese university received a largely positive assessment, but there were also recommendations for further improvement efforts. The explicit goal is for the Faroese university to become a member of the European Higher Education Area (EHEA) and to live up to the Bologna agreement. When the evaluation team talks about "improvements", it is about the standards determined by the EHEA and found in the Bologna Agreement (Thomsen, 2023). The evaluation results were interpreted as an indication that much of the teacher education program is mainly working well. However, one question that received too little attention in this evaluation was student teachers' effort levels while in the teacher education program.

We assert that there is a strong connection with time-on-task and student outcomes in higher education, but a number of caveats apply, including whether the students approach the subject material efficiently, the quality of the teaching that the students are offered and so on. In the present study, we focus on connections between motivational categories such as extrinsic motivation, internal motivation, self-discipline, and the students' perception of the study requirements in teacher education (academic pressure). The purpose of the study is to examine the strengths of the statistical associations between these categories.

Theoretical framework

Motivation comes before behaviour, and self-discipline is the volitional strength to complete a task or mission. Further, as rational actors, we perceive the expectations of other rational actors when we consider our engagement and effort. We assume that a student teacher's time-on-task depends on that individual's internal factors – motivation and self-discipline – and how he or she perceives academic pressure. We call these factors motivational antecedents. Motivation involves having goals for one's actions, and motivation researchers divide motivation into different categories. Self-determination theory (SDT), developed by Richard Ryan and Edward Deci (2000), is a psychological framework that explores human motivation and how individuals can be more self-motivated and engaged in various activities. SDT emphasizes the importance of autonomy, competence and relatedness in motivation. Firstly, student teachers who feel that they have choices and control over their teaching methods, classroom management, and instructional decisions are more likely to be motivated. Secondly, SDT suggests that people are motivated when they feel competent in their activities. Student teachers who receive constructive feedback, support, and opportunities for professional growth are more likely to be motivated. Supervisors can play a vital role in helping student teachers build their competence. Thirdly, student teachers who feel a sense of belonging and connection with their students, colleagues, and mentors become more motivated to teach.

Encouraging collaboration, providing a supportive community, and promoting positive relationships within the school can enhance student teachers' motivation.
SDT places a strong emphasis on intrinsic motivation, which involves engaging in activities because they are inherently rewarding and fulfilling (Deci, 1975). Student teachers who are intrinsically motivated are more likely to have a affective commitment to teaching. Motivation during education is also related to meaning or loss of meaning. Intrinsic motivation is therefore important: it is the task itself that motivates. This line of thinking forms the basis of the first hypothesis.

Hypothesis 1: Intrinsic motivation in study situations is related with a student teacher's time-on-task when controlling for other independent variables.
External motivators, such as grades, evaluations, or career prospects, also play a role in motivation. SDT distinguishes between autonomous and controlled forms of extrinsic motivation. Ryan and Deci (2000) discern four forms of extrinsic motivation: external regulation, introjection, identification and integrated regulation. These concepts move on a continuum from less self-determined (e.g., carrot and stick), to more self-determined (e.g., identifying with the reasons for doing a thing). Here we rely on the last aspect. Student teachers should be encouraged to internalize their motivations and find personal value in external rewards to maintain a high level of motivation. Pedersen et al. (2019) show that incentive structures or rewards are not important for student teachers, but extrinsic motivation is embedded in the question of how a person wants to be perceived by other people (Pintrich, 2000). We call this phenomenon extrinsic motivation. In the teacher education program, the student teacher's performance during practice teaching periods (internships) is assessed according to passing or failing grades. In connection with education-based activities on campus, student teachers are assessed in several exams. Fellow student teachers will draw conclusions about a peer's skills on the basis of their own interpretations of that person's behaviour in formal and informal contexts. In such situations, extrinsic motivation can be important (Roness & Smith, 2009). Many studies have shown this aspect of extrinsic motivation to be important in relation to behaviour (Senko et al., 2011).

Therefore, Hypothesis 2 is:
Hypothesis 2: External motivation in study contexts is related with student teachers' time-on-task, when controlling for other independent variables.
Many studies document that self-discipline is of great importance for completing studies and study performance (Baumeister & Tierney, 2011). Self-discipline can be understood as a more or less permanent personality trait. However, no one is completely locked into a personality; with very rare exceptions, everyone has the opportunity to change their behaviour patterns. Self-discipline can thus be considered a force in each individual that is important for the ability to complete academic studies. The student teachers are agents in their own lives.

Hypothesis 3: Personality traits that emerge through the exercise of self-discipline are related with student teachers' time-on-task in teacher education on campus, when controlling for other independent variables.
The factors we have considered so far are characteristics of an individual student: motivation and self-discipline. The time spent on studying can also be understood from the student teacher's side as a reaction to the academic demands that the program places on student teachers (Darling-Hammond & Lieberman, 2012). In connection with that education's modules and subjects, for example, there may be a requirement to submit work that will be assessed by teacher educators. The teachers can specify their demands for effort by means of comments about the students' performances and compulsory assignments.

Hypothesis 4: External academic demands are related with time-on-task, when controlling for other independent variables.

Empirical study design and procedures

This study is part of a larger research project examining the quality dimensions of teacher education in the Nordic countries. In order to investigate the four hypotheses, we prepared a quantitative questionnaire for use in a survey that was carried out at the Faroe Islands teacher training institute in autumn 2021. The questionnaire was designed in Faroese. Participating in the survey was voluntary matter, but a very high proportion of student teachers took part in the paper-based, anonymous survey; the response rate was 93%. The analyses are based on responses from 105 student teachers. In the survey, student teachers responded on a seven-point end-point scale. The indicators (Table 1) had previously been validated in a similar study in Norway, Sweden, Finland and Denmark (NN, 2021). Table 2 shows descriptive statistics of the collected data. The first column shows concepts and indicators for each concept. The Min and Max columns show the minimum and maximum values on the indicator scale (end-point scale) from 1 to 7 (except time-on-task indicator which was inserted by the student). The Mean and SD columns show the arithmetic means and standard deviations, respectively. The Skew and Kurt columns show skewness and kurtosis, respectively. Skewness indicates whether the distribution of data is symmetrical or skewed; negative skewness values mean that the tail of the distribution flattens out to the left, and positive values mean that the tail flattens out to the right. Positive kurtosis values indicate that the distribution is peaked, and negative values mean that it is flattened. The overall impression is that the distribution properties measured through kurtosis and skewness provide a sound basis for performing structural equation modelling (Figure 1), which we return to below. It is common for Cronbach's alphas between 0.7 and 0.9 to be considered the range for acceptable levels of consistency (Crocker & Algina, 1986). This criterion is met in this investigation.

Table 1. Indicators (w-codes referring to numbering in the questionnaire).

Intrinsic motivation (im)

I want to become a teacher because…

- I want others to become interested in learning (w23)
- it is meaningful to work with children and young people (w24)

Extrinsic motivation (pm)

For me it is important…

- to be looked up to by the other students (w25)
- to be referred to as the skilled one in the course (w26)
- to hear that others have a good impression of me (w27)

Self-discipline (sd)

- Even if I set aside time for study work, I don't get it done (w20, reversed)
- I often put off what I have to do until the last minute (w21, reversed)

External academic pressure in teacher education program (he)

Compared to your secondary education...

- The academic requirements are greater in teacher training (w32)
- I need more time to keep up with the teacher's assignments (w33)

Time-on-task (tt)

How many hours do you spend on the following study activities in a typical school week?

- Lectures/team teaching/guest lectures
- Dialogue-based teaching
- Study groups
- Individual study work

Empirical results

Table 2. Descriptive statistics and Cronbach's alpha, N = 105.

Indicator no.	Min	Max	Mean	SD	Skew	Kurt	Alpha
Self-discipline, sd							.76
w20r	1	7	3.85	1.62	0.35	-0.59	
w21r	1	7	4.02	1.57	0.18	-0.67	
Intrinsic motivation, im							.73
w23	1	7	5.86	1.08	-1.12	2.64	
w24	1	7	6.47	0.99	-2.67	9.59	
extrinsic motivation, pm							.85
w25	1	7	3.75	1.74	0.05	-0.99	
w26	1	7	3.43	1.70	0.23	-0.91	
w27	1	7	4.65	1.56	-0.59	-0.13	
External academic pressure in teacher education program, he							.84
w32	1	7	5.06	1.54	-0.77	-0.06	
w33	1	7	4.83	1.72	-0.50	-0.71	
Time-on-task, tt							
tt4	0	56	25.33	10.02	0.29	0.55	

Table 2. shows that there is a spread in how much student teachers study. In the Faroese teacher education program, it is compulsory to attend classes. In 2021/22, when the study was carried out, the first cohort had 15 teaching hours per week, while 2nd, 3rd and 4th years had 12 teaching hours per week. In 2022/23 and in the coming years (the first cohort has 15 teaching hours per week, and 2nd, 3rd and 4th year have 14 teaching hours per week). This is spread over 3 teaching days. The academic year of the teacher training course is 40 weeks.

Table 2. shows that the student teachers' average study intensity is 25.33 hours weekly. We can compare this average of time-on-task with similar measurements from four other Nordic countries (NN, 2023): the average in the Danish sample (31.74 hours) was slightly higher than similar measurements made at universities and colleges in Norway (27.13 hours), Sweden (27.45 hours) and Finland (27.19 hours). This points to the fact that Faroese student teachers spend meaningfully less time on their studies than their Nordic counterparts. Compared to the normal work week of 37 hours in the Faroe Islands, 25.33 hours is low, and there appears to be potential for student teachers to spend more time on their studies. We must note that there is a weak coherence between the number of hours that comes out in this survey and the last well-being survey among Faroese university students. The study, which was carried out in 2021, showed that students at the Faculty of Education spend an average of 32.02 hours per week on study work. In addition, they spend 18.1 hours on the labour market per week (Egholm, 2023). The academic year at The Faculty of Education is 40 weeks. At the other faculties at The university of Faroe Islands, the academic year is 30 weeks. The student teachers and *Pedagogik*-students spend more weeks in an academic year studying than the other students.
Furthermore, Table 2. shows relatively high average values (5.86 and 6.47 on the two indicators) for intrinsic motivation among student teachers. The mean values of external motivation, however, is much lower.

The acronym of structural equation modelling is SEM. A structural model in SEM shows the theoretical relationships and connections between latent variables, observed variables, and their respective measurement errors. It provides a visual representation of a researcher's hypothesis about how different constructs are interconnected and how they collectively influence the observed data. SEM

helps researchers assess whether the hypothesized structural model adequately fits the empirical data, providing insights into the underlying relationships among variables in the research context.

In structural equation modelling (SEM), one typically uses continuous or categorical observed variables as indicators of latent constructs. We used a 7-point end-point scale in structural equation modelling (SEM), ranging from 1 to 7 and allowing to capture more nuanced responses and better understand the relationships between latent constructs and observed variables. This type of scale can be suitable for capturing a wide range of responses and providing a more nuanced view of the constructs.

Below, we present the empirical results of the SEM-analysis. SEM involves estimating direct and indirect relationships between the variables in a theoretical model for the relationships. SEM combines psychometric and econometric approaches and is suitable for confirmatory factor analysis and path analysis. The analysis was carried out with IBM SPSS and IBM Amos 27. To assess whether the estimated model fits the data, we use different indices. The basis of the indices are two sets of variations and correlations between indicators. One set is based on values provided by the data set and the other on the model coefficients. The p-value for the Chi-square, the root mean square error of approximation (RMSEA), the Tucker-Lewis index (TLI), the goodness-of-fit index (GFI) and the comparative fit index (CFI). p-Chi > 0.05, RMSEA < 0.05, TLI, GFI and CFI > 0.95 indicate good fit, while RMSEA < 0.08 and TLI, GFI and CFI > 0.90 indicate acceptable fit (Byrne, 2010; Kline, 2005).

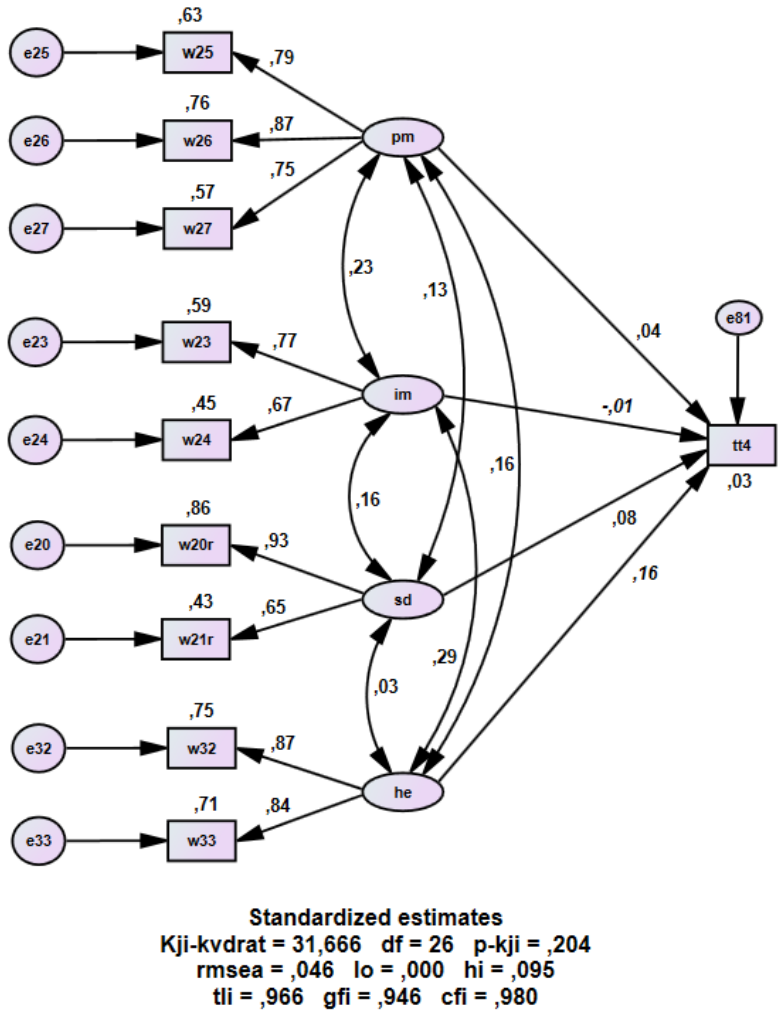

Figure 1. Structural equation model (SEM), Intrinsic motivation (im), extrinsic motivation (pm), self-discipline (sd), external academic pressure (he), time-on-task (tt4). N = 103.

Figure 1. shows how independent variables (here: sd, im, pm and he) are related to one or more dependent variables (here: tt4). The coefficients show the strength of the relationship between the variables in the model. We have used SEM to assess the strength of these relationships.

Figure 1. shows that p = .204 > .05 for the Chi-square value, RMSEA = 0.046, TLI = 0.97, GFI = 0.95 and CFI = 0.98. These indices indicate good fit.

In Table 3. we summarize what the analysis indicates about the four hypotheses proposed above.

Hypothesis testing is a statistical method used to make inferences about population parameters based on sample data. We have data from the entire population. This is the reason why we do not need to rely on hypothesis testing to draw conclusions about population parameters: we have the exact values we are interested in, without having to infer from a sample. The conclusion is that we draw conclusions directly from the population data without the need for hypothesis testing. The coefficient for hypothesis four indicates to some degree a substantively relation. External academic pressure in teacher education program and time-on-task is remarkable, $b_{(en \rightarrow tt)} = .16$.

Table 3. Regression coefficients, N = 103.

Hypothesis	**Wording**	**b_{UV} --> b_{AV}**
H1	*Self-discipline predicts time-on-task*	.08
H2	*Intrinsic motivation predicts time-on-task*	-.01
H3	*extrinsic motivation predicts time-on-task*	.04
H4	*External academic pressure in teacher education program predicts time-on-task*	.16

Discussion and recommendations

A main result is that academic pressure stands out by being most strongly linked to the students' time-on-task, defined as time spent on study work. However, this relation is also moderate (0.16). Self-discipline is only weakly associated with time-on-task (0.08).

External academic pressure in education has been identified as somewhat related to time-on-task. Supporters of academic pressure will be able to claim that when relatively low time-on-task is demonstrated, teacher education programs must amplify and enforce external requirements. The authors agree that both aspects are important, because external motivation does not necessarily destroy internal motivation (Diseth et al., 2020). The point here is to find a balance between establishing appropriate study requirements and arousing and maintaining academic interest. Clarifying expectations as to effort may be an option: the number of teaching hours could be increased; compulsory attendance could be introduced in the first year of study, followed by registering attendance on an individualized basis; tests could be more demanding with prerequisites for ongoing participation and submissions; and a fixed framework for students' collaboration in study groups could be arranged. This prescription will not go down well among progressive educationalists, who often emphasise the importance of intrinsic motivation. However, intrinsic motivation is very weakly related to time-on-task.

If we consider student teachers as calculating individuals who adapt their efforts to what they feel is necessary to pass exams, signalling stricter requirements may be an effective tactic. However, this type of thinking contradicts the idea that it is individuals' desire to learn that must be stimulated. One

should nurture the desire to immerse oneself in a subject. We cannot rule out this view, but we find almost no correlation between intrinsic motivation and time-on-task. This result stands in contrast to a number of other studies that describe the importance of motivation in teacher education, which means that we need more research into the importance of motivation for study effort (e.g., Roness & Smith, 2009). On the other hand, the average level of Faroese student teachers' internal motivation is initially quite high. Here we must say that future research can contribute to clarifying the importance of intrinsic motivation in teacher education. That the Faroese SU (financial support) is relatively low combined with the fact that 2/3 of the students are women; that 76 percent of them are over 26 years old and that 50 percent of them have one or more children can have an influence on how much "they are allowed to work" alongside their studies. - The students may have been highly motivated, but they do not have the necessary time to spend more time on their studies. The internal well-being survey shows that 77 percent of all students at the Faroese university say, that they have to work, while they are studying, and that they work in average 18,6 hours per week all year (Fróðskaparsetur Føroya, 2021).

Since much of the teaching takes place in teacher-led teaching, the individual teacher educator in the campus teaching arrangement has opportunities to build relationships with the student teachers. This relationship can be useful for student teachers to make a genuine effort to fulfil the teacher educator's expectations of high study intensity (Kim and Schallert, 2011). In other words, this relationship may have an impact on whether student teachers' academic work is triggered in critical moments when student teachers may be tempted to exert only a modicum of effort. Therefore, we believe that workload and strategies to strengthen relationships and create closeness between teacher and student can be useful for increasing time-on-task.

A teacher education program will usually be able to design content that can help trigger self-discipline in the learning process. Here it is obvious to emphasize study requirements in the form of compulsory participation, assignments and the like. Self-discipline can be seen as a characteristic of the individual student teacher. On the other hand, several studies show that self-discipline can be practiced and improved and that it is influenced by how student teachers perceive the requirements of an education (e.g. summarized in Baumeister, 2018). It is this meaning that we emphasize below, and we see two ways to go. First, Gollwitzer et al. (1997, 1999, 2020) has shown that self-discipline can be stimulated by emphasizing implementation intentions, which can be understood as if-then plans that link situational cues (i.e., good opportunities to act, critical moments) with responses that are effective in achieving goals or desired outcomes ('If situation Y occurs, then I will initiate behaviour Z to achieve goal X!'). These implementation intentions are formed with the goal of improving the translation of goals into actions. Gollwitzer's research indicates that if-then planning promotes effective management of various problems in goal striving and increases goal attainment. These effects are observed because component processes of implementation intentions mean that people are in a good position to both see and seize good opportunities to move towards their goals. Implementing intentions' effects are stronger when self-regulated problems affect goal striving and when if-then planning is supported by strong, activated goal intentions promoted by an educational institution. It will be an interesting challenge in future research to examine whether a dedicated investment in implementation intentions can stimulate increased study intensity. However, we do not yet know whether campus education can stimulate student teachers' implementation intentions and whether such courses would be sufficient in that regard. However, one can imagine the possibilities for raising awareness among student teachers through academic discussions both on campus and during internship periods. Stimulation of implementation intentions appears to be a promising possibility.

We also note only a weak relation (0.04) between extrinsic motivation and time-on-task in Figure 1. In other areas, extrinsic motivation has been shown to be important for involvement in studies, but it is difficult to determine precisely why that is so. There is reason to follow up on this theme in further research.

In sum, it can be argued that Faroese teacher education requires greater funding to go in the directions suggested here. It is also conceivable that technological development can contribute to cost-effective solutions for teaching, perhaps by incorporating requirements into electronic platforms that provide automated but sufficient feedback on user responses. Here it must be added that the Faroese students have an obligation to attend. Many of the majors have few students (typically between 6 and 22 students). This means that the connection between student and teacher is quite close. One challenge is that the nature of the subject makes it difficult to program predetermined outcomes. This aspect relates to a key challenge for teacher education, to be 'realistic' (Korthagen et al., 2001): responding to the classroom experiences of student teachers, but also to engage with theory and provide a scholarly underpinning to analysis of teaching by beginning teachers.

Strengths and limitations of the study

One of this study's strengths is the high response rate for the student teachers' participation in the study (93 percent). This warrants high external validity as we consider Faroese student teachers as the sample's reference population. Another strength is that the psychometric properties, if shown in the analysis, are satisfactory. Of course we would like an even better concept validity (although we will defend the work we have done by saying that the concept validity is essentially satisfactory).

One obvious limitation of the present study is that we do not have variables dealing with the quality of on-campus teaching. We want to pursue this by using focus group interviews with selected students would e.g. provide a deeper insight. A supplementary questionnaire could also provide greater insight. We acknowledge this limitation and suggest that this element be included as part of future research. Future studies could also include other explanatory variables than those we have included here. Furthermore, there are certain methodological limitations to the present study. This type of analysis has limitations from a conceptual perspective (Kline, 2005) and in terms of its methodological approach (cross-sectional study). The conceptual limitation is that we cannot include all possible factors in SEM, while cross-sectional studies cannot prove causal processes because they are based on measurements at a single point in time. We acknowledge these limitations and argue that they can serve as a starting point for future research. Another limitation is the use of self-reported questionnaire data; the subjective nature of such data is undeniable. We collected our data during a period of normal campus activity: there was both teacher-directed instruction and instruction led by the student teachers. What we asked was based on respondents' memory and judgement. We believe that the responses, taken as a whole, provide a fairly reliable measure of overall study intensity. We repeat that variation in study intensity is related to differences in the independent variables that are the focus of SEM. On the other hand, student teachers' time spent on their studies may be higher during internship periods than in other parts of the programme which are characterized by on-campus teaching. We have tried to avoid this source of error by making very clear that the questions are about the on-campus situation. And in addition, we must note that the various subjects each have their own didactic methods, so that in some subjects the lecture takes up more than in others. For example needlework, sports. We have reduced the problem of discretionary estimates by dividing time into already defined categories: lectures, team teaching and guest lectures; dialogic teaching; study groups; and individual study work.

We cannot escape the conclusion that students' perceptions of their own study efforts in the form of time-on-task are subjective. Nevertheless, it makes sense to compare study efforts among Faroese student teachers. The subjective error that could be associated with each individual can be offset in a sample of students where the individual's error estimate is equalized in one direction or the other. Still, other research consistently shows biases when respondents are asked to provide an estimate (Klein & Yadav, 1989). We cannot evaluate the seriousness of this potential source of error.

In order to raise the level of student teachers' competencies, the teacher education program could emphasize more external academic pressure on the students, place more demands on the teaching

and give feedback on assignments. The students' experience of the possibility of not passing could be required to ensure that students take their studies sufficiently seriously. However, this conclusion is controversial and contradicts some core results in motivation research (Diseth et al., 2020). We need more research to examine these relationships.

It is an open question whether initiatives that generate more study intensity actually contribute to solving the challenges facing teacher education institutions, as noted in the introduction. Greater time-on-task is not a magic formula that will address all the challenges in Faroese teacher education or teacher education in other nations. However, we are focusing on a limited aspect of teacher training here, because time-on-task is an important prerequisite for achieving results. Time-on-task in campus arrangements alone does not guarantee that a student will ever, during his or her subsequent working life, make use of the skills that their studies have given them.

Conclusions

The students' perceptions of the study requirements they experience in teacher education are most strongly related to time-on-task. However, this relation is also moderate. A comparison with time-on-task in other Nordic nations shows that the intensity of study in Faroese teacher training is somewhat low. If this is a problem, it is obviously necessary to increase the study requirements in teacher education. The study is thus primarily relevant as a foundation for further research. Generating some associated qualitative data from participants could have been very useful. Time-on-task will be an important prerequisite for legitimizing society's use of resources in teacher education. One implication of this study is that if low time-on-task is viewed as a problem, tightening work requirements in the campus-based elements of teacher education might be a remedy. Student teacher self-discipline is a personality factor somewhat associated with time-on-task. Self-discipline could be of importance for student teachers' self-management. One unanswered question is whether teaching self-discipline strategies or other institutional arrangements discussed in this article would increase time-on-task. However, if Faroese student teachers spend less time on study work than student teachers in other Nordic countries, then it can either be due to (1) that the Faroese students only do what is necessary to be able to pass the various courses at the university or (2) that the teachers at the teacher training program does not manage to give the student teachers enough work assignments and reading material when they sit at home and prepare for teaching.

Avenues for further research

A study based on SEM necessarily has to employ parsimonious modelling. Our strategy is to broaden our efforts to explore factors related to "time on task." In this context, it would be fruitful to consider the following: Firstly, SDT emphasizes the importance of a supportive learning environment. In teacher education programs, creating an environment that respects autonomy, fosters competence, and promotes relatedness can enhance student teachers' motivation. This includes providing a curriculum that aligns with their needs, offering mentorship, and creating a positive classroom atmosphere. This could be an avenue for further research. Secondly, SDT aligns with the idea of setting clear, self-determined goals and self-regulating one's actions to achieve those goals. Student teachers can benefit from setting specific teaching goals, monitoring their progress, and adjusting their strategies based on their experiences. This is an important aspect of external motivation that could be investigated. Thirdly, providing student teachers with choices in their professional development, such as selecting relevant workshops or courses, can align with SDT's focus on autonomy and self-determined learning. This can enhance their motivation to continue learning and growing as educators.

Incorporating the principles of self-determination theory into teacher preparation programs and the supervision of student teachers could be an interesting avenue for further research. By recognizing the importance of autonomy, competence, relatedness, intrinsic motivation, and external motivators, educators and institutions can help student teachers develop a strong sense of purpose and enthusiasm for their teaching careers.

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