

Factors supporting the engagement of first-semester students in teacher education

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As the transition to higher education can be challenging for students, it is easy to see how the (partial) closure of higher education institutions during the Covid pandemic posed an even greater challenge to engaging in more self-regulated learning and connecting with faculty and peers. Building on Kahu & Nelson's (2018) framework, the aim of our study is to better understand student engagement. In the autumn semester of 2020, students of two programmes at a Swiss University of Teacher Education participated in a survey (n=291). Overall, students reported rather low levels of engagement. Our analyses show that factors of the learning environment, such as missed contact with peers as well as educational interface variables (self-efficacy, enjoyment, belonging), can explain differences in engagement.

1. Starting point: First-year students coping with emergency remote teaching

As the transition to higher education (HE) is a challenging phase for students, it is easy to see how adjusting study habits to the new environment, engaging in more self-regulated learning, and in particular connecting with faculty and peers was even more difficult during times of (partial) closure of higher education institutions (HEIs).

While other studies into students' experiences during Covid-19 restrictions focused on technical equipment (e.g., Dittler & Kreidl, 2020) or on the variants of how online teaching was conducted (Chung, Subramaniam & Dass, 2020; Angelova, 2020; Metscher et al., 2021), only a few studies have investigated first-year students' experiences of emergency remote teaching (ERT) in 2020, particularly within the context of teacher education (for exceptions see below). Simultaneously, an exploration of students' engagement in teacher education (TE) is imperative, given the unique challenges encountered by TE students, including studying a range of subjects that frequently expose them to different disciplinary cultures. To better understand the student experience, we employ the framework of student engagement which is often divided into behavioural, cognitive, and emotional facets (Fredricks, Blumenfeld & Paris, 2004). Examining engagement in the first semester is important since those students who managed to invest time and effort into their remote studies, delving deep into the learning material and feeling connected with peers and faculty despite severely restricted interactions onsite, were more likely to succeed.

The framework of Kahu and Nelson (2018) can provide valuable guidance into thoroughly investigating student engagement. It highlights the key student and institutional factors shaping student engagement, giving prominence to the role of the educational interface linking the students' learning experience to the learning environment provided. Within this interface, we specifically explore the role of self-efficacy, learning-related emotions and the sense of belonging in the unique context of emergency remote teaching (Hodges, 2020). In the broader context, student engagement is considered an important prerequisite for successful student adjustment as well as academic and social integration into HEIs, contributing to subsequent academic success (Kahu & Nelson, 2018). Furthermore, our research empirically examines specific elements within the outlined framework.

This study was conducted in the autumn semester of 2020, starting onsite; after six weeks however, the study programmes switched back to ERT for the remainder of the semester. In this second semester within the pandemic, there was widespread concern about first-year students' social integration and their ability to engage with their studies. Given the circumstances, it is important to note that this research is of an exploratory nature and is not guided by specific hypotheses.

2. Theoretical background

A student's successful transition into higher education has long been an important research area, notably in light of the high dropout rates in the first year (Behr et al, 2020). In more recent research, successful transition is no longer seen as the sole responsibility of individual students; institutions are investing into programme structures and initiatives that foster the academic and social integration of their students. Transition is conceptualized as a development process over time (Gale & Parker, 2014), and student engagement is considered to be particularly relevant to a successful transition.

2.1 Student engagement during the transition to teacher education

Student engagement is widely acknowledged as an important predictor of academic success, with the focus on student behavioural, cognitive, and emotional responses vis-à-vis their learning environments, rather than primarily on their individual characteristics (Kahu & Nelson, 2018; Krause & Coates, 2008; Kuh, 2009; Trowler, 2010). Bond, Bedenlier et al. (2020, p. 317) describe student engagement as “the energy and effort that students employ within their learning community, observable via any number of behavioural, cognitive, or affective indicators across a continuum.” In contrast, disengagement can be understood as a negative expression on this continuum (Chipchase et al., 2017). According to Fredricks, Blumenfeld & Paris (2004), behavioural engagement includes involvement in curricular and extracurricular activities, persistence, and following rules. In comparison, cognitive engagement “goes deeper than behavioural engagement” (van Rooij et al., 2017, p 9) and includes the use of deep learning strategies, self-regulation strategies, and seeking understanding of learning content (Fredricks et al., 2004). Accordingly, cognitive engagement is focused on students' mental effort (van Rooij et al., 2017). Finally, emotional or affective engagement - often described as sense of belonging (Landis & Reschly, 2013) - refers to students' positive responses to the learning environment, peers, and faculty, as well as support from family. Emotional engagement is linked to the idea of social integration whereas academic integration focuses on what students need to identify with and meet academic standards (Tinto, 1975).

In a recent publication, Trowler et al. (2022) point to a clear difference between compulsory and higher education. Thus, to the engagement dimensions proposed by Fredericks et al. (2004) they add critical (how the student relates to the authority), political (the extent to which the student assumes agency or consumes passively) and socio-cultural dimensions (how students feel and attribute value). In particular, the critical relationship (towards the authority) on the knowledge, structures, systems, and processes being taught seems to be relevant in profession-oriented programmes, such as teaching, in which developing a professional identity is a central element.

In teacher education (TE), there is evidence from Germany that TE students experience fewer dropout intentions due to the clear professional perspective compared with students on other programmes (Bohndick, 2020). Studying engagement in teacher education is still relevant as not only it is indicative of student development, but the level and nature of engagement also affects their future performance as teachers (Saini & Abraham, 2021).

In the context of Australian online teacher education, Hopwood et al. (2021) emphasize that teaching is a profession centred on personal relationships, trust and support. In consequence, it is challenging to support the acquisition of teaching strategies in online settings that will be applied face-to-face, as in the classroom. Students are generally sensitive to the theory-practice divide that teachers often face. In their study, Hopwood et al. (2021) suggest paying attention to the design of the learning environment, early opportunities to develop relationships, and the use of relevant, engaging activities and assessment tasks, as well as a strong “teacher presence”.

Although there have been some studies on the engagement of TE students, there is a lack of research into the experiences of TE students in their first year. Focusing on student engagement seems promising as it emphasizes the individual student experience in the new learning environment, and also considers the emotional dimension of socialization in studies.

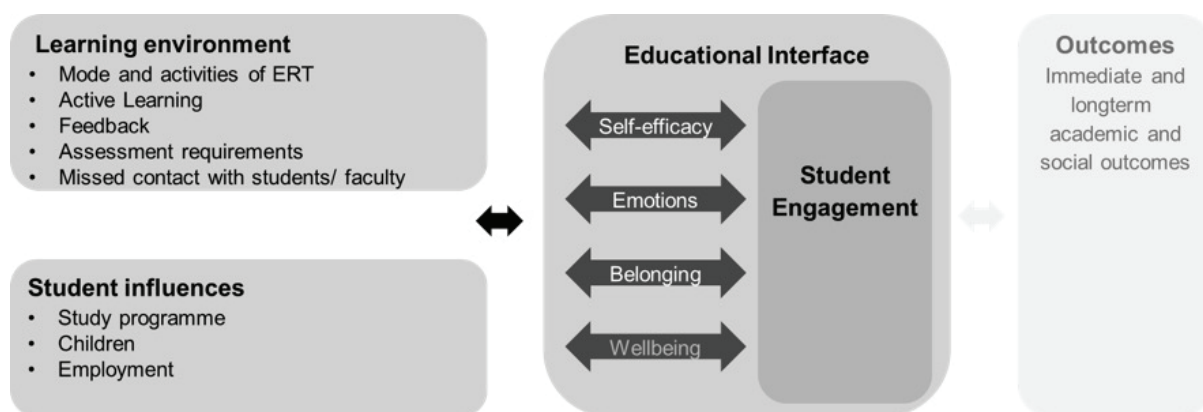
2.2 Theoretical framework on student's engagement in transition

We build our theoretical framework (Figure 1) on that of Kahu & Nelson (2018). The focus is on the complex processes involved in the interaction between the learning opportunities offered by the university, and how the student uses them in the transition process. Viewed from a socio-cultural perspective, a shared responsibility between the learner and the institution emerges (2018, p. 59): “individual student engagement occurs dynamically within an educational interface at the intersection of the student and their characteristics and background, and the institution and its practices.” The socio-cultural environment is recognized as an important context

in which the student and the HEI interact (McKay et al., 2021). Kahu and Nelson (2008) introduce the idea of an “educational interface” as the centre of the framework. “The interface is a tangible representation of the complex interactions between student and institution” (McKay et al., 2021, p 2). At the interface, students’ self-efficacy, emotions, their sense of belonging and their wellbeing are crucial mechanisms to explain student engagement. However, these are not independent but provide access to individual pathways of engagement. These constructs are an outcome of students’ “conscious or unconscious reflections on their situation” (Kahu, Picton & Nelson, 2020, p. 667) and can thus potentially explain student engagement. Self-efficacy as an individual’s belief to achieve a task or goal, including in the light of adverse circumstances, is important for student success (Honicke & Broadbent, 2016). In a similar vein, students’ emotions are seen as an important predictor of their engagement and learning (Pekrun & Linnenbrink-Garcia, 2012). Associated to emotions is the students’ sense of belonging which refers to their feeling of connection to their institution and study programme (Andrew et al., 2021). It is an important “pathway” to social integration and functions as a predictor of student success (Krause & Armitage, 2014, Thomas, 2012). Finally, student wellbeing is seen as a relevant predictor for engagement (Kahu & Nelson, 2018). In the context of the pandemic in particular, students’ psychological distress has been a focus of research (Van de Velde et al., 2021).

Figure 1

Theoretical model based on Kahu and Nelson (2018).



Trowler et al. (2022) critically discussed Kahu & Nelson’s framework and found it to be too linear in its conception. However, we think this is unjustified. Trowler et al. (2022), like Kahu & Nelson (2018), reinforce engagement as situational, dynamic and complex in the sense that “students may be engaged congruently, oppositionally or not at all, along each of the six facets, and even within these, across different contexts” (Trowler et al., 2022, p. 769). Although processes in the interface are complex, there are antecedents and consequences of engagement. Kahu et al. (2020) emphasize engagement as cyclical, evolving over the course of the first year. Trowler et al. (2022) as well as Kahu and Nelson (2018) agree on central mechanisms or pathways to engagement. Trowler et al. bring in further facets of engagement and highlight motivation, resilience, and reflectivity as central constructs to explain engagement. Overall, both contributions are conceptual in nature and built on qualitative research.

2.3 Engaging students at a distance in the context of emergency remote teaching (ERT)

Regarding students’ transition, some studies focused on that particular experience during the Covid-19 lockdowns (McKay et al., 2021; Okwuduba et al., 2022). However, studies in teacher education are still rare. One exception is a study by McKay et al. (2021) where the engagement and wellbeing of 60 new teacher education students were tracked longitudinally over a trimester. They found that student wellbeing was significantly lower in the teaching period that coincided with the onset of the Covid-19 lockdown. While students’ cognitive and behavioural engagement also declined significantly, the authors did not find any significant changes in student emotional engagement. Follow-up focus groups with 14 students showed that the students’ experiences varied widely depending on their financial and family situation (McKay et al., 2021).

Research investigating other study programmes also reported lower levels of student engagement (e.g. Walker & Koralesky, 2021), in particular cognitive and emotional engagement (e.g. Sum et al., 2021). Although the research mostly found that asynchronous teaching was related to lower engagement (e.g. Lau et al., 2022), it was sometimes reported that revisiting pre-recorded videos or other course material (i.e. asynchronous learning activities) enhanced students’ cognitive engagement (Walker & Koralesky, 2021).

Some students benefitted from the lockdown in that they were able to focus more on their studies, while others had to share their working space with other household members. Peer relations and academic support were deemed as crucial for getting through the transition (McKay et al., 2021). Also applying Kahu & Nelson’s (2018) framework, three university instructors generated a case study in the phase of ERT in Australia from April to June 2020 (Andrew et al., 2021). They found that acknowledging students’ voices and giving them the possibility to engage synchronically with instructors and peers supported their sense of belonging. This also made it possible to address emotional issues, as well as wellbeing and mental health. Nevertheless, it was not possible to encourage all students to actively participate (Andrew et al., 2021). De Bruyn & Van Eekert (2023) reported that when courses were switched to online learning, students felt that “social aspects of the HE experience largely diminished” (p. 4). Accordingly, it was more the social than the academic changes that students found especially challenging.

Student engagement was also examined in a completely different setting: in remedial education in Nigeria during the Covid-19 pandemic (Okwuduba et al., 2022). This correlational study of 216 students found that learning support from teachers, peers and parents as well as emotional, behavioural and cognitive student engagement were positively related to student success.

To sum up, there is a lack of empirical evidence on factors supporting student engagement, in particular regarding specific circumstances during the pandemic. Thus, this study is exploratory in nature.

In the context of emergency remote teaching, we investigated the following research questions:

- (1) Which factors in the framework of Kahu & Nelson (2018) can explain the different levels of student engagement?
- (2) How did first-semester students perceive contact with peers respectively faculty and feelings of belonging as important aspects of their social integration?
- (3) What differences can be identified between two TE programmes regarding engagement and the learning environment?

3. Methods

3.1 Participants

To answer the research questions, a questionnaire survey was conducted with first-year students of primary and secondary teacher education students in the autumn semester of 2020. Data was collected at the end of the autumn semester at a Swiss University of Teacher Education (UTE); it included two different TE programmes (see Table 1). Following communication by the heads of the study programmes about the survey’s objectives, all the students enrolled in the full-time programmes for primary and secondary 1 education were invited by email to participate in the online survey. They were informed about the survey’s voluntary nature and confidential data-handling procedures. Two reminder e-mails were sent, and the data collection period was extended to 8 weeks due to the holiday season and semester break.

Table 1

Sample description

Study programme	Duration in semesters	Return	Response rate	Age (M)	Children	Employment over 20%
MA Secondary 1 270 ECTS	9 semesters full-time	76	50%	23.04	0%	15%
BA Primary 180 ECTS	6 semesters full-time	193	52%	23.06	2.2%	11%

In their first semester, students in the Secondary 1 Master programme (9 semesters) choose 3 out of 12 school subjects. The study programme is interesting since students acquire the subject-specific content knowledge at a partner university while the pedagogical (content) knowledge is taught at the UTE. Therefore, in this programme, students attend first-semester courses at different institutions in groups whose attendees are frequently changing.

Primary teacher education students work towards a 6-semester Bachelor’s degree. In their first semester, all courses are taught at the UTE and all students follow predominantly the same curriculum.

In all programmes, a minority of 5 to 7.5% of students describe themselves as non-native German speakers. It is noteworthy that in the primary programme, 9% of the students are classified as non-Swiss and 27% of students hold dual citizenship.

3.2 Measures

The overall questionnaire included the following topics: individual study situation, social integration, psychosocial characteristics of students, characteristics of the learning environment, and perceived student engagement in emergency remote teaching. Unless stated otherwise, the constructs were measured using a 5-point Likert scale (ranging from 1 = strongly agree to 5 = strongly disagree).

Table 2

Measures used in the study

Constructs	Number of items	Measure	Sample item	Cronbach’s alpha
Learning environment				
Mode and activities of ERT	4		Processing the module tasks followed a clearly specified sequence.	Not used as a scale
Active learning	5	Adapted from Bangert (2006)	The modules allowed me to take responsibility for my own learning.	.723
Feedback	2	Adapted from Bangert (2006)	I received sufficient feedback on my work in the modules.	.741
Assessment requirements	2	Adapted from Bangert (2006)	I was adequately informed about the form, process, and requirements of exams and performance assessments.	.731
Missed contact with fellow students	1		I miss the direct contact with fellow students.	Evaluation on single item level
Missed contact with faculty	1		I miss the direct contact with lecturers.	Evaluation on single item level
Educational Interface				
Self-efficacy	10	Schwarzer and Jerusalem (2002)	When resistance arises, I find ways and means to assert myself.	.859
Emotions – enjoyment	4	Achievement Emotions Questionnaire (Pekrun et al. 2011).	I enjoy the challenge of learning the material.	.705
– anxiety	4		The subject scares me because I don’t fully understand it.	.789
Belonging	5	Adapted from Bolliger et al. (2012)	I find it easy to make friends in my online classes.	.720

Engagement				
Student engagement	4	Own design	Overall, I would not want to miss the distance learning experience. I am satisfied with my engagement in distance learning. In distance learning, I was able to deal with the learning content in depth. The modules stimulated in-depth discussions.	.754

Regarding the assessment of student engagement, we deliberately decided to use specific and newly generated items to cater for the behavioural, cognitive and emotional aspects within one scale, rather than employing different scales (e.g. Zhoc et al., 2019).

3.3 Data analysis

Descriptive analyses and stepwise regressions were conducted. SPSS (version 28.0) was used for all analyses. In the first step, we controlled for *students' employment, children* or their *study programme* as these are important student influences in the Kahu & Nelson (2018) model (see block 1, appendix 1).

As a supplemental analysis, we decided to compare the two study programmes, employing t-tests. Due to the exploratory nature of these analyses and the specific context of ERT in which the data was gathered, we refrained from formulating hypotheses.

To prepare the data for the analysis, we analysed the proportion of data missing due to non-responses to single items. Overall, the proportion is 4.8%, ranging from 2.7%-8.2% over all variables, which is acceptable. Additionally, we consistently employed listwise deletion in our analyses.

4. Results

The results are presented along the three research questions.

4.1 Which factors in the framework of Kahu & Nelson (2018) can explain the different levels of student engagement?

In our descriptive analyses, we found that the students in both programmes rated their engagement overall as rather low (Primary: $M=3.16, SD=0.88$ resp. Secondary 1: $M=2.72, SD=0.81$; for programme comparison see 4.3).

As described above, hierarchical multiple regression analyses were conducted to examine research question 1 (which factors relate to student engagement?). First, the student variables were entered as control variables. The second block contained the variables related to the learning environment, and in the third step, the interface variables of *anxiety, enjoyment, self-efficacy* and *belonging* were added. The final model is shown in Table 3 (block 1 and block 2, see appendix 1).

Table 3

Summary of Multiple Regression for Prediction of Student Engagement (N = 236); final model (Step 3); significant predictors in bold.

	Predictors	B	SE B	β	t	p	R	R ²	Adjusted R ²	F	p
Student influences	Constant	1.395	.614		2.273	<.05	.670	.449	.419	15.205	<.001
	Children in one's household	.130	.345	.019	.378	n.s.					
	Employment	-.014	.084	-.009	-.168	n.s.					
	Study programme ¹	-.119	.053	-.117	-2.259	<.05					

Learning environment	Feedback	-0.026	.059	-.026	-.437	n.s.
	Assessment requirements	-.025	.060	-.027	-.423	n.s.
	Active learning	.216	.099	.149	2.169	<.05
	Missing contact with lecturers	-.104	.066	-.114	-1.572	n.s.
	Missing contact with fellow students	-.191	.083	-.167	-2.313	<.05
Interface variables	Anxiety	-.090	.061	-.094	-1.481	n.s.
	Enjoyment	.447	.084	.332	5.286	<.001
	Self-Efficacy	.249	.110	.140	2.261	<.05
	Belonging	.140	.065	.126	2.150	<.05

Note. SE = standard error; ¹ Study Program: 1= BA Primary; 3= MA Secondary 1.

As Table 1 and Appendix 1 show, except for the study programme, the student influences did not have a significant relation with *student engagement*; accordingly, these variables only accounted for a negligible variance ($R^2=.031$, $F(3,233) = 3.493$). In comparison, the study programme is significantly connected to student engagement. Therefore, we examined the role of the study programme in an exploratory analysis, as shown below (see section 4.3).

When the learning environment variables were added to the model, the R^2 value increased to .248 ($F(8,228) = 10.751$) (see Appendix 1). Both *active learning* ($\beta = .149$, $p < .05$) and students *missing contact with their peers* ($\beta = -0.167$, $p < .05$) significantly explained student engagement. With the interface variables, the explained variance increased again ($R^2=.419$, $F(12,224) = 15.205$). *Enjoyment* ($\beta = .332$, $p < .001$), *self-efficacy* ($\beta = .140$, $p < .05$) and *belonging* ($\beta = .126$, $p < .05$) significantly explained the level of student engagement.

4.2 How did first-semester students perceive contact with peers respectively faculty and feelings of belonging as important aspects of their social integration?

As a supplemental analysis, we investigated how students in the two programmes perceived their social integration (see Table 4 for means and standard deviation). A Wilcoxon signed-rank test indicated a significant difference between the two programmes regarding students' contact with fellow students [$z = -2.051$, $p = .040$]. The students in the Secondary 1 programme missed their fellow students even more than the students in the primary TE programme. In comparison, no significant difference between the programmes was found for missed contact with faculty [$z = -.085$, $p = .932$].

Table 4
Social Integration - Means, Standard Deviation

	Primary		Secondary 1	
	M	SD	M	SD
Missed contact with fellow students	4.57	0.855	4.81	0.46
Missed contact with faculty	4.11	1.049	4.23	0.789
Belonging	2.81	0.789	2.71	0.753

Note. 1 = "strongly disagree", 5 = "strongly agree".

An additional t-test for the scale "sense of belonging" showed that there are no significant differences between the study programmes in terms of belonging.

4.3 What differences can be identified between two TE programmes regarding the learning environment and perceived student engagement?

Since there are differences between the study programmes, we also explored how the learning environment and student engagement differed. While student engagement is generally rather low (see 4.1), we can still see a significant difference between the programmes ($T = 3.647, p < 0.001, d = 0.862$). Students of the primary programme rated their engagement higher than students of the secondary I programme (see Table 5 below).

To explore these differences, we examined the modes of formats and activities during ERT. This includes the degree of experienced asynchronous or synchronous elements, the amount of group work and flexibility in the modules (see Appendix 2). Students of the secondary 1 programme experienced substantially and significantly more synchronous forms of ERT ($M = 3.53, SD = 0.667$) compared to students of the primary programme ($M = 2.86, SD = 0.649$) ($T = -7.403, p < 0.001, d = -1.013$). Inversely, primary students reported significantly and substantially more asynchronous forms of ERT ($M = 2.87, SD = 0.656$) than secondary students ($M = 1.97, SD = 0.552$) ($T = 10.357, p < 0.001, d^2 = 1.425$). Despite the substantial difference in the educational setting, there is no significant difference between the programmes regarding the relatively low level of perceived flexibility in the learning environment.

In comparison to these differences between the programmes regarding the educational setting, the programmes do not seem to differ very much in terms of how students perceive the quality of the learning environment. The only significant difference in quality between the programmes' learning environments relates to assessment requirements. According to the ratings, students assessed these more positively in the secondary TE programme (see Table 5).

Table 5

Student Engagement and Qualities of the Learning Environment – Means, Standard Deviation and t-tests

	Primary		Secondary 1		df	T	p	d	95% CI for Cohen's d	
	M	SD	M	SD					Lower	Upper
Engagement	3.16	0.879	2.72	0.817	255	3.647	<.001	.511	.232	.789
Active Learning	3.36	0.584	3.24	0.663	256	1.511	n.s.			
Feedback	3.15	0.934	3.39	0.798	259	-.077	n.s.			
Assessment requirements	3.06	0.814	3.26	0.931	259	-2.134	<.05	-.011	-.283	.262

Note. 1 = "strongly disagree", 5 = "strongly agree".

5. Discussion and conclusions

This study investigated first-year students' experience in two TE programmes during the Covid-19 lockdowns. Compared to other studies conducted in the context of ERT, this study is unique since it employed the Kahu & Nelson (2018) framework. Additionally, our data allow for a comparison of two distinct study programmes within a single HEI. The discussion follows the three research questions that guided our study.

Overall, student engagement is notably low; this is in line with other studies which find a decline in cognitive engagement during ERT (Walker & Koralesky, 2021; Sum et al., 2021). The relatively low levels of engagement also align with earlier findings on student engagement in distance learning contexts (e.g., McBrien et al., 2009).

Our first research question aimed to identify the key factors influencing student engagement during first year. Using Kahu & Nelson's (2018) model, we provided an empirical analysis for essential parts of this conceptual model. We thus expanded previous work which used the same model (for a qualitative study see Kahu et al., 2020; for another quantitative study Arjomandi et al., 2021). Our findings indicate that *student influences*, such as employment or having children, were not related to engagement. This result is unexpected as we had anticipated that some students might be impacted by heightened workload during the pandemic due to balancing online studies with additional life responsibilities. Regarding the students' experience of the *learning environment*, we found a negative relationship between a lack of contact with fellow students and engagement. Conversely, active learning was positively associated with student engagement. This confirms

other research on the importance of active learning both in online and face-to-face learning settings (e.g., Hodges, 2020). In a recent study conducted during the pandemic, El-Sayad et al. (2021, S. 543) found that teaching presence (conceptualized as instructional design and organization), active discourse facilitation and direct instruction were positively related with behavioural engagement. Also in the context of ERT, Venton and Pompano (2021) proposed active learning as an important technique to enhance student engagement. They recommend incorporating group work and tackling small problems during class sessions to support student engagement. Regarding the *interface variables*, we found that enjoyment, self-efficacy and belonging were significantly related to student engagement. Accordingly, we tentatively conclude that the way students experience the educational interface is highly relevant to student engagement. Other studies confirm the importance of these variables, also highlighting their importance for student transition and study success (e.g., for belonging, Brooman & Darwent, 2013; for positive emotions such as enjoyment, Pekrun & Linnenbrink-Garcia, 2012; for self-efficacy, Bowden et al., 2021; El-Sayad et al., 2021).

Our second research question focused on students' social integration during their first semester. Across both programmes, students clearly missed contact with their peers. Contact with faculty was also missed but to a lesser extent. Students in both programmes reported challenges in developing a sense of belonging, attributed to difficulties in forming acquaintances or establishing emotional connection with fellow students in online modules. These findings align with other studies during the pandemic (e.g., De Bruyn & Van Eekert, 2023; Dilger, 2021; Resch et al., 2023).

Finally, we compared how first-year students in the two teacher education programmes assessed their engagement and the characteristics of the learning environment. Interestingly, the programme with more synchronous teaching (the secondary 1 programme) received lower ratings of student engagement. This contradicts other findings that generally associate synchronous teaching with higher student engagement, while asynchronous teaching is somewhat prone to problems (Ahshan, 2021). In light of this finding, it would be valuable to further explore the quality of the ERT. The comparatively lower level of active learning in the secondary I programme could be an indication of a lack of interactivity in the sessions. Furthermore, this programme is also characterized by lower student enjoyment, heightened anxiety and a stronger sense of missing faculty, which might stem from varied subject combinations and module attendance at two different institutions. In summary, the lack of personal continuity may explain these observations. Accordingly, teacher presence was of particular importance during the pandemic (El-Sayad et al., 2021).

Another reason could be the more critical attitude of students in the secondary programme, visible also from the more critical reflexions of the programme and the institution in general, expressed in their qualitative answers in comparison to students on the primary programme. This could be an indication of the importance of critical engagement as suggested by Trowler et al. (2022); however, students' attitudes would need to be empirically investigated in future research.

In conclusion, the pathways to engagement are complex to decode and, as Trowler et al. (2021) suggest, further investigation of other aspects such as motivation, resilience and reflectivity should be considered.

Although our study contributes to a differentiated picture concerning the experience of first-year students during ERT, there are important limitations. First, our data is only cross-sectional in nature. While this allowed us to investigate the differences between two programmes at one timepoint, we can neither compare our data with the situation before the pandemic, nor can we report how engagement and other variables developed over time. Other research showed that student engagement fluctuates in the student's transition process. For instance, a consistent finding is that student motivation declines toward the end of first semester (Brahm et al., 2017). To examine the development of student engagement further, more longitudinal studies are necessary.

Since we only investigated two study programmes in the context of TE, generalizability beyond this field is limited. In fact, as our research investigated the experience of first-year students during the pandemic, the added value of this study is to recognize that the constructs and relationships proposed by Kahu & Nelson (2018) prove to be relevant even in these exceptional circumstances.

Moreover, theoretically, a reciprocal relationship should be assumed between the learning environment and student engagement, as highlighted by both Trowler (2022) and Kahu & Nelson (2018). The methodological approach cannot capture the complexity of interactions. Additionally, our questionnaire lacks systematic differentiation between cognitive, emotional, and behavioural engagement. Since other research emphasizes emotional engagement as a crucial mechanism for addressing the challenges of online teaching, it underscores the need for future studies, employing instruments that allow a more nuanced assessment of the different facets of engagement (e.g., Bowden et al., 2021; Zhoc et al., 2019). Finally, the model's extension to encompass critical and political engagement as proposed by Trowler et al. (2022) needs to be considered.

Regarding practical recommendations, our findings refer to the importance of stability in peer and faculty relations which was a major challenge in one of the programmes. Moreover, further development of the learning environment should focus less on the amount of online or onsite learning, and more on how active learning is supported. Accordingly, future research could investigate learning environments that foster student engagement in more detail, or could explore the mechanisms used in active learning and how they support student engagement.

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Keywords: Student engagement; transition to university; first-year experience; social integration; emergency remote teaching

Engagement von Erstsemesterstudierenden – Förderliche Faktoren in der Lehrpersonenbildung

Zusammenfassung

Der Übergang in die Hochschulbildung ist herausfordernd. So ist es leicht vorstellbar, dass es für Studierende während der (teilweisen) Schliessung von Hochschuleinrichtungen während der Covid-Pandemie noch schwieriger wurde, verstärkt selbstreguliertes Lernen sowie den Kontakt zu Dozierenden und anderen Studierenden aufzubauen. Mithilfe des Rahmenmodells von Kahu & Nelson (2018) zielt unsere Studie darauf ab, das Engagement der Studierenden besser zu verstehen. Im Herbst 2020 nahmen Studierende von zwei Studiengängen einer Schweizer Pädagogischen Hochschule an einer Umfrage teil (n=291). Insgesamt zeigte sich ein eher geringes Engagement der Studierenden. Unsere Analysen zeigen auch, dass Faktoren der Lernumgebung wie der fehlende Kontakt zu Mitstudierenden sowie so genannte Interface-Variablen (Selbstwirksamkeit, Freude, Zugehörigkeit) Unterschiede im Engagement erklären können.

Schlagworte: Studentisches Engagement; Übergang Schule – Hochschule; Erstes Studienjahr; Soziale Integration; Notfall-Fernunterricht

Facteurs favorisant l'engagement des étudiant·e-s de premier semestre dans la formation des enseignant·e-s

Résumé

La transition des étudiant·e-s vers l'enseignement supérieur étant difficile, il est facile d'imaginer que s'engager dans un apprentissage plus autorégulé et se connecter avec le corps professoral et les pairs est devenu encore plus difficile pendant les périodes de fermeture (partielle) des établissements d'enseignement supérieur en raison de la pandémie de Covid. S'appuyant sur le cadre de Kahu & Nelson (2018), notre étude vise à mieux comprendre l'engagement des étudiant·e-s. Au semestre d'automne 2020, les étudiants·e-s de deux programmes d'une haute école pédagogique suisse ont participé à une enquête (n=291). Dans l'ensemble, les étudiant·e-s ont rapporté des niveaux d'engagement plutôt faibles. Nos analyses montrent que les facteurs de l'environnement d'apprentissage, tels que le contact manqué avec les pairs, ainsi que les variables de l'interface éducative (auto-efficacité, plaisir, appartenance) peuvent expliquer les différences d'engagement.

Mots-clés: Engagement étudiant; transition vers l'université; expérience de la première année; intégration sociale; enseignement à distance en situation d'urgence

Fattori che sostengono l'impegno degli studenti del primo semestre nella formazione degli o delle insegnanti

Riassunto

Poiché la transizione verso l'istruzione superiore può risultare impegnativa per studenti e studentesse, possiamo immaginare come la (parziale) chiusura degli istituti di istruzione superiore durante la pandemia di Covid abbia rappresentato una sfida ancora maggiore all'impegno nell'apprendimento autoregolato e al collegamento con docenti e coetanei o coetane. Basandosi sul quadro di riferimento di Kahu e Nelson (2018), l'obiettivo del nostro studio è quello di comprendere meglio l'impegno degli studenti e delle studentesse. Nell'autunno 2020, gli studenti di due programmi di un'università svizzera di formazione per insegnanti hanno partecipato a un sondaggio (n=291). Nel complesso, gli studenti hanno riportato livelli di impegno piuttosto bassi. Le nostre analisi mostrano che i fattori relativi all'ambiente di apprendimento, come la mancanza di contatto con i pari e le variabili legate all'interfaccia educativa (autoefficacia, divertimento, appartenenza) possono spiegare le differenze di impegno.

Parole chiave: Coinvolgimento degli studenti; transizione all'università; esperienza del primo anno; integrazione sociale; apprendimento a distanza in situazioni di emergenza

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The study followed the ethical standards recommended by the Swiss National Science Foundation. Participants were fully informed about the voluntariness, goals, process, and data handling of this study. Participants were in no risk of physical or emotional pressure during data collection.

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Appendix 1. Multiple Regression analysis for Prediction of Student Engagement (N = 236) (Step 1 and Step 2); significant predictors in bold.

	Predictors	B	SE B	β	t	p	R	R ²	Adjusted R ²	F	p
Step 1	Constant	3.312	.289		11.480	<.001	.207	.043	.031	3.493	<.05
Student influences	Children in one's household	.417	.441	.061	.946	n.s.					
	Employment	-.196	.065	-.194	-3.010	<.01					
	Study programme ¹	.012	.105	.007	.114	n.s.					
Step 2	Constant	2.844	.451		6.299	<.001	.523	.274	.248	10.751	<.001
Student influences	Children in one's household	.147	.390	.021	.376	n.s.					
	Employment	-.051	.095	-.031	-.538	n.s.					
	Study programme	-.137	.059	-.135	-2.314	<.05					
Learning environment	Feedback	.010	.066	.010	.148	n.s.					
	Assessment requirements	.061	.065	.065	.939	n.s.					
	Active Learning	.552	.101	.380	5.435	<.001					
	Missing contact with lecturers	-.072	.073	-.079	-.986	n.s.					
	Missing contact with fellow students	-.266	.093	-.232	-2.855	.005					

Note. SE = standard error; ¹ Study Program: 1= BA Primary; 3= MA Secondary 1.

Appendix 2. Characteristics of the learning environment: Means, Standard Deviation and t-test

	Primary		Secondary 1			T	p	d	Cohens d 95% C.I.	
	M	SD	M	SD	df				Lower	Upper
The modules I attended were offered synchronously (during regular class time, in the form of a virtual classroom).	2.86	.649	3.53	.667	264	-7.403	<0.001	-1.013	-1.294	-.730
The modules I attended were offered asynchronously (providing content to be worked on (e.g. text, video) and tasks to be performed).	2.87	.656	1.97	.552	262	10.357	<0.001	1.425	1.128	1.720
The modules included group work time (case studies, exercises, projects, ...).	2.82	.688	2.68	.705	262	1.438	n.s.	.198	-.073	.468
There was a lot of flexibility in the approach to the module tasks.	2.31	.728	2.26	.663	263	.536	n.s.	.073	-.195	.342

Note. 1 = "never", 4 = "very often".