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Assessing University Students' Motivation to Choose Distance Learning and the Challenges of Distance Learning

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Annotation. Distance education has gained magnitude post-COVID-19, requiring an understanding of learners' motivations. This study at the University of Akureyri used a mixed-methods approach to identify three key factors: flexibility, educational growth, efficiency. While gender, age, residence, and education level showed no significant impact, having children and employment influenced perceptions. Thematic analysis revealed insights into student preferences, challenges, and recommendations for improving distance learning.

Keywords: *distance learning, distance education, higher education, motivation.*

Introduction

Distance learning has become increasingly common worldwide, especially with the upcoming of the COVID-19 pandemic in 2020 where educational institutes had to quickly adapt to global health concerns (Alsharah & Ghura, 2023; Cicha et al., 2021). This is particularly evident in small nations where traditional educational infrastructure may be limited. Thus, understanding the different needs of distance learning students is essential for enhancing their educational experience (Aristovnik et al., 2023; Ericson Nolasco, 2022; Selvaraj et al., 2021). This educational approach is particularly relevant in small nations and island states, where geographical, economic, and social factors often limit access to conventional higher education institutions. For instance, in the small island state Iceland, the University of Akureyri (UNAK) and Bifröst University offered distance education for a long time and were therefore much better prepared

than other universities in the country during the pandemic. In this case, a major barrier for many students has been the limited accessibility of traditional higher education. Though distant learning has gained popularity as a possible solution, little is known about the particular factors influencing students' decisions to choose this method of education and how well it closes the educational gaps in these areas.

Using UNAK in Northern Iceland as an example, this study attempts to evaluate the factors thoroughly that impact students' decisions to pursue remote learning in a small country with few higher education facilities outside the main capital area.

The research is building upon recent qualitative research conducted by the Union of Students at the University of Akureyri (ice. Stúdentafélag Háskólans á Akureyri – SHA) (Háskólinn á Akureyri, 2023b). The results showed that students want a wider range of assessment methods in order to get more practical expertise and to align with societal developments. In addition, students want greater links to the labour market and more variety regarding educational approaches. They highlight how important it is for the university to listen to criticism and to keep up-to-date with current teaching strategies and technological innovations. Although the previous survey offered qualitative insights, this study suggests a more comprehensive approach that combines both qualitative and quantitative methods. Furthermore, as demands and learning preferences of different student groups may vary considerably, distinctions between them based on demographics along with other factors should be taken into account.

In Iceland, more and more students are 25 years of age or older, and many of them choose distance learning to better manage their studies together with other obligations which are connected to their families and their jobs. Their lower course completion rates and greater attrition rates emphasise the need for a deeper understanding of their overall student experience.

Conducting a needs analysis for distance learning students at a rural university – also in the light of a potential merger with Bifröst University, which is a forerunner in distance education – is thereby crucial for several reasons: The analysis can help to tailor educational programs to address the specific needs of the rural and/or distant student population, ensuring relevance and effectiveness and, at the same time, to understand the unique needs and challenges of distance learning students in a small nation.

To better understand the motivations driving students in small nations to choose distance education, this study is grounded in Self-Determination Theory (SDT) (Ryan & Deci, 2000). SDT suggests that human motivation is driven by the realisation of three essential psychological needs: competence, autonomy, and relatedness. When these needs are fulfilled, it leads to greater self-motivation and well-being. However, when these needs are unmet, it can result in reduced motivation and mental health. In the context of distance education, autonomy is reflected in the flexibility and control over learning schedules; competence relates to the ability to achieve academic success in a flexible and independent learning environment; and relatedness refers to the social connections built through online learning platforms.

The main objectives of the study are thereby,

- to identify and analyse the key factors motivating students in small nations to choose distance education over traditional classroom-based learning;
- to investigate and record the key challenges faced by students engaging in distance education in small nations.

Accordingly, the guiding research question for this study is:

> *How do demographic factors such as gender, age, residence, working, degree level, and family situation influence students' motivation to pursue distance education in a small nation?*

In addition, qualitative responses from the surveyed students provide in-depth results regarding their choice and motivations, but also their challenges when it comes to distance learning. Thus, the following question is guiding the research here:

> *What are the key challenges faced by distance education students, and how do these challenges affect their educational experience?*

Generally, the study is based on a positivist paradigm with methods including standardized surveys (Rahi, 2017). One of the aims is to reach out to the total population of students in UNAK to be able to generalise the findings.

Theoretical Overview

Opportunities and Student Motivation in DistanceEducation

Distance learning can be defined as "any kind of remote learning in which the student is not physically present in the classroom" (Ericson Nolasco, 2022). These adaptations have led to substantial changes both on campuses and in remote teaching, primarily driven by advancements in information and communication technologies so that students can access academic content online. Hereby, a variety of technological tools and online platforms are used, such as Teams, Zoom, Canvas, online lectures, or pre-recorded videos. When utilizing these tools, students can easily connect with peers and lecturers virtually. At the same time, students can organise work and family commitments, manage their individual learning schedules, i.e., learn at their own speed due to the flexibility distance education offers. As a result, remote learning can attract different types of students. These features are particularly important for non-traditional students, such as full or part-time workers or those with family responsibilities.

To understand the motivational dynamics behind choosing distance learning, this research draws on Self-Determination Theory (SDT), an important framework in educational psychology that explains human motivation (Ryan & Deci, 2000). The framework is based on the fulfilment of three basic psychological needs: *autonomy*,

competence, and *relatedness* (Ryan & Deci, 2000). In the context of distance education, these components provide a useful view to explore how students' motivational processes are influenced by the unique characteristics of remote learning environments. One of the strongest reasons for choosing distance education is the flexibility it gives. Flexibility is critical for students who try to balance studies with work or family responsibilities, allowing them to learn at their own pace from anywhere they want (Moore & Kearsley, 2011). When students have control over their learning, its pace, and location, the need for *autonomy* is thereby realised. Main advantages of distance education are flexibility in planning and an increased accessibility for different types of students. These advantages increase lifelong learning possibilities and professional development by catering to distinct learning styles and individual circumstances (de Oliveira et al., 2018). Distance education further allows students to gain new expertise and qualifications without hindering or disrupting their careers. Hereby, the need for *competence*, i.e. the feeling of being successful in one's activities, as another key component of SDT is a significant motivator for students in distance education. This aspect is particularly important in small nations or remote areas where job markets and professional development opportunities are limited. For example, Allen and Seaman (2016) observed that many professionals choose distance education to increase their career options and to stay competitive in their fields. What is more, in small nations, there is a limited number of higher education institutions, often concentrated in metropolitan areas. Distance education provides students in remote and rural areas with access to programs and courses that would otherwise be unavailable to them (Rao & Giuli, 2010). This is also often the case for adult learners who e.g., do not have the possibility to attend on-campus programs or do not want to join younger students on campus (Agyekum, 2023).

Also, universities might find opportunities in offering distance education, as it can reduce costs by minimizing the need for resources such as classrooms, enabling institutions to serve a larger number of students (Allen & Seaman, 2016; Kumar & Pathak, 2020). In addition, distance education allows universities to develop their geographical reach by attracting (more) students from different regions worldwide. This might even cause higher enrolment numbers and stronger global visibility and reputation.

Challenges in Distance Education

Distance education has many benefits, yet it also has its drawbacks that may demotivate students and even impact their study performance. Some of these drawbacks are connected to the nature of distance education. Other aspects are more linked to specific characteristics of the learners, especially when it comes to active participation or community building in online learning environments.

In the context of SDT, the desire for connecting with others or the need for *relatedness* could be more difficult to obtain in distance education. For this reason, for example,

students in distance education may experience delays in communication which are not helpful in facilitating comprehension and advancement, unlike in a conventional classroom where a student can pose a question and get an immediate response. Fewer networking and collaboration possibilities can also leave the educational process less effective since students may find it hard to establish connections with classmates and teachers (Vallade et al., 2020). Also, the fact that students may experience isolation in remote teaching can contribute to lower engagement levels and even impact their mental health. It is thus clear that strategies to improve communication and build a sense of community among students are necessary (Rovai & Wighting, 2005). In addition, not all students have equal opportunities regarding technology use or efficient internet connection. Self-discipline and time management are essential in distance education; in the absence of the traditional classes, students are expected to manage their time and obligations on their own (Hodges et al., 2020).

Also, feedback in online education, often happens much later than in conventional education which means that teachers' often lack assessing students' understanding and cannot modify their teaching accordingly. Teachers might find the shift from traditional teaching to online or distance instruction demanding (Bower, 2019).

Further, students' participation in distance education is lower than in a regular classroom setting, as some have a skewed perception of engagement in distance education (Simpson, 2013). Studies suggest that older students, as well as those who take up distance education, engage less with their peers, but they have the relevant ability to connect job and study experience efficiently. In spite of these differing circumstances, their satisfaction levels are equally high compared to students attending classes on the campuses which indicates that they benefit from the experiences in a similar way (Kahu et al., 2013).

Regarding universities, one major issue is how universities ensure that the quality of education is ensured in distance education – specifically when it comes to technological needs and support services (Allen & Seaman, 2013). Obtaining active student engagement can be difficult in case of distance students. Pre-recorded video lectures might be reducing student interaction and engagement. This can lead to many questions remaining unanswered and difficulties with the material, which teachers may not notice immediately (Kinsel et al., 2005).

Summarising, especially the global pandemic in 2021, stressed the significance of advantages and disadvantages in distance education, as educational bodies implemented remote teaching methods – at least temporarily. This change highlighted the necessity for flexibility and innovation in education, opening new ways for students who might otherwise not take up any studies, due to geographical distance, health issues, family or work obligations.

Methodology

Icelandic Higher Education Context

As of 2024, Iceland hosts six universities, serving a population of about 400,000 inhabitants. Notably, around two-thirds of the population live in the capital area. Three of these universities are state-run under the Ministry of Higher Education, Science, and Innovation: The University of Iceland (UI), the University of Akureyri (UNAK), and the Agricultural University of Iceland. In 2024, Hólar University College in northern Iceland merged with UI. The remaining three universities operate independently but maintain service contracts with the ministry. Private universities also receive partial state funding, including Reykjavik University, Bifröst University, and the Iceland University of the Arts.

UI, established in 1911, is the oldest and largest university in the country, enrolling approximately 14,000 students, which accounts for about 65% of the total student population in Iceland. Three universities are located in Reykjavik: UI, Reykjavik University, and the Iceland University of the Arts. In the northern region, UNAK and former Hólar University College, now a campus of UI, serve as educational centers. Moreover, the Agricultural University of Iceland and Bifröst University are situated in the western part of the country, about an hour's drive from the capital.

Distance learning options are available at most universities, especially those outside the capital area. These programs typically include online courses with occasional on-campus seminars and assessments throughout the semester. The dominance of distance learning increased significantly across all universities since the beginning of the COVID-19 pandemic in 2020. Before the pandemic, distance learning was mainly offered by universities outside the capital area.

In the 1980s, opportunities for master's and doctoral studies in Iceland were limited, requiring most students to pursue postgraduate studies abroad. During this period, postgraduate programs focused primarily on the humanities, such as history, Icelandic language, and literature. Today, all six universities offer a diverse range of postgraduate programs. Doctoral degrees are available at UI, Reykjavik University, the Agricultural University of Iceland, and UNAK.

Study Approach at the University of Akureyri

The 1990s saw a fast increase in student enrolment in Iceland, leading to the establishment of five universities in Iceland by the year 2000. A significant development during this period was the promotion of Akureyri in the north as a regional hub for education and scientific pursuits, diversifying educational opportunities beyond the capital area. UNAK, founded in 1987, initially focused on nursing and industrial management courses, at first starting with four permanent employees and 31 students (Háskólinn á Akureyri, n.d.-a).

However, it subsequently expanded its offerings to include fisheries and teacher education, aiming to better cater to the specific needs of the region. Notably, UNAK pioneered distance education initiatives among Icelandic universities. Currently, the university offers programmes in the following subjects: social sciences, media studies, nursing, occupational therapy, teacher training (preschool and primary school), biotechnology, law, police science, modern studies, psychology, fishery studies, computer science, and business administration. In the spring semester of 2019, UNAK attained full university status, providing programs across all levels of university studies following the approval to offer doctoral studies. Notably, UNAK was at the forefront of distance education initiatives among Icelandic universities – even long before the COVID-19 pandemic.

UNAK provides study programs within a flexible learning environment. With this student-centered approach, there is no need for daily on-campus attendance in Akureyri, allowing students to pursue their studies independently, regardless of their location and time, with assignments and delivery conducted mostly electronically.

Thereby, communication in flexible learning occurs through various channels, including:

- Synchronous communication with physical presence or via telepresence robots at the university.
- Utilizing different communication software, both synchronous and asynchronous, such as Zoom or Teams.
- Through email or phone.

The university employs a range of teaching methods in flexible studies, including collaborative, flipped, and blended learning. Regular on-campus short-term study periods (ice. "lota") are conducted throughout the academic year, varying between one and three periods per semester across different faculties and lasting for two to five days. The focus during these sessions is primarily on practical training, assignments, and discussions. In some programmes, active attendance is mandatory for students participating in the study periods.

Examinations can be undertaken at UNAK campus, at lifelong learning and education centres across the country, or at recognized universities or embassies abroad (Háskólinn á Akureyri, n.d.-b).

Participants of the Study

The sample consisted of the entire student population at UNAK, approximately 2,700 students, both full-time and part-time. Out of those who accessed and partially completed the survey were 177 students, thus the response rate was about 6.5%. However, the number of responses to the first open-ended question was 109, and 101 students answered the second open-ended question. The low response rate suggests that the results may not fully represent the views of the entire student population at

UNAK. To encourage participation, a reminder was sent to students, but participation remained low. This could be attributed to various factors such as time constraints, lack of interest, or general survey fatigue (Porter et al., 2004). This should be taken into account when interpreting the results, as they likely solely reflect the views of those willing to participate.

Women constituted 85% of respondents, which does not reflect the actual gender distribution at the university, where approximately 78% of students are female. About 56% were 31 years old or older. Two-thirds are undergraduate students (68.1%), with the majority registered in the Education Department (38.3%), although they actually represent only 17%, followed by the Business Department (21.3%). Approximately 31.5% live in the capital area, while about 36% are located in the Northern region. More than half of the participants have one or more children (53%). Only 12% stated they were not working, while about 53% work 31 hours or more per week. Table 1 displays the demographic information of the participants.

Table 1
Participants' Profile

Variable	N	%
Female	120	85.1 %
Male	20	14.2 %
Other	1	0.7 %
Children	142	53%
No children	67	46.9 %
Younger than 20 years	2	1.4 %
20–25 years	33	23.4 %
26–30 years	27	19.1 %
31–35 years	35	24.8 %
36 years or older	44	31.2 %
Undergraduate	96	68.1 %
Graduate	45	31.9 %
North-West Iceland	10	7.0 %
North-East Iceland	41	28.7 %
East Iceland	8	5.6 %
South Iceland	13	9.1 %
Southern peninsula	11	7.7 %
Capital Region	45	31.5 %
West Iceland/ Westfjords	9	6.3 %
Abroad	6	4.2 %

Survey Instrument

To ensure a comprehensive understanding of student motivation to obtain higher education by distance learning, a mixed methods design was used, including a structured survey instrument with closed and open questions. The survey consisted of mostly closed-ended questions aligned with the research questions, allowing for quantitative analysis. Questions cover a range of topics, including academic needs, preferred learning styles, engagement with online content, and perceptions of assessment methods. For this paper however, only questions regarding student preferences to choose distance learning were taken into consideration as well as background questions of participants.

To achieve content validity, the survey items were developed based on a thorough review of the literature. Before distributing the survey, its questions were discussed with staff at the teaching center of UNAK and of the University of Iceland. A short pilot test with the Student Union (SHA) was also conducted to gather feedback. The questionnaire was then revised for clarity.

In addition, the research was reported to the Ethics Committee of the universities in Iceland (Ice. *Siðanefndar háskólanna um vísindarannsóknir*), which concluded that the study complied with ethical standards. Survey participants were informed about the purpose and significance of the study, with assurance of voluntary participation and confidentiality of their responses, which were to be used solely for scientific purposes and to inform the university's administration and staff. To reduce the risk of socially desirable responses, anonymity was guaranteed, and participants were informed that no personally identifiable information, such as email addresses or names, would be traceable.

The questions were structured as short statements, and respondents provided their answers on a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" in order to measure the intensity of participants' attitudes. Survey questions are based on Fidalgo et al. (2020); Selvaraj et al. (2021); Sindiani et al. (2020). The question on "Reasons why students choose distance education" was drawn from Fidalgo et al. (2020). The question on "Methods or approaches to learning" was based on Selvaraj et al. (2021); the question on "Programs/Tools for learning and teaching" was adapted from Selvaraj et al. (2021) and Sindiani et al. (2020), and the question on assessment methods was based on Selvaraj et al. (2021). All these studies specifically examined distance education, particularly during COVID-19, as well as students' experiences and challenges in online learning, student-teacher interactions, and the preferred learning arrangements of students.

What is more, two open-ended questions were included in the survey, that allowed students to elaborate on their learning experiences, providing richer qualitative data that complements the quantitative survey results.

The target group includes all distance learning students at UNAK, encompassing various faculties, departments, and demographic backgrounds. At the moment there are about 2,700 students (Háskólinn á Akureyri, 2023a) enrolled at UNAK, some,

however, just part-time. Given that some students' first language is not Icelandic, the survey was conducted in both Icelandic and English.

The survey was distributed electronically via the survey platform *QuestionPro* at the beginning of 2024 to the entire population of distance-learning students at HA. The office manager at UNAK was responsible for emailing students with a link to participate, and the student union also distributed the link to students. One reminder was sent out over a period of two weeks. Despite that, the response rate remained relatively low.

Measures

The survey questions were designed to capture various aspects influencing students' choice of distance education. A principal component analysis (PCA) was conducted to identify higher-level components based on these questions. The PCA, with varimax rotation and Kaiser normalization (Tabachnick & Fidell, 2013), resulted in three distinct components:

1. **Flexibility**: Measuring the extent to which students believe that distance education provides them with better work-life balance, allowing them to study independently in respect of time and location.
2. **Efficiency**: Indicating how students perceive time and cost savings, especially regarding travel or commute time to the campus, and threats due to health issues.
3. **Educational growth**: Indicating opportunities for academic and career advancement through distance learning, especially as a result of technological advancements.

Reliability analysis using Cronbach's alpha was performed for each component, yielding satisfactory values indicating high internal consistency (Table 3). Further, demographic and background information was collected from participants, mostly measured as dummy variables:

- **Gender**: Measured by a dichotomous variable (1 = men, 0 = women).
- **Age**: Categorized into two groups (0 = 24 years or younger, 1 = 25 years or older).
- **Residence**: Classified based on location (0 = countryside/outside Reykjavik, 1 = capital/Reykjavik).
- **Employment status**: Indicated whether the student was employed (0 = no, 1 = yes).
- **Parental status**: Indicated whether the student had children (0 = no, 1 = yes).
- **Educational level**: Differentiated between undergraduate (0) and graduate (1) students.

Data Analysis

Quantitative Analysis

Quantitative data collected through the surveys was subjected to statistical analysis using tools such as Statistical Package for Social Sciences (SPSS) version 26 and Excel.

First, a principal component analysis (PCA) was applied to assess the internal consistency of the survey and to identify higher-level components based on the individual items that were reported as why students choose distance education (Jolliffe & Cadima, 2016). Cronbach's alpha values range from 0.637 to 0.816, which indicates a moderate to strong degree of internal consistency and reliability (Tavakol & Dennick, 2011). These values suggest that the survey items measure the same underlying constructs across different students. Varimax rotation and Kaiser normalization were used to achieve a clearer and more interpretable factor structure. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was acceptable (KMO = 0.719), indicating that the data was suitable for factor analysis (Tabachnick & Fidell, 2013). Bartlett's test of sphericity was significant (χ^2 (45) = 468.710, $p < .001$), indicating that the correlation matrix was not an identity matrix and that factor analysis was appropriate for the data. Three components were thereby identified: *flexibility*, *efficiency*, and *educational growth* (Table 3).

In addition, in this study the Mann-Whitney U test was employed to compare differences in perceptions of flexibility, educational growth, and efficiency in distance learning between two independent groups within various demographic categories (gender, age, residence, parental status, education level, and employment status). Since the data were ordinal, collected via Likert-scale responses, and did not meet the assumptions of normal distribution required for parametric tests like the t-test, the non-parametric Mann-Whitney U test was chosen (Nachar, 2008). This method allows for comparing the rankings of responses between two groups, making it ideal for assessing whether differences in perception exist between distinct demographic categories.

Thematic Analysis

Although the primary focus was on a quantitative method, a mixed approach was used to combine qualitative perceptions. Two open-ended questions were part of the survey with the aim to capture and evaluate experiences and challenges faced by distance learning students and to get insights on possible improvements and strategies to better support them. Open-ended questions were subjected to thematic analysis to "identify, analyze, and report patterns (themes) within data" (Braun & Clarke, 2006, p. 79). These qualitative responses offer additional points of view from the students that could not be obtained through quantitative measures alone.

The process of thematic analysis was:

1. *Familiarization with data*: Student responses were read several times to get an understanding of their experience and views.
2. *Initial coding*: Systematic coding of the data based on identifying key phrases, ideas, and patterns associated with the objectives of research.
3. *Coding into themes*: The codes were then arranged into six occurring themes, each collecting together comparable data. These themes or patterns were obtained from repeating topics and issues presented by students such as flexibility, time management, or the support systems offered in distance education.
4. *Reviewing themes*: The themes were reviewed for internal consistency and variation from one another.
5. *Defining and naming themes*: Finally, every single theme was named and defined, in order to describe the underlying structure.

Results

The following chapters present research findings of the study. It starts with an analysis of the reasons why students choose distance learning. Following statistical analysis, results from the thematic analysis are presented, outlining key factors that UNAK can develop and enhance the learning environment and teaching methods to meet the needs and expectations of distance learners.

Descriptive Analysis

The study initially examined the reasons behind students' decisions to practice distance education. Descriptive statistics were employed to provide an overview of these attitudes. The results offer insights why students choose distance education at UNAK. All variables were measured on a five-point Likert scale, where 1 represents "Strongly Agree" and 5 represents "Strongly Disagree". An additional option of "Not Applicable" or "Not Used" was available, explaining the varying number of responses to individual items as this option was excluded from the analysis.

Table 2 presents the percentage distribution of responses regarding the reasons why students choose distance learning at UNAK. The majority of students strongly agreed that flexibility (63.4%) and better time management (55.4%) were key reasons for choosing distance education. Similarly, living situation/accessibility (57.4%) and technology integration (34.5% strongly agree, 38.0% agree) were also key factors.

Other important reasons include career advancement, with 64.8% of students either strongly agreeing or agreeing, and no commute time, with 57.0% of students finding it important. However, only 28.7% strongly agreed that cost savings were a major factor, and fewer students strongly agreed that academic achievement (18.7%) or the global pandemic (8.0%) significantly influenced their choice.

Table 2

Descriptive Statistics of Motivation to Choose Distance Learning at UNAK

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Flexibility	63.4	30.3	3.4	2.3	0.6
Better time management	55.4	28.6	9.1	6.9	0.0
Living situation/ Accessibility	57.4	21.0	9.9	5.6	6.2
Technology integration	34.5	38.0	16.4	8.2	2.9
Career advancement	20.8	44.0	23.2	7.1	4.8
No commute time (e.g. to the university)	28.8	28.2	19.6	17.2	6.1
Diverse course offerings	14.3	28.7	20.6	8.5	4.5
Cost savings	28.7	18.6	28.7	16.8	7.2
Better/higher academic achievement	18.7	37.4	26.9	11.1	5.8
Global pandemic impact/health considerations	8.0	20.7	33.3	18.0	20.0

Principal Component Analysis

The analysis began with 10 items of why students choose distance education. The purpose was then to reduce the number of dimensions, display patterns in the dataset and simply summarise information about reasons. The components that emerged after examining the items, both from a theoretical point of view, and from a PCA were: *flexibility*, *efficiency*, and *educational growth*. Each component demonstrated varying degrees of internal consistency, with Cronbach's alpha values ranging from 0.637 to 0.816. Table 3 provides a summary of the components, including the number of items, Cronbach's alpha for reliability, and descriptive statistics for each component.

Table 3

The Components of Students' Motivation to Choose Distance Education

Component (Dependent variable)	N	Number of items	Items	Cronbach's α	Mean	SD	Component Mean
Flexibility	175	2	Flexibility	0.714	1.46	0.725	1.569
			Work-live-Balance		1.67	0.905	
Efficiency	139	4	Living situation/ Accessibility	0.637	1.91	1.248	2.527
			Cost savings		2.60	1.231	
			Global pandemic impact/ health considerations		3.17	1.185	
			No commute time		2.42	1.215	

Component (Dependent variable)	N	Number of items	Items	Cronbach's α	Mean	SD	Component Mean
Educational Growth	163	4	Technology integration	0.816	2.07	1.052	2.370
			Career advancement		2.31	1.014	
			Diverse course offerings		2.43	1.060	
			Better/higher academic achievement		2.67	1.144	

The Issues of Inferential Statistics

This section presents the results of the Mann-Whitney U test conducted to examine differences in the three components (flexibility, efficiency, and educational growth) across various background variables: gender, age, residence, employment status, parental status (having children vs. no children), and educational level (undergraduate vs. graduate). The responses were measured on a Likert scale, where 1 represents "Strongly Agree" and 5 represents "Strongly Disagree".

For gender, no significant differences were found between male and female students regarding flexibility ($U = 970.50$, $p = 0.153$), educational growth ($U = 989.00$, $p = 0.664$), or efficiency ($U = 790.00$, $p = 0.466$), indicating that both male and female students perceive these factors similarly.

When comparing students aged 30 years or younger to those 31 years or older, there were no statistically significant differences for flexibility ($U = 2355.00$, $p = 0.774$), educational growth ($U = 1774.00$, $p = 0.159$), or efficiency ($U = 1441.00$, $p = 0.742$), suggesting that age does not significantly influence these perceptions.

The same applies for residence (living in the capital vs. not), where also no significant differences were found in terms of flexibility ($U = 1898.50$, $p = 0.179$), educational growth ($U = 1731.00$, $p = 0.506$), or efficiency ($U = 1169.00$, $p = 0.337$), indicating that if students live in the capital area of Iceland or in the countryside does not significantly impact their views on these aspects of distance learning.

However, for students with and without children, a significant difference was observed for educational growth ($U = 1580.00$, $p = 0.007$), with students with children valuing higher educational growth in distance learning. Although there were no significant differences for flexibility ($U = 2108.50$, $p = 0.078$) and efficiency ($U = 1277.00$, $p = 0.090$), the results approached significance, indicating that students with children may evaluate flexibility and efficiency as slightly more important than students without children.

In terms of education level (undergraduate vs. graduate), no significant differences were found for flexibility ($U = 2019.50$, $p = 0.653$), educational growth ($U = 1672.00$,

p = 0.516), or efficiency (U = 1327.00, p = 0.490), suggesting that both undergraduate and graduate students share similar views on these factors.

Finally, significant differences were found based on employment status. Students who were employed rated flexibility (U = 976.00, p = 0.021) and educational growth (U = 771.00, p = 0.008) higher than those who were not employed. Efficiency approached significance but was not statistically significant (U = 616.50, p = 0.067).

In summary, while gender, age, residence, and education level did not show significant differences in perceptions of flexibility, educational growth, and efficiency, students with children perceived higher educational growth, and employed students reported higher flexibility and educational growth as a reason to choose distance learning. These findings suggest that certain personal circumstances, particularly having children and being employed, may influence why students choose distance learning and how students perceive the benefits of distance learning.

Thematic Analysis

During the analysis process, the open-ended questions from the questionnaire were combined and analysed through thematic analysis (Braun & Clarke, 2006). The questions were formulated to obtain students' feedback on ways to enhance distance learning at UNAK.

These questions were*:*

What are the points that you think may improve distance learning?

How can UNAK adjust its learning environment and teaching methods?

Using thematic analysis had the objective of uncovering patterns and themes in students' responses, giving insights into how universities can improve. Hereby, six main themes occurred through data analysis: *assessment*, *teaching/methods*, *technology*, *lota/attendance*, *teachers*, and the *learning environment*. These themes provide main information of students who think that improvements can be implemented by the university in order to help them meet their needs and expectations. The following parts discuss each of these themes in more detail, giving a voice to students who give insights to their experiences and suggestions to even better develop distance learning at UNAK.

Assessment

In order to meet individual needs of students at UNAK in a more purposeful way, the university has to adapt assessment and teaching methods in the direction of more flexibility. Distance learners need to adjust their studies to fit into the busy schedule of daily life and other commitments. This includes reducing the focus on group projects in their studies. While group projects can be beneficial, managing time and interest among group members is challenging. One student noted, "I choose distance education so I can work more on my own and independently. […] Distance education should

be aimed at allowing me to pursue my studies independently and take responsibility for my own success." There also needs to be more flexibility and equity in assessment throughout the semester. Dividing large final exams into smaller assessment units that students complete throughout the semester will reduce pressure and allow better use of time. This approach also provides students with opportunities to build their knowledge and skills incrementally, which benefits long-term learning. "More frequent, smaller assignments throughout the semester ensure that I'm always doing something and learning progressively." – according to another student. Flexibility in scheduling exams and submitting assignments is also essential, i.e., also providing extensions if needed.

The better alignment of assessments to real-world settings is also of great importance. By implementing projects that simulate realistic situations at e.g., the workplace, teaching prepares students much better for their future in professional life. As one student expressed, "There is too much emphasis on textbooks and not enough on real projects. I want to be as well-prepared for the job market as possible, and too much emphasis on the textbook doesn't help."

Finally, revising the use of final exams and promoting open communication about assessment are two important changes that could have a positive impact. Final exams are not necessarily the best measure of students' abilities and knowledge. In addition, the cost can be significant for students who do not live close to Akureyri:

> *Test centers in the capital area charge 5000 ISK [35 Euros] for each in-person exam, so the cost quickly accumulates when multiple exams are required per course. Just attending exams in my first-year costs me 60,000 ISK [400 Euros]. I expected additional costs for sessions (fuel or flights, loss of income from work, accommodation, and food) but did not anticipate having to pay tens of thousands just to be able to complete my courses. There could be cooperation with the University of Iceland to keep extra costs for distance students to a minimum.*

Therefore, it might be wise to explore new ways to assess student performance that aligns with the demands of the modern educational and work environment.

Teaching

Teaching in distance education means facing different challenges than on-campus teaching. Thus, it is important to make use of teaching methods that address diverse needs and challenges. One solution is short and focused video lectures which are ideal in maintaining students' attention and encouraging in-depth understanding. Besides, it allows students to use their time more efficiently and to focus on the real substance of the learning material. One student mentioned: "Panopto lectures should be no longer than an hour, as it is challenging to get through longer lectures. I would prefer shorter and more frequent lectures over fewer lengthy ones."

It is also essential to connect learning to real-world tasks and the job market. There is a desire for "field trips, practical training, or guest speakers from industry to better connect education to the labour market," where students would be exposed to practical knowledge and tasks that prepare them for requirements from future employers. Various teaching approaches, such as discussions, mini-lectures, and short quizzes based on lectures, provide the chance of active student participation and support different learning methods. Some have even requested that teachers provide "less recording, more live sessions on Zoom/Teams."

But likewise, students have the opportunity to impact teaching methods and course contents when teachers engage them in their courses and support them in taking more part in general discussion, learning projects, or making decisions during their studies.

Technology

Technology and its use are an essential part of education at UNAK. For recording lectures, the university makes use of *Panopto*, which is easily accessible to students. This flexibility allows students to follow and review the material at their own pace. Making recordings available to students in advance is also crucial, as it offers them the opportunity to better prepare for the material. As one student noted, "It would be nice occasionally to have access to recordings a few days before the class to study in advance, as teachers sometimes use old recordings."

The quality of audio in recordings is a key issue, as it is essential for students to hear clearly and distinctly. Many students have remarked, "Better sound quality on recordings; this is severely lacking for most of the teachers." Providing teachers with access to quality audio equipment, such as high-quality microphones, is necessary to ensure that the educational content is transmitted without interruptions. In addition, teachers should receive appropriate training in the use of modern teaching tools and technological aids used in distance education.

Increased use of chat programs like *Piazza* can enhance communication and collaboration between students and teachers, as well as activate student participation in discussions. Such systems allow students to ask and answer questions in an open forum, which can facilitate collaborative learning and deepen understanding of the material. Comments of students included: "Could you please reduce the need to email teachers if I have questions? I recommend PIAZZA; it is linked to Canvas."

On-campus Study Periods (Lota)

To meet the needs of distance learners at UNAK, it is important to reassess and clarify the purpose and implementation of on-campus study periods (ice. lota): „If the requirement is to attend on-campus sessions twice per semester, it must be clearly justified why attendance is necessary, specifically for activities that cannot be performed online." On-campus sessions should only be mandatory when practical components

or specific tasks cannot be conducted online. Such courses need to be well-defined to ensure that students' time is optimally utilized, possibly with shorter sessions or increased emphasis on practicality and collaboration that genuinely benefit students in real-world contexts. One student has the following to say:

> *I have never attended a session that could not have been delivered in the same format online. If the study does not include practical training, attendance is completely unnecessary. Attending sessions is extremely costly, involving accommodation, travel by car or flight, and it's often difficult and sometimes impossible to take time off from work and family. Even though people can apply for grants from working unions, it hardly covers all the costs associated with session attendance. People choose distance education for a reason, and it contradicts the need to physically attend sessions in a lecture-based program, which is unfortunate for students who cannot travel to another region for several days.*

Especially students with young children should have more flexibility when it comes to attending classes. This involves that all sessions and recordings are accessible online which also grants access to students living further away or are unable to attend classes on campus. This would also facilitate participation in sessions digitally and reduce the need for physical attendance unless absolutely necessary due to the course content. Many students had comments regarding attendance and a few of these comments are here below:

- This setup is not truly distance learning but rather massed learning (*ice*. Lotunám) and should be advertised as such if it remains unchanged.
- It doesn't work to eliminate mandatory attendance as in the education department but then have teachers assign graded tasks during sessions, so if you do not attend, you score zero for that part.
- This discriminates against students if they are unable to attend sessions – even though the department does not require any attendance.
- Living in Ísafjörður, the obligation to attend because of attendance requirements created significant stress and strain. Ísafjörður is not an easy place to travel to during the winter.

Balancing attendance policies across teachers and departments is necessary to ensure fairness and predictability for students. All attendance policies need to be clear and consistent, whether they involve mandatory attendance or not. In cases of unforeseen absences, such as illness or sudden family responsibilities, alternatives like attending via Zoom or other digital communication tools should always be offered.

Consideration should be given to abolishing mandatory attendance altogether or at least expanding options for students to fulfil requirements without being physically present. Moreover, better information provision and more organized implementation of sessions are essential, which involve clear and timely notifications and teaching plans allowing students to better plan their studies and other commitments.

Teachers

Students who do not meet their teachers regularly face-to-face should still have an easy and fast access to them, e.g., through email or communication and discussion platforms such as Canvas. Students at UNAK want teachers to offer discussion times at least once a week where they can join a Zoom session to ask questions about the coursework or to provide office hours later in the day or early evening. "It would be beneficial if all teachers tried to respond to questions about assignments immediately and clearly," which is fundamental in supporting students' learning and progress. By establishing clear grading criteria and providing regular, targeted feedback, students can better understand their standing and how to improve their performance. Further, teachers should regularly send updates and notifications, e.g., about the teaching schedule, changes in course materials or assignments. Or as one student mentions: "That teachers offer weekly discussion sessions where students can drop in on Zoom and ask questions regarding the course material." This practice helps students manage their studies effectively and reduces the chances of misunderstandings or uncertainty. Teachers must also be consistent in their approach to flexibility and access to educational materials. Equal access to lecture recordings and other teaching materials is critical to ensure that all students have the same learning opportunities, regardless of their circumstances: "That lecture by teachers be pre-recorded as close to 100% as possible, with more consistency between teachers/courses regarding content and the length of lectures." The organisation and distribution of information within the Canvas system should be clear and accessible. An educational environment with excessive and disorganised content can be overwhelming and students need to devote more time searching for information they need. The teaching approach should be tailored to distance learning and incorporate the most suitable technology and pedagogical methods to effectively support and enhance the educational experience.

Learning Environment

In the discussion about the learning environment for distance learners, several key factors need to be considered to improve their conditions and promote equal opportunities in education.

Flexibility in learning is essential, especially regarding the academic calendar, including the introduction of summer sessions: "It would be fantastic to utilize June for studies, especially for those of us who are only studying (not working), as it is possible to apply for student loans for summer sessions. There could even be a special registration fee for these sessions." To address this, there must be an option to participate without being tied to a specific location, ensuring that all classes are accessible on digital platforms like Zoom, which should increase equality, but likewise encourages participation among all students.

Creating and supporting a community of distance learners is another aspect which is often neglected or, as one student claimed: "Maybe creating more of a community amongst the remote students, it can be a motivator to keep going." Such offerings not only make education more attractive to a wide range of students but also provide significant opportunities for personal and professional growth.

However, there are also students with a very positive mindset about the learning environment: "I have been in distance education since 2009, and there has been so much progress since then that it keeps getting better every year."

Discussion

Distance learning has become an important option for many students who want to pursue higher education while balancing work and family life. This study investigated the factors influencing students' choice of distance learning in a small nation such as Iceland. It further scrutinized students' needs and expectations for improved learning environments and teaching at the example of a small nation with limited higher education options. The analysis examined three key components why students choose distance education: *flexibility*, *educational growth*, and *efficiency*.

In summary, while gender, age, residence, and education level did not show significant differences in students' perceptions of flexibility, educational growth, and efficiency in distance learning, two key personal circumstances – having children and employment status – were significant factors in the analysis.

Students with children stated significantly higher perceptions of educational growth in distance learning, and to some point also flexibility and efficiency, while employed students perceived greater flexibility and educational growth compared to those who were not working, while efficiency was almost statistically significant as well. These results indicate that personal life situations may greatly impact students' motivations for choosing distance education, as well as how they perceive its advantages.

Interestingly, the lack of significant differences based on gender implies that both male and female students experience distance learning in similar ways. So far, a lot of research has been conducted on gender differences regarding distance learning and performance (Hsiao, 2021; Wongwatkit et al., 2020) or learning strategies (Yu & Deng, 2022; Yukselturk & Bulut, 2009). Also, a considerable body of research exists regarding gender differences and flexible work arrangements, where women are more likely to make use of flexible working conditions than men (Jeffrey Hill et al., 2008), yet when doing so women are seen as less productive than men (Chung, 2020; Waumsley & Houston, 2009). This study does thus not align with former research which showed that women might prioritize adaptable schedules to balance work, family, and study commitments. Nevertheless, these outcomes might align with the general tendency in Iceland, a country often seen as a worldwide leader in gender equality (Olafsdottir,

2018). The findings of this research hence show that the higher educational system in Iceland paves the way for minimizing gender-based gaps.

Insignificant age differences show that both younger and older students consider distance education equally important for flexibility and convenience. The latter addresses different lifestyle constrictions and enables younger students to combine study with other personal engagements and offers older students' ways for career progression as well as lifelong learning. Although previous studies have found older students to be more career-focused and academically successful (Kump & Krašovec, 2007; Ng, 2018), distance education's flexible structure appears to meet the needs of both age groups, leading to similar perceptions of its benefits.

Nevertheless, results of the study show that parental status influenced perceptions, with students with children placing higher importance on educational growth and time and cost efficiency, aligning to findings of Rousseau (2012) that student-parents require efficient learning solutions to balance educational and familial duties. For instance, especially mothers are less likely to perceive stress, and are more satisfied (in their job) if they are surrounded by flexible work environments. The same applies for people that have younger children (Jeffrey Hill et al., 2008). Similarly, in this study, flexibility was marginally more important for student-parents, though not significantly.

Employment status affected all three components, with employed students prioritizing flexibility, educational growth, and efficiency more than unemployed students. This supports existing research highlighting the need for flexible learning options for working students to manage their dual responsibilities in balancing work and studies (Butcher & Rose-Adams, 2015). In addition, distance studies can be a way to advance careers, to obtain new skills, or any further qualifications without interfering with existing job contracts. Distance education is thus valuable regarding career advancement and lifelong learning for students who are already on the job market.

Interestingly, the place of residence, whether it is in the capital or rural areas, did not affect students' perceptions of flexibility, educational growth, or efficiency. One would assume that students in remote areas are more dependent on these factors. However, the results could be explained by diverse and active lifestyles which are often linked with urban living. Students in the capital of Reykjavik might be juggling more commitments, such as part-time jobs, more traffic when traveling, or various social activities. All these factors make flexible learning critical for managing their time effectively.

Educational level did not significantly influence any of the dependent variables, which implies that undergraduate and graduate students have similar preferences regarding flexibility, educational growth, and efficiency. This suggests that distance learning programs can apply uniform strategies across different educational levels.

Generally, these findings align with SDT, which emphasizes that motivation is driven by the fulfilment of three basic psychological needs: *autonomy*, *competence*, and *relatedness* (Ryan & Deci, 2000).

Distance education allows students to pursue their autonomy since it allows both women and men, younger and older students, to manage their learning schedule, i.e. allowing them to decide when, where, and how they engage with their learning material. It empowers students to adjust education to their needs and to focus more on their own preferences. As a result, it can lead to stronger intrinsic motivation. When students experience their education as meaningful and successful, and when they can meanwhile manage other obligations (e.g., balancing work and family concerns) it improves their feeling of competence – a central SDT need.

While relatedness – the need to feel connected to others – was not a focus of this study, it remains an important aspect of motivation. Future studies could thus focus more on how social interactions and community-building in online learning environments affect student satisfaction and engagement, particularly in smaller nations or remote areas.

The thematic analysis showed that students have different opinions on how the learning environment can support their educational journey, i.e., through practical assignments, guest lectures, or integration of work-related situations. Yet, distance learning students at UNAK call for even more flexibility in their studies, as they want to be able to combine different tasks of daily life, such as work and family responsibilities, with their studies. Students look for assessment methods that focus on flexible assessment, with smaller projects over the semester, as they provide an opportunity to monitor their own progress and understanding of course content in a systematic way. It is clear that distance learners not only want autonomy in their studies, but also more transparent and proactive communication with teachers. They stressed how important it is to be able to contact teachers later in the day with questions and concerns. In addition, the discussion highlighted the need for continuous review and adjustment of teaching methods and the overall learning environment. A special mention should be made of the re-evaluation of mandatory attendance for on-campus sessions. Many students describe how costly it can be and sometimes how unrealistic it is to expect them to attend these sessions.

What is more, the research made also clear that UNAK needs to reevaluate their understanding of flexibility (*Ice*. sveigjanleiki) as this seems to have a different meaning for students. Rethinking flexibility in education means understanding that for students, flexibility is not just about having access to online courses. It also means having more or different possibilities of completing assignments and exams. As many students are full-time employed or have children and other personal commitments, they are highly dependent on flexibility in their studies. Thus, students are increasingly requesting to perform all their studies online, regardless of location or time.

Overall, the results emphasize the role of distance education in improving educational equity by supporting flexible learning opportunities for diverse students – regardless of gender, age, employment, parental status, or geographic location.

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Universiteto studentų motyvacijos rinktis nuotolines studijas ir nuotolinio mokymosi iššūkių vertinimas

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Santrauka

Pastebėta, kad nuotolinis ugdymas, ypač po COVID-19 pandemijos, tapo labai svarbus aukštajame moksle, tad tuo tikslu buvo siekiama išsiaiškinti unikalius nuotoliniu būdu besimokančių studentų motyvus. Šiame tyrime vertinama Šiaurės Islandijos Akureirio universiteto nuotoliniu būdu besimokančių studentų motyvacija, nagrinėjamos jų įžvalgos. Taikomas mišrus tyrimo metodas. Vykdant apklausą respondentams buvo pateikti uždari ir atviri klausimai. Atlikus kiekybinę analizę nustatyti trys pagrindiniai studentų parinkimo mokytis nuotoliniu būdu motyvai: lankstumas, edukacinis augimas ir efektyvumas. Lytis, amžius, gyvenamoji vieta ir išsilavinimo lygis neparodo statistiškai reikšmingų studentų požiūrio į nuotolinio mokymosi lankstumą, edukacinį augimą ar efektyvumą skirtumų, tačiau vaikų turėjimas ir užimtumo statusas yra reikšmingi veiksniai. Rezultatai atskleidžia, kad turintys vaikų studentai pasižymi didesne edukacine pažanga ir iš dalies lankstumu bei efektyvumu. Dirbantys studentai pasižymi didesniu lankstumu ir edukacine pažanga, palyginti su nedirbančiais studentais. Darytina išvada, kad studentų motyvacijai rinktis nuotolinį mokymąsi vietoj tradicinių studijų universitete didelę įtaką daro kiekvieno iš jų individuali situacija.

Esminiai žodžiai: *nuotolinis mokymasis, nuotolinis švietimas, aukštasis mokslas, motyvacija.*

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