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Implementation of ESD in language education in Finland – Higher education language teachers' views and experiences

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Abstract: Language education offers tremendous potential for implementing Education for Sustainable Development (ESD) in higher education (HE), as the pedagogical processes of language teaching and ESD are complementary to each other. Researchers have recognised this potential, but it has yet to be fully utilised. The study analyses HE language teachers' ($n = 43$) questionnaire data to determine how often they incorporate different sustainable development (SD) dimensions into their teaching, and which factors are associated with the frequency of teaching SD. The data was analyzed using percentage distributions and Spearman's correlation, while open-ended responses were analyzed using thematic categorization. Cultural sustainability was the most frequently integrated dimension into language teaching. A majority of teachers were motivated to teach SD, but only a third reported high self-efficacy in doing so. Similarly, only a third reported sufficient institutional support. Self-efficacy correlated with SD teaching motivation, and both correlated with the SD teaching frequency. Institutional support correlated with motivation and the frequency of teaching ecological and social sustainability. The challenges of teaching SD were related to time constraints and availability of teaching materials. Teachers who had access to SD materials were less likely to perceive time constraints as a barrier.

Keywords: Education for Sustainable Development (ESD), Higher Education (HE), Language education, Language teachers, Sustainable Development (SD)

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Zusammenfassung: Die Sprachbildung bietet ein enormes Potenzial für die Umsetzung der Bildung für nachhaltige Entwicklung (BNE) in der Hochschulbildung, da die pädagogischen Prozesse des Sprachunterrichts und der BNE einander ergänzen. Dieses Potenzial wird jedoch in der Praxis noch nicht vollständig genutzt. Vor dem Hintergrund der finnischen Hochschulbildung analysiert diese Fallstudie die Fragebogendaten von 43 Sprachlehrenden, um zu bestimmen, wie häufig sie verschiedene Dimensionen der Nachhaltigen Entwicklung (NE) in ihren Unterricht integrieren und welche Faktoren mit der Häufigkeit der NE-Lehre in Verbindung stehen. Die Daten wurden mittels prozentualer Verteilungen und Spearmans Rangkorrelation analysiert, während offene Antworten durch thematische Kategorisierung untersucht wurden. Die Dimension der kulturellen Nachhaltigkeit wurde am häufigsten in den Sprachunterricht integriert. Obwohl die Mehrheit der Lehrenden motiviert war, NE zu unterrichten, berichteten nur ein Drittel von hoher Selbstwirksamkeit in diesem Bereich. Ebenso fühlten sich nur ein Drittel der Lehrenden ausreichend von der Institution unterstützt. Die institutionelle Unterstützung korrelierte mit der Motivation und der Häufigkeit des Unterrichts zu ökologischer und sozialer Nachhaltigkeit. Herausforderungen bei der Integration: Trotz der Anerkennung der Relevanz von NE-Themen wurde deren Integration in den Sprachunterricht oft durch verschiedene Herausforderungen behindert, u.a. Zeitmangel, die Balance zwischen NE-Themen und anderen Bereichen des Sprachunterrichts sowie die Suche nach geeignetem Lehrmaterial. Diese Ergebnisse unterstreichen die Notwendigkeit einer verstärkten institutionellen Unterstützung und Ressourcenbereitstellung, um NE effektiv in die Sprachbildung zu integrieren und somit das volle Potenzial in der Hochschulbildung zu realisieren.

Schlüsselwörter: Bildung für nachhaltige Entwicklung (BNE), Hochschulbildung (HB), Sprachbildung, Sprachlehrende, Nachhaltige Entwicklung (NE)

Resumen: La educación lingüística ofrece un enorme potencial para implementar la Educación para el Desarrollo Sostenible (EDS) en la educación superior (ES), ya que los procesos pedagógicos de la enseñanza de idiomas y la EDS se complementan entre sí. Sin embargo, este potencial aún no se ha aprovechado plenamente en la práctica. Ambientado en el contexto finlandés de la ES, este estudio analiza los datos del cuestionario de los profesores de idiomas ($n = 43$) para determinar con qué frecuencia incorporan diferentes dimensiones del desarrollo sostenible (DS) en su enseñanza y qué factores están asociados con la frecuencia de la enseñanza del DS. Los datos se analizaron utilizando distribuciones porcentuales y la correlación de Spearman, mientras que las respuestas abiertas se examinaron mediante categorización temática. Se encontró que la sostenibilidad cultural es la dimensión más frecuentemente integrada en la enseñanza de idiomas. Si bien la mayoría de los maestros estaban motivados para enseñar SD, solo un tercio informó una alta auto-

eficacia al hacerlo. Del mismo modo, solo un tercio informó de un apoyo institucional suficiente. El apoyo institucional se correlacionó con la motivación docente del SD y la frecuencia de enseñanza de la sostenibilidad ecológica y social. Aunque los profesores reconocieron la relevancia de los temas de desarrollo sostenible, su integración en la enseñanza de idiomas a menudo se vio obstaculizada por varios desafíos, como la falta de tiempo, el equilibrio de los temas de desarrollo sostenible con otras áreas de la enseñanza de idiomas y la búsqueda de materiales didácticos adecuados. Estos resultados subrayan la necesidad de mejorar el apoyo institucional y la asignación de recursos para integrar eficazmente la EDS en la enseñanza de idiomas, aprovechando así plenamente su potencial en la ES.

Palabras clave: Educación para el Desarrollo Sostenible (EDS), Educación Superior (ES), Educación de idiomas, Profesores de idiomas, Desarrollo sostenible (SD)

1 Introduction

Sustainability as a nascent topic in language education and research has increasingly gained visibility (de la Fuente 2021; Goulah and Katunich 2020; Melin 2019; Molina 2022). In recent years, researchers have embarked on new, often interdisciplinary explorations to gain insight into how Education for Sustainable Development (ESD) could be applied in language teaching (Maijala et al. 2025; McGuinn and Naylor 2024; Wall et al. 2025). Owing to the complementation of pedagogical processes in language teaching and ESD, language education offers tremendous potential for ESD integration. Some researchers have recognised this potential (e.g., de la Fuente, 2021; Kwee, 2021; Maijala et al., 2024; Maijala et al., 2025; Melin, 2019), however, it has yet to be explored in more detail to enable a holistic overview, understanding of the current state of ESD in language education, and its practical problems and successful practices. Universities and other higher education (HE) institutions are vital in the implementation of the sustainable development goals (see Berchin et al. 2021).

ESD functions as the main tool for globally advancing UNESCO's 17 Sustainable Development Goals (SDGs) with the help of educators (UNESCO 2018). It aims at societal transformation towards a more sustainable lifestyle through education and the empowerment of learners (Lupele and Lotz-Sisitka 2014), for example, by engaging the action competence of learners (Tilbury 2011). ESD focuses on integrating topics related to sustainable development goals into all learning processes and holistically considers content, teaching methods, and learning environments (UNESCO 2018). Central to ESD is active engagement in promoting change agency in learners that contributes to the achievement of SDGs (e.g., Gericke 2025). Pedagogi-

cal practices that advance ESD emphasise interdisciplinary approaches and *systems thinking*, a holistic, comprehensive way of thinking. The goal is to foster understanding of various phenomena by simultaneously examining them from multiple perspectives: how different processes function and how they affect the whole (Lewis et al. 2014; Sinakou et al. 2019). Topics related to sustainable development are multifaceted, often requiring interdisciplinary approaches (Annan-Diab and Molinari 2017).

Sustainable development (SD) became commonly known as a concept after the World Commission on Environment and Development (WCED) published their report *Our Common Future* almost four decades ago (United Nations 1987). Sustainability emanates from the need to ensure present and future consumption needs of an ever-growing population (Kuhlman and Farrington 2010). It often emphasises three core areas, namely social, ecological, and economic sustainability (see Giddings et al. 2002; Sund et al. 2020), but increasingly, cultural aspects highlighting human values, ethics, and worldviews have been included (see, Burford et al. 2013; Duxbury and Gillette 2007; Majjala et al. 2025). Therefore, our study incorporated cultural sustainability as its fourth dimension.

While university curricula, objectives, and mission statements nowadays often highlight the societal significance of sustainable development topics (Pinto et al. 2025), a limited understanding of the practical implementation of ESD prevails and calls for more research on their actual integration and current ESD practices in curricula and on campus (see Lozano et al. 2017).

In this study, pilot questionnaire data is analysed both quantitatively and qualitatively to determine the extent and variety of how university language teachers in Finland ($n = 43$) apply ESD in their courses. We also explore the connections between institutional support, motivation, and self-efficacy with the frequency of SD teaching. Additionally, we examine the obstacles and challenges teachers experience when implementing ESD in language teaching, and how these correlate with the frequency of teaching different SD dimensions. Thus, we answer the following questions:

RQ1. How often do HE language teachers teach different dimensions of sustainable development?

RQ2. How are institutional support, motivation, and self-efficacy connected to the teaching frequency of different dimensions of sustainable development as a part of language education?

RQ3. What challenges do teachers experience when implementing ESD in HE language teaching? How are the challenges connected to the teaching frequency of different dimensions of sustainable development?

This pilot study is part of the SustainLANG-project (2024–2028), conducted at the University of Turku and funded by the Research Council of Finland. The project aims to provide new insights into the current state of and possibilities for ESD in language education in Finland, which can be adapted internationally.

2 Literature review

2.1 ESD implementation in language education

In university-level teaching, ESD has received increased focus over the past decades (e.g., Aghajani et al. 2025; Cembranel et al. 2024; Christie et al. 2013). Its emergence has led to an increased emphasis on teaching methods that emphasise inquiry-based learning, such as simulations, debates, and fieldwork outside the classroom (e.g., Georgallis and Bruijn 2022; Litledyke and Manolas 2010). Nowadays, university students are expected to possess a comprehensive understanding of the UN's Agenda 2030 programme and its goals (e.g., Zaidan et al. 2023). Yet, students also require support for their actions towards a sustainable future (Rutar and Krmac 2025). Therefore, it is essential to ensure a common understanding of the central terms and concepts employed in ESD. Owing to the controversial nature of *sustainable development* (Wolff and Ehrström 2020), employed in the ESD framework, educators should carefully and critically assess their teaching approach, encouraging learners' evaluation and reflection on the implementation and objectives of ESD. This is achieved, for instance, by creating and disseminating SDG-related knowledge through research and education, as well as by collaborating with local communities through awareness-raising activities.

In many countries, language instruction has traditionally focused on the didactics of linguistic elements such as grammar and vocabulary (for a comprehensive overview of the history of language teaching methodologies, see Celce-Murcia et al. 1997). However, previous studies have shown that in-service and pre-service language teachers hold positive attitudes towards promoting ESD in language teaching but lack knowledge and skills related to its practical implementation (Laine et al. 2022; Maijala et al. 2023a; Kuusalu et al. 2025; Stössel et al. 2021). The empowerment of language teachers to integrate ESD into their teaching also encourages students' change agency (Jodoin 2020). Teachers' knowledge, attitudes, and behaviours toward sustainable development impact the integration of SDG-related content into teaching practice (see Kwee 2021). Following prior studies, teachers who incorporate ESD are intrinsically motivated to advance and promote the objectives of sustainable development (e.g., Fischer and Hänze 2020; Mercer et al. 2023; Stössel et al. 2021). When incorporating ESD, however, it is important that teachers encourage

students' action competence so that students are able to critically evaluate the principles and assumptions behind the sustainable development agenda and make informed decisions on how to apply their knowledge in society (Kuusalu and Stibbe 2025).

Language as a teaching medium poses its own challenges and possibilities, as language is context-dependent (Paesani and Allen 2012) and dynamic (Larsen-Freeman 2019), and is used in social interactions to construct our social reality in variable ways (e.g., Fairclough 1992). Therefore, language and its use has the potential to influence how sustainability is understood in different contexts, and this might prove important for the incorporation of sustainable actions, as previous studies have found that students' perceptions and understanding of the concept of sustainability influence their knowledge application in both their future professional and personal lives (see Bielefeldt 2013; Espino-Díaz et al. 2025).

Teachers' familiarity with teaching practices and their understanding of their ability to teach sustainability phenomena seem to influence how extensively different dimensions of sustainable development are emphasised (Majjala et al. 2023b; Yılmaz Findik et al. 2021). However, some language teachers teach aspects of sustainability without recognising their role in sustainable development (Laine et al. 2022). Several studies have highlighted that teachers identify inadequate education and training for teachers as obstacles to the implementation of ESD (e.g., Borg et al. 2012; Waltner et al. 2020). ESD goals and policy recommendations fail to reach teachers, who, calling for practical support, do not view them as relevant for their teaching practice. Other reasons for not including ESD are teachers' insufficient knowledge of the concept of ESD and its implementation in their teaching practice, lack of time and suitable teaching materials or even disciplinary traditions (Kwee 2021; Mercer et al. 2023; Sinakou et al. 2019; Sund et al. 2020; Sund and Gericke 2021).

A survey study examining Finnish lower secondary school subject teachers ($n = 442$) found that language teachers incorporated sustainability topics the least compared to other teacher groups. The language educators primarily addressed sociocultural dimensions in their teaching and rarely included ecological and economic issues (Uitto and Saloranta 2017). Similar results were yielded in a questionnaire study among university language teachers ($n = 36$) in Finland: Majjala et al. (2023b) examined the possibilities of promoting a sustainable future in university level language teaching. Their findings indicated that most university language teachers viewed sustainable development topics as essential in language teaching. However, teachers seemed to place greater emphasis on social and cultural dimensions of sustainability compared to ecological and economic ones. The focus on different dimensions appeared to be influenced by familiar teaching practices and teachers' perceptions of their preparedness to teach sustainability-relevant topics.

A recent study by Mercer et al. (2023) examined English language teachers' attitudes towards environmental issues and their experiences with teaching environmental sustainability aspects. Data were gathered through an online survey ($n = 91$) and in-depth, semi-structured interviews ($n = 5$). Teachers reported using various strategies such as employing eco-themed materials and organizing projects to include and implement environmental topics in language teaching. They often relied on online resources and self-created materials to teach these topics and reported a lack of suitable materials. Further challenges relating to teachers' and students' attitudes (e.g., ideologies, topic 'fatigue', resistance to change, confusion), time constraints, insufficient pre-service and in-service training, and balancing environmental content with language teaching goals were identified by Mercer et al. (2023). Given that teachers are considered to be *agents of change* (e.g., UNESCO 2014, 20; Weinberg et al. 2020), their attitudes towards ESD and their ability to implement this expectation in practice are crucial for advancing the SDGs. Teachers in HE institutions, in particular, hold a pivotal role in the implementation of ESD.

2.2 Context of the study: University-level language education in Finland

In recent years, universities have increasingly recognized the importance of integrating sustainability into all areas of education, including language teaching. In Finland, university teachers are encouraged to embed sustainability perspectives into their courses, and in some universities a course can be marked with a Sustainable Development tag if it includes reflection on sustainability themes or utilizes sustainability-related materials in teaching (e.g., Aalto University 2025; University of Turku 2025).

Language options in Finnish school education have become more limited (e.g., Kolehmainen et al. 2025; Vaarala et al. 2021). In addition to their first language, students take mandatory language courses in the second official language, Swedish or Finnish respectively. Nowadays nearly all students study English as their first foreign language (Education Statistics Finland 2024). English has become a key language in multilingual Finland and other Nordic countries (e.g., Peterson and Beers Fägersten 2024). This focus on English is being reflected in the language skill sets of HE students, as a growing number of university students lack language skills in other languages. This situation underlines the importance of language teaching in adult education, provided, for instance, by language centres affiliated to universities that offer teaching in several languages (e.g., Mäkipää et al. 2024).

Language centres at Finnish universities support the development of language and communication skills among students, staff, and researchers. In addition to

mandatory language courses, they often also offer optional language courses in languages that are usually not studied at school (FINELC 2025). However, recently concerns have been voiced about the narrowing of language teaching offered at HE institutions, as most courses offered are at a basic level, not at an advanced level suitable for professional interaction (e.g., Vaarala et al. 2021).

In Finland, university students are required to demonstrate proficiency in both Finnish and Swedish, as well as in at least one foreign language. The demonstration of language proficiency as part of a degree is regulated by the Government Decree on University Degrees 794/2004 (6 §). The required foreign language proficiency must be sufficient to enable students to follow developments in their field and to operate in an international environment. This foreign language is typically English, although other languages may also be accepted depending on the faculty.

3 Research methodology

3.1 Questionnaire design and distribution

Before designing this pilot survey targeted at HE language teachers, we reviewed previous studies and adapted some survey questions and statements by Waltner et al. (2020), Gericke et al. (2019), and Mercer et al. (2023). However, the majority of the questions in our online survey are self-developed, drawing on insights from our previous research and survey questions (Majjala et al., 2023a, 2023b).

First, the questionnaire collected necessary background information (age, gender, teaching experience, languages taught, and previous training related to sustainable development). Teachers were asked to assess how often (1 = almost daily... 6 = never) they have incorporated topics related to different aspects (ecological, economic, social and cultural) of sustainable development into their language teaching. Each dimension of sustainable development was provided with examples in parentheses. For example, the examples for ecological sustainability were recycling, climate change, and water conservation.

Teachers' attitudes and perceptions of teaching sustainability were assessed through 17 Likert-scale (1 = strongly disagree... 5 = strongly agree) items (e.g., "I am highly motivated to teach SD content as a part of language teaching", and "I don't know how to combine language teaching and sustainable development"). Thoughts about learning materials and support were examined with 13 Likert-scale (1 = strongly disagree... 5 = strongly agree) items (e.g., "I have collaborated with teachers of other subjects to teach sustainable development topics", and "I receive enough support from my workplace to integrate sustainable development topics into my teaching"). The survey also included three sentence completion tasks

(e.g., “Complete the sentence: The challenge of incorporating sustainable development topics into language teaching is...”) and six open-ended questions (e.g., “What kind of support, training, or learning materials would you need in order to better teach sustainable development topics as part of language teaching?”). All other questions were mandatory except for the open-ended questions. The questionnaire included additional items beyond those presented here. However, only the items relevant to the research questions of this study were included in the analysis.

The pilot survey was tested and commented on by experienced in-house researchers and modified accordingly. For an inclusive approach and to encourage the participation of international teachers, the survey questions were translated into English and distributed simultaneously in Finnish and English. The online survey was conducted using the Webropol software. The survey link was sent via an electronic mailing list to members of the Network of Finnish Universities Language Centres (FINELC) and via personal email to directors of 12 university-affiliated language centres in Finland, who were asked to distribute it to their own email list.

Participation in the survey was voluntary. The online questionnaire included a research notification and a privacy statement, prepared in accordance with the General Data Protection Regulation (GDPR). Prior to participating in the study, all respondents were required to give their informed consent by confirming their voluntary research participation.

3.2 Data analysis

The quantitative data were described using percentage distributions, followed by Spearman’s rank correlation (ρ) to explore associations between variables. This nonparametric measure was chosen due to its suitability for assessing the strength and direction of the association between ordinal variables, such as Likert scale data. We applied Cohen’s (1988) guidelines for interpreting correlation strength in social sciences. To ensure the reliability of the sum variables derived from the Likert scale items, we utilized Cronbach’s alpha. This measure of internal consistency was used to assess the extent to which the items within each sum variable were correlated, indicating the reliability of the scale. For the analysis of the quantitative data, we used the IBM SPSS Statistics software.

To analyze qualitative data, open-ended responses were analyzed using thematic categorization. Answers were grouped based on recurring topics, and the frequency of each theme was counted. For each category, representative quotes were selected to illustrate typical responses. The statements used in the article were translated from Finnish into English by the authors. The processing and storage of research data, as well as the reporting of the study, adhere to ethical re-

search guidelines. The results are reported in a way that ensures individual respondents remain anonymous.

3.3 Participants

Altogether, 43 teachers working at Finnish universities' language centres completed the survey (28 teachers answered in Finnish and 15 in English). Most of the participants identified as female (81%). The largest age group was 41–50 years olds (33%), 17 percent were under 40 years old, 29 percent were between 51 and 60 years old, and 21 percent were over 60 years old.

Most of the HE teachers (86%) taught only one language. Four teachers taught two languages, and two teachers taught three languages. About half of the teachers ($n = 21$) taught English, nine Finnish, seven Swedish, three Spanish, and two German. Nine teachers taught some other language (such as Italian, Russian, Arabic or communication courses). Only 7% had less than five years of teaching experience, 5% had 5–10 years, 37% 11–20 years, 33% 21–30 years and 18% over 30 years of teaching experience as a language teacher. Less than half (40%) of the teachers had participated in training related to sustainable development (e.g., seminars, courses, in-school training) in the past three years.

4 Results

4.1 The frequency of teaching sustainable development dimensions

The HE language teachers were asked how often they have incorporated topics related to different dimensions of sustainable development in their language teaching (see Figure 1). The results showed that cultural sustainability was the most frequently integrated, with 60% of teachers incorporating it in their language teaching at least monthly. Social sustainability followed, with 42% of teachers addressing it at least once a month. Environmental sustainability was integrated by a third of the teachers at least monthly. Economic sustainability was the least addressed, with only 19% incorporating it in their language teaching at least monthly. Notably, a fifth (21%) of the teachers did not address economic sustainability at all, while the corresponding figure for cultural sustainability was only 9%.

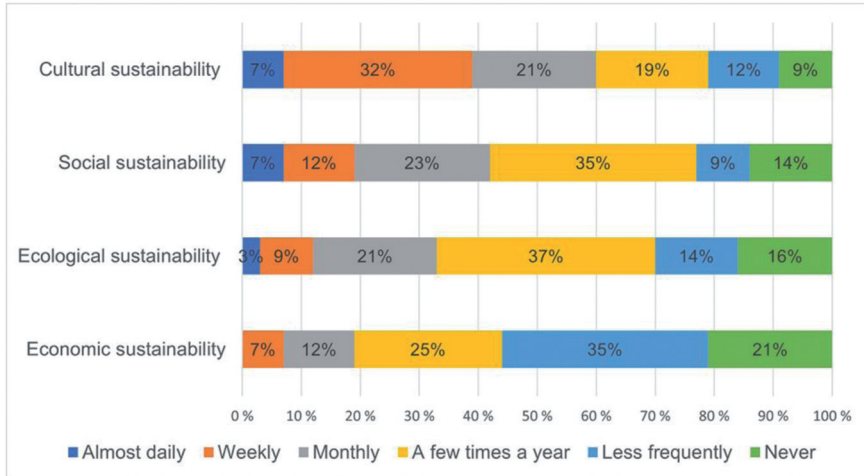


Figure 1: The frequency of teaching different dimensions of sustainable development as part of HE language teaching ($n = 43$).

Seven language teachers (16%) taught all dimensions of SD at least monthly as part of their teaching. More than one-third (35%) did not teach any dimension of SD at least monthly. However, only three teachers did not teach any dimensions of SD at all. In an open-ended question, the language teachers were asked to name the easiest dimension (ecological, economic, social, cultural) of sustainable development to integrate into their teaching, and why. The responses showed that cultural and social sustainability dimensions were often seen as the most natural dimensions to incorporate into language teaching. Many teachers, including ID12, a Swedish and Spanish language teacher, noted that language itself is closely tied to culture, making cultural sustainability an inherent part of language teaching:

Cultural sustainability, because it is a natural part of language teaching, as language and culture go hand in hand. Lessons provide an opportunity to learn about the customs, traditions and values of different countries, thus fostering intercultural understanding and appreciation. (ID12)

Several teachers, including ID35, an English language teacher, also emphasized that social sustainability, particularly in the context of communication and interaction, aligns well with language teaching, especially in fostering democratic dialogue:

Maybe social sustainability, because I teach a lot of students in the Faculty of Social Sciences and we are living in challenging times for democracy. (ID35)

Some teachers reported that ecological sustainability could also be easily incorporated in language teaching, particularly when discussing topics relevant to students' lives, such as climate change or recycling. Some teachers also noted that, while they didn't explicitly teach sustainability topics, students integrated them in their essays, presentations, or discussions. This was also illustrated by ID4, an English language teacher:

The students bring their own topics to the courses, and we go along with them – the teacher does not actively select or assign topics to study. We do not have teaching materials in our lecture courses or academic writing courses that are linked to sustainable development, but to communication in general, and the teacher “cannot force“ those topics to be covered, but the topics are just constantly present in the students' daily lives and become a natural part of the courses through the students' choice of topics for their theses and dissertations. (ID4)

The integration of these topics was often seen to depend on the students' field of study. For example, economic sustainability was more easily connected to the curriculum in business courses, while engineering students were more likely to engage with ecological sustainability topics.

4.2 Institutional support, motivation and self-efficacy to teach SD

HE language teachers' perspectives on motivation, self-efficacy, and institutional support in integrating SD themes into teaching are presented in Figure 2. A notable 60% of teachers were motivated to teach SD content as part of language teaching, while 26% disagreed. Only 35% of teachers agreed they had a lot of teaching knowledge and expertise related to SD, with 37% disagreeing. Two out of five teachers felt encouraged by the school management to address sustainable development content, while 12% disagreed. Many teachers (39%) indicated that SD topics are frequently addressed in lessons across various subjects at their institution. Regarding workplace support, a third of teachers felt they received adequate support to integrate SD themes, whereas 44% disagreed. Collaboration with teachers of other subjects to teach SD topics was limited, with only 16% of respondents agreeing, while a significant 63% disagreed. (Figure 2.)

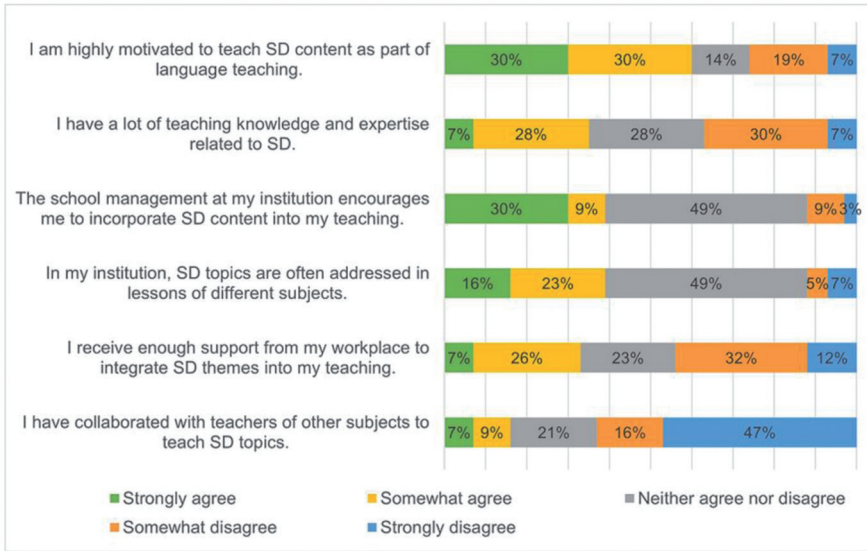


Figure 2: HE language teachers’ ($n = 43$) perspectives on motivation, self-efficacy, and institutional support in integrating sustainable development themes into teaching.

We conducted a Spearman’s rank-order correlation analysis based on the items from Figures 1 and 2. The direction of the variables in Figure 1 was reversed for the correlation analysis. The statements related to the support teachers received for teaching SD dimensions (the last four statements of Figure 2) were combined into a sum variable named “institutional support“. The Cronbach’s alpha coefficient for the sum variable was 0.80. In the correlation analysis, we refer to the variable “I have a lot of teaching knowledge and expertise related to SD” as “self-efficacy to teach SD”, and to the variable “I am highly motivated to teach SD content as a part of language teaching” as “motivation to teach SD”.

The Spearman’s correlation analysis revealed several significant relationships between self-efficacy, motivation, institutional support, and the frequency of teaching SD (see Table 1). Self-efficacy to teach SD was strongly correlated with motivation to teach SD ($r_s = 0.544, p < 0.01$), and showed strong or moderate correlations with the frequency of teaching ecological ($r_s = 0.516, p < 0.01$), economic ($r_s = 0.49, p < 0.01$), and social sustainability ($r_s = 0.449, p < 0.01$). However, the correlation with cultural sustainability was weak ($r_s = 0.235, p > 0.05$).

Table 1: Self-efficacy, motivation, and institutional support in relation to the frequency of teaching sustainability topics (Spearman correlation) ($n = 43$).

	1	2	3	4	5	6	7
1. Self-efficacy to teach SD	1						
2. Motivation to teach SD	0.544**	1					
3. Institutional support to teach SD	0.230	0.371*	1				
4. Ecological sustainability teaching frequency	0.516**	0.498**	0.338*	1			
5. Economic sustainability teaching frequency	0.490**	0.453**	0.154	0.767**	1		
6. Social sustainability teaching frequency	0.449**	0.537**	0.325*	0.517**	0.563**	1	
7. Cultural sustainability teaching frequency	0.235	0.393**	0.190	0.413**	0.535**	0.792**	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Motivation to teach SD showed moderate to strong correlations with the frequency of teaching all sustainability dimensions, and moderate correlation with institutional support ($r_s = 0.371$, $p < 0.05$). Institutional support was moderately correlated with ecological ($r_s = 0.338$, $p < 0.05$) and social sustainability teaching frequency ($r_s = 0.325$, $p < 0.05$), but no significant associations were found with economic or cultural sustainability teaching.

The correlations between different sustainability teaching dimensions suggest that certain aspects of sustainability are more frequently taught together. The strongest relationship was found between social and cultural sustainability teaching ($r_s = 0.792$, $p < 0.01$), indicating that educators who focus on social sustainability tend to incorporate cultural sustainability topics as well. Similarly, a strong correlation was observed between ecological and economic sustainability teaching ($r_s = 0.767$, $p < 0.01$).

4.3 Challenges and barriers in implementing ESD

Language teachers' opinions on challenges, training, and learning material needs for teaching ESD in HE language courses are presented in Figure 3. A clear need for additional training was identified, with 74 % of teachers agreeing that they require more education on SD topics. A significant portion (60 %) reported that they had not received adequate training to effectively teach SD topics. A majority of teachers (65 %) recounted that language learning materials should more frequently incorporate SD themes, indicating a strong demand for such content. More than half (56 %) answered that the teaching schedule was often too tight to address topics outside the language curriculum. A third answered that considering SD in addition to language teaching was too much work. Some teachers (28 %) seemed not to know how to combine language teaching with SD themes, and for a fifth the complexity of SD topics was reported to be too overwhelming. Most teachers (69 %) responded that they did not have access to ready-made SD learning materials for language teaching, highlighting a gap in available resources.

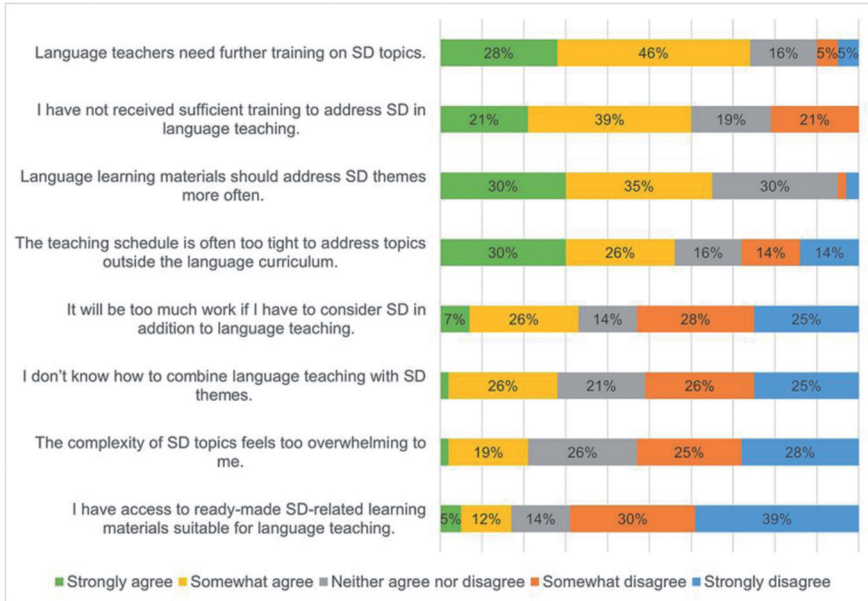


Figure 3: HE language teachers' ($n = 43$) opinions on challenges, training, and learning material needs for teaching SD in HE language courses.

We created a sum variable “Lack of time and expertise to teach SD” from the following items presented in Figure 3: “The teaching schedule is often too tight to address topics outside the language curriculum”, “The complexity of SD topics feels too overwhelming to me”, “It will be too much work if I have to consider SD in addition to language teaching” and “I don’t know how to combine language teaching with SD themes”. The Cronbach’s alpha coefficient for the sum variable was 0.86.

The relationship between access to SD teaching materials, teachers’ perceived barriers, and the frequency of teaching different sustainability dimensions is presented in Table 2. Lack of sufficient training to teach SD did not show significant correlations with other variables. Access to ready-made SD-related learning materials was significantly negatively correlated with the sum variable “lack of time and expertise for teaching SD” ($r_s = -0.530, p < 0.01$).

Table 2: Training, material access, and barriers in relation to the frequency of teaching sustainability topics (Spearman correlation) ($n = 43$).

	1	2	3	4	5	6	7
1. I have not received sufficient training to teach SD.	1						
2. I have access to ready-made SD-related learning materials.	-0.240	1					
3. Lack of time and expertise for teaching SD	0.191	-0.530**	1				
4. Ecological sustainability teaching frequency	-0.220	0.347*	-0.606**	1			
5. Economic sustainability teaching frequency	-0.187	0.279	-0.561**	0.767**	1		
6. Social sustainability teaching frequency	-0.053	0.183	-0.366*	0.517**	0.563**	1	
7. Cultural sustainability teaching frequency	-0.107	-0.005	-0.226	0.413**	0.535**	0.792**	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Having access to SD teaching materials correlated moderately with the teaching frequency of ecological sustainability ($r_s = 0.347$, $p < 0.05$). No correlation was found between the availability of materials and cultural sustainability teaching. The sum variable “lack of time and expertise for teaching SD” was negatively and statistically significantly correlated with the frequency of teaching ecological sustainability ($r_s = -0.606$, $p < 0.01$), economic sustainability ($r_s = -0.561$, $p < 0.01$), and social sustainability ($r_s = -0.366$, $p < 0.05$). However, cultural sustainability showed only a weak negative correlation ($r_s = -0.226$, $p > 0.05$) with the sum variable “lack of time and expertise for teaching SD”.

The answers to the complete-the-sentence-question “The challenge of incorporating sustainable development topics into language teaching is...” confirmed the results presented in Figure 3. The challenge of incorporating SD topics into language teaching was often related to time constraints, with 11 teachers identifying lack of time as the main obstacle (e.g., ID27 & ID22 in Table 3).

Table 3: The challenges of incorporating sustainable development topics into language teaching.

Theme	N	Excerpts (ID and languages taught)
		“The challenge of incorporating sustainable development topics into language teaching is..”
Lack of time	11	lack of time for planning and development, tight course schedules/short courses, push for digitalization/decrease in f2f teaching opportunities, which impact negatively pedagogical practice as first and foremost relationship building, essential for transformative learning. (ID27, English) time constraints and the need to limit and prioritise topics. (ID22, Swedish)
Balancing SD topics with other areas of language instruction	5	find a balance between language learning and subject matter so that both support each other. (ID12, Spanish & Swedish) if it has nothing to do with what the students have come to university to study and there is little time for the language itself and its phenomena. You have to concentrate on the essentials. (ID6, English)

Table 3: (continued)

Theme	N	Excerpts (ID and languages taught)
		“The challenge of incorporating sustainable development topics into language teaching is..”
Finding suitable teaching materials	4	the fact that there is no such teaching material available, the number of lessons is distressingly small and I already have to create a lot of extra materials on the subject matter of the book. (ID32, Arabic) searching for linguistically appropriate materials if they are not already available in the teaching material. (ID40, German & Spanish)
Students’ limited language proficiency	4	the fact that in a foreign language the terminology is new to the students, making it more difficult to have a proper discussion on the subject when most of the words are lost. (ID33, Swedish) that it may require a certain level of skill. It is not covered in elementary level German textbooks, which makes it easy to be marginalised. (ID38, German)
Maintaining up-to-date SD knowledge	3	[...] I do not know very much about it myself, although there are training courses and workshops on the subject at the university (I have not had time for them) (ID5, Finnish) [...] the language regions I represent don’t necessarily think about sustainability in the same way as we do in Finland, and on the other hand, following what attitudes are different in each region is a challenge for me from Finland – I would like to give my students up-to-date information about how different language regions perceive different sustainability. (ID35, English)
Concerns about ideological imposition	2	that there’s a risk it may feel like I’m forcing a particular point of view on the students. (ID31, English) institutional incompetence, mis-management and being faced with academics who want to impose their world view. (ID20, English)
Independent workload in planning SD content	2	coming up with teaching ideas, and incorporating them in a way that doesn’t take up too much time. (ID11, Finnish) that you have to do a lot of the work on your own. (ID13, English)

In addition to time constraints, the qualitative responses reveal the multifaceted nature of these challenges (see Table 3). Several teachers highlighted the tension between language teaching objectives and the integration of sustainability content, noting that language instruction must often be prioritised over thematic topics (e.g., ID12 & ID6). A further concern was the scarcity of suitable teaching materials, which forced many teachers to create their own resources (e.g., ID32 & ID40). Teachers also mentioned that students’ limited language proficiency can make it difficult to engage in meaningful discussions on complex sustainability issues (e.g., ID33 & ID38). Moreover, some teachers reported challenges in maintaining up-to-date

knowledge of sustainability topics, especially in relation to different cultural and linguistic contexts (e.g., ID5 & ID35). Finally, a smaller number of participants raised concerns about ideological tensions (ID31 & ID20) and the independent workload involved in incorporating SD content into their courses (ID11 & ID13). Taken together, these findings illustrate that while the majority of teachers recognise the relevance of sustainability themes, structural, pedagogical, and epistemic barriers continue to complicate their implementation in language education.

5 Discussion

Cultural sustainability was the most frequently integrated dimension into language teaching, followed by social sustainability. Open-ended responses indicated that language teachers often perceive these dimensions as the easiest to incorporate into language teaching. Similar findings have been observed in previous studies (see Maijala et al. 2023b; Uitto and Saloranta 2017). Based on the correlation observed in our study, educators tend to approach sustainability in thematic pairs. Ecological and economic sustainability are closely linked, while social and cultural sustainability are strongly interconnected. These findings suggest that familiar teaching practices may influence the emphasis on different dimensions of sustainability.

Although a majority of teachers were motivated to teach SD, only a third reported high self-efficacy in doing so. Similar results have been observed in previous studies: there is motivation to teach SD topics, but self-efficacy is not always perceived to be sufficient (Laine et al. 2022; Maijala et al. 2023a; Stössel et al. 2021). The correlation analysis highlights the importance of fostering HE language teachers' self-efficacy and motivation to enhance the integration of ESD. Self-efficacy to teach SD was strongly correlated with motivation to teach SD, indicating that educators who feel confident in their ability to teach sustainability are also more motivated to do so. Self-efficacy correlated with the frequency of teaching ecological, economic, and social sustainability, but the correlation with cultural sustainability was weak. This may be because the cultural aspect is such an integral part of language teaching that teaching it does not necessarily require SD self-efficacy, as the self-efficacy related to language teaching is sufficient. A closer examination of this result raises the question whether teachers are actively engaging in sustainability-oriented pedagogical practices, or whether they are retrospectively interpreting long-standing traditions of intercultural communication and cultural comparison as forms of sustainability teaching. Teaching cultural practices and communication aligns with conventional language-education goals, but does not necessarily encourage students to think critically about their role in creating more

sustainable futures. On the other hand, the examples we provided for the cultural sustainability item (“preserving cultural heritage, intercultural cooperation”) are closely linked to sustainability, yet they also describe activities that many language teachers routinely incorporate into their teaching. The wording of the item may thus have made it easier for the teachers to recognise their existing practices as culturally sustainable. Highlighting the connection between cultural topics and sustainability teaching could strengthen teachers’ sense of agency in promoting sustainability through language teaching (see Kuusalu et al. 2025).

Regarding the low teaching frequency of economic sustainability, our qualitative data suggest that teaching economic sustainability was often context-dependent. Teachers described it as fitting more naturally within business-oriented curricula, whereas in other fields, such as engineering, ecological dimensions were perceived as more relevant. These disciplinary traditions may therefore function as structural barriers that shape which aspects of sustainability teachers feel expected to address. The weak emphasis on teaching economic and to some extent also ecological sustainability dimensions (see Figure 1) may thus reflect broader curricular and institutional patterns, not only individual constraints.

Motivation to teach SD showed moderate to strong positive correlations with the frequency of teaching all sustainability dimensions and was moderately correlated with institutional support, suggesting that teachers who perceive greater institutional support are more motivated to teach sustainability topics (see also Kuusalu et al. 2025). Institutional support was moderately correlated with ecological and social sustainability teaching. Notably, no significant relationship was found between institutional support and economic or cultural sustainability teaching frequency. These findings suggest that while institutional support could influence motivation, its impact on teaching practice may be limited or domain-specific.

Although previous studies have found that insufficient SD training hinders the integration of SD themes into teaching (Borg et al. 2012; Mercer et al. 2023; Waltner et al. 2020), our study found no significant (negative) correlation between the lack of SD training and the frequency of teaching SD topics. Despite this, there was a clear need for additional SD training, and a significant portion of teachers felt they had not received adequate training to effectively teach SD-related topics in language lessons. Based on their subject knowledge, language teachers could benefit in particular from training on how to incorporate ecolinguistic resources when they teach SD-related content. As language has the power to shape our worldviews and is the medium with which we construct social structures (e.g., Fairclough 1992) and form our identities for different contexts, e.g., ecocultural identities (see Milstein and Castro-Sotomayor 2020), language teachers could aid students to identify and understand aspects of language use which, on the one hand, are used to promote sustainability, or on the other hand, work against ecologically grounded ac-

tions. While readily available frameworks, such as the *Ecolinguistic Learning Modules* concept (Kuusalu and Stibbe 2025), and free online courses in English (e.g., <https://www.storiescourse.org/>), provide practical resources, teacher training in these matters should be incorporated into institutional strategies and action plans. It is vital to ensure that pre-service and in-service teachers are provided sufficient time and mentoring to adopt these methods into their teaching.

Challenges of teaching SD were related to time constraints, lack of SD expertise, and availability of teaching materials. The same obstacles have also been observed in previous studies (e.g., Kuusalu et al. 2025; Kwee 2021; Mercer et al. 2023; Sund and Gericke 2021; Waltner et al. 2020). The sum variable “lack of time and expertise for teaching SD” was negatively correlated with the frequency of teaching ecological, economic and social sustainability, but showed only a weak negative correlation with cultural sustainability. This could be due to the fact that teaching cultural sustainability has traditionally been part of language education, so teachers have the necessary expertise and do not require as much additional preparation time for cultural sustainability topics compared to other dimensions.

Most teachers (69 %) reported to have no access to SD materials, suggesting a gap in available resources. Having access to SD teaching materials correlated statistically significantly only with the teaching frequency of ecological sustainability. No correlation was found between the availability of teaching materials and cultural sustainability teaching frequency. This may be due to the fact that the learning materials used in language teaching already contain sufficient topics related to cultural sustainability. The results revealed a strong negative correlation between access to teaching materials and perceived time constraints. This suggests that practical support in the form of ready-to-use materials can substantially reduce the sense of overload that teachers associate with implementing sustainability-related topics. This relationship shows that institutions need to provide concrete pedagogical resources, not just general encouragement, if they want to support ESD in a meaningful way.

The open-ended survey responses revealed that although teachers acknowledged the relevance of sustainability themes, their integration into language teaching was often hindered by various challenges. Time constraints, lack of appropriate teaching materials, and the need to prioritize language instruction over thematic content were frequently mentioned. Teachers also pointed out difficulties related to students’ limited language proficiency and their own ability to stay updated on sustainability topics across different cultural contexts. A few teachers mentioned concerns about ideological expectations, expressing worries about “imposing” values on students. Such tensions reveal that there can also be different kinds of barriers: even though institutional and individual resources (e.g., material and time) might be available, teachers may hesitate to engage with ESD, if they feel unsure about their role in addressing it.

6 Conclusions and limitations

Our study provided new insights into the current state of ESD in HE language education in Finland. We examined language teachers' sustainability competencies and explored the barriers hindering teachers' and learners' development of sustainability competencies in HE language teaching and learning.

The small size of the pilot survey dataset, consisting of 43 teachers' responses, may not comprehensively represent the views of a broader target group, thus potentially affecting the generalizability and reliability of the presented results. Further research is needed to develop a large-scale survey targeted at language teachers in a variety of educational contexts based on the results of this pilot study.

It is possible that the voluntary nature of the survey influenced the results, as those who chose to respond may have had a particular interest in sustainability. Additionally, the characteristics of the sample may have affected the findings. In our dataset, the majority of respondents were women and English teachers. Another notable issue with self-reported survey data is the influence of social desirability. Teachers' responses might have been shaped by the pressure to conform to the perceived educational norms of ESD. To address this limitation in future studies, classroom discourse analysis could be used to triangulate self-reported data and thereby strengthen the methodological robustness of the findings.

As sustainable development and education play an integral role in HE institutions' curricula and mission statements, it is highly problematic that teachers face such significant challenges to implement and promote the multifaceted dimensions of sustainability in their language teaching. Overall, this study emphasized that teachers need concrete support to integrate sustainable development into their teaching, primarily in the form of ready-made teaching materials and in-service-training related to sustainable development.

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