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Education towards Sustainable Development: Potential of Foreign Language Teaching and Learning

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Abstract.

The purpose of the paper is to discuss the potential for education towards sustainable development (further on – SD) via foreign language teaching and learning (further on –FLTL) (for specific purposes, further on - SP). The potential of using 5 SD developing competencies model is being analysed. As SD education plays a significant role in helping students to learn to think more critically about their choices in nearly every aspect of their lives, in this particular research it was important to adopt an educational research perspective to course/curriculum development in FLs. Detailed description includes the justification of course design, learning objectives (including ESD related goals, including selection of materials, activities and instructional approaches, among other aspects). Students' opinions (in a format of a questionnaire, the procedure was anonymous; the students who followed the SD focused course and the students who did not (as a control group) were invited to share their perspective) were collected in order to get insights on the matter. The results of the empiric study indicate that the students, in their own opinion, are more likely to learn better the language and be able to use it effectively. The opinions may result from the educational process: when they learn a language through SD, they are using a variety learning strategies for learning (and also different methods for teaching are used), which help students to learn the language more effectively. Findings imply the benefits of integrative, active, collaborative, and applied approaches to curriculum, and that FLTL for SP has potential for education towards SD.

Keywords: Sustainable Development, HE students, sustainability, foreign language teaching and learning for Specific purposes.

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1. Introduction

In Lithuania, as well as in many other countries, the attention to sustainable development (further on: SD) gains an ever increasing level of attention even though the last several years have been marked with other grave challenges, such as pandemic, then war right near the borders of the EU, most recently - the war in the Middle East after the horrific October 7th, 2023. Nevertheless, the political will at international arena is still evident, as it was demonstrated in discussions in COP28 in Autumn 2023 (Conference of the Parties 28; <https://www.bbc.com/news/science-environment-67143989>). During the annual UN meeting the need to amplify efforts to invest into renewable energy sources and to further emphasize importance of innovations in the field were re-iterated.

Consequently, the necessity for attention to SD in higher education remains valid, because higher education is the arena for generating high competences, resulting – logically and hopefully - in innovation and discoveries, including the ones necessary for achieving SD goals. However, it is crucial to note that SD is a complex of the efforts in various fields, because the synergy of ideas, social and technological innovations has a potential for genuine and lasting impact for the goals stated. Thus, the attention to SD in social sciences, humanities, such as during the classes of Foreign language teaching and learning also has its possible role in the process. Though historically the terms ‘sustainable’, ‘sustainability’ were associated with those who were concerned about the environment, but focus has shifted; in recent decades both the policies and the research embrace the idea of interactive nature of sustainability and the education, which provides a more solid background for the potential success – both for education and towards sustainability. The SD is given consideration in various subjects in higher education; if a decade or so ago SD was at the focus of a specific range of subjects, such as ecology, natural sciences, but with each year the proliferation to other subjects is more evident. Foreign language teaching and learning (FLTL) for Specific purposes (SP), especially, in higher education also starts incorporating SD, or at least its elements. Higher education has always been at the forefront of social, technological, research transformations, thus the shift of attention to SD evidences a logical course of action in order to contribute to finding solutions to the world's most serious problems (Crow & Dabars, 2020), thus analysis of the potential of implementation of SD competencies into the content of FLTL curriculum/program for SP is timely.



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The problem of the study: while it is important to recognize that despite existing policies on integrating SD in Higher Education curriculum, however there are very few, if any, universities that integrate SD on all dimensions. SD is not yet a major focus of all the subjects/course-units (e.g., in FLTL) or even the wider economy in which higher education functions. Therefore, the research on implementation of SD in higher education curriculum/program of foreign language teaching and learning (further on – FLTL) for specific purposes (further on – SP) has potential.

The object of the study: potential of FLTL (foreign language teaching and learning) for SP (specific purposes) for education towards Sustainable Development.

The aim of the study: to examine the potential of implementation of SD competencies into the content of FLTL curriculum/program for SP.

The Objectives of the study are based on RQs: How to implement SD by 5 competencies in FLTL for SP curriculum/program so that the students would be aware and confident regarding SD? What is the level of students' awareness of implementation of SD competencies into the content of FLTL curriculum/program for SP?

Methods of the study: critical analyses of sources, modelling, quantitative study (questionnaire, incorporating closed and open-ended questions) were used for the development of this study and the paper.

2. Education for SD and the curriculum/program of foreign language learning for specific purposes

The United Nations, while outlining the strategic goals for 2030 (Transforming our World: the 2030 Agenda for Sustainable Development; <https://sdgs.un.org/2030agenda>) enumerated the 17 goals for SD.

It is worth noting that one of the 17 goals is dedicated specifically for education: Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, evidently, the authors note and acknowledge the role of education for the overall potential for the success of SD (<https://sdgs.un.org/2030agenda>). While, notably, the Goal 4 mostly emphasizes primary education, disparity between education of girls and boys, however, for our analysis, the Sub-Goal 4.7 is important.



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Sub-Goal 4.7 indicates aspiration “by 2030 to ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development” (Transforming our World: the 2030 Agenda for Sustainable Development; <https://sdgs.un.org/2030agenda>). The aspirations are ambitious, and it is evident that also higher education should contribute in order to achieve the highly ambitious tasks.

Notably, these goals were not formulated in the vacuum of ideas or historical background. Though historically the terms ‘sustainable’, ‘sustainability’ were associated with those who were concerned about the environment, but focus had shifted notably in the recent decades. Both the policies and the research embraced the idea of interactive nature of sustainability and the education. For example, in 1987 the study titled "Our Common Future" was published. The World Commission on Environment and Development published the study titled "Our Common Future" (widely known as the Brundtland study) (Report of the World Commission on Environment and Development: Our Common Future (1987); <https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/brundtland-report.html>); here the notion of SD, the linkages between SD and education were first clearly articulated (Brundtland, 1987).

Universities globally are reacting to what is happening globally are becoming more and more socially responsible to the world needs which are clearly defined in the United Nations’ Sustainable Development Goals (SDG) framework, indicated above in the paper. These goals expanded the efforts and understanding from the experience of the UN Decade of Education for Sustainable Development, which ran from 2005 to 2014, namely: to "integrate the principles, values, and practices of sustainable development into all aspects of education and learning"(UNESCO UN Decade of ESD. Available: <https://en.unesco.org/themes/education-sustainable-development/what-is-esd/un-decade-of-esd>).

In the Final report on the UN Decade of Education for Sustainable Development (Shaping the Future we want) it was noted that “ESD has spread across all levels and areas of education, in all regions of the world and is widely considered key in supporting sustainable development. International and national strategies dealing with the economic, social and environmental dimensions of sustainable development are beginning to reflect ESD as a crucial component” (UNESCO, 2014, p.3)(Shaping the Future We Want - UN Decade of Education for Sustainable Development (Final report, UNESCO, 2014).

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<https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=1682&menu=35>).

Thus education is considered the pathway out of poverty and the foundation for a better future. By placing sustainability at their core, the SDGs highlight how the environmental, social, and economic facets of sustainable development are interconnected. This is known as a "Pathway for Humanity" (Schleicher, Schaafsma, Vira, 2018; Bali Swain, Yang-Wallentin, 2020). This focus does not surprise anyone, who is in the field of education. E.g, even the Noble Prize winners A. Benerjee, E. Duflo, M. Kremer in economics in 2019 noted exactly that: the higher levels of targeted and well thought of efforts (and investments) in education - surely - together with other factors result in more vigorous and viable economies, and, consequently, serve as impetus for fighting the poverty (<https://apnews.com/article/777efc95f30f41cc997ee47ce04c1c89>) .

Contemporary researchers are also reacting to global challenges by implementing and integrating Sustainable Development into the content of the curriculum/program of different subjects. Moreover, by combining and blending different subjects with SD, researchers together with the teachers help students (at least potentially) to adapt to and may be minimize the effects of climate change and other issues (Lutz et al., 2014; Olsson et al., 2019). Studies demonstrate an important connection between education, sustainability awareness, and the specific skills, such as critical thinking and problem-solving, also activities that support legislature, political decisions, and everyday decision-making. They show the effective usage of FL acquisition and linguistic competencies that are positively influenced by SD in FLTL for SP (Balls, 2016; Chankrajang & Muttarak, 2017; Chawla & Cushing, 2007; Clery & Rhead, 2013; Franzen & Vogl, 2013).

In other words, through FL learning and competences, students should become better aware of SD competencies and perfect ambassadors of Higher Education. It is worth noting that the curriculum, learning outcomes, connecting them to the SD goals is the process that follows the requirements and the procedures set in each higher education institution, as is stipulated by the principle of the autonomy of higher education in Lithuania.



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Yet, the principles of the Bologna process in conjunction with the particular University's missions and the internal procedures are followed while developing curriculum.

With an increasing attention to SD globally it is logical to modernize the educational system to provide students with a better-quality education. To bring about this transition, instructors' specific instructional approaches, attitudes, and motivation are required (Qablan, 2018; Rieckmann, 2018; Vural, 2019). The parallel relationship between SD and FLTL for SP must be understood, especially given that "human contacts on the macro scale are only possible via language" (Zygmunt, 2016, p. 117); our case, English as a FL is the world's popular language (Bowden, 2010; Zygmunt, 2016). English (as, surely, any other language) may be used to question worldviews, ideas, models, since it is the language of the twenty-first century and because it has numerous linkages to Education for Sustainability (Bowden, 2010; Zygmunt, 2016).

Moreover, according to Bowden (2010), Inceli (2015), Kioupi & Voulvoulis (2019), Zygmunt (2016), English language is fundamentally multifunctional and plays a constitutive role in human life. Surely, while the authors meant the English language, but besides this language there are many other FL that form the concept of FLTL for SP that can be taught and learnt via SD.

As a result, suitable support for the development of language education is necessary (Zygmunt, 2016), as doing so would increase the influence of FLTL for SP on sustainability (Bowden, 2010). In addition, Bowden (2010) indicates the linkage between English language learning and SD, because SD topics cover significant global concerns. Moreover, also other authors (e.g., see Zuzevičiūtė et al, 2017; Jatautaite, Kazimianec, 2018; Parker, 2019; Zygmunt, 2016; Jatautaite, Kazimianec, 2021) validate a strong case for learning SD through the FLTL for SP content.

SD in a FLTL for SP has drawn the attention of numerous researchers since the publication of the Brundtland Report (1987), e.g. see: França et al., 2017; UNESCO, 2014; Weerawardena et al., 2010). The significance of education in achieving the SD objectives has been highlighted by several scholars, by international resolutions, and charters (Becker, 2018). As education plays a critical role in SD, it is, thus, essential integrate it to some degree to curriculum/program of FL for SP (Sterling, 2017; Buckler and Creech, 2014). SD have gained political and institutional acceptability in many parts of the world to the point that governments are beginning to make it a requirement for Higher Educational curriculum/program content in their educational systems. Filho (2010) contends that the university cannot abdicate responsibility for addressing one of the biggest issues confronting humanity. SD will – hopefully - inspire them "to take action both during their time as students and, later on, as professionals" (Filho, 2010, p. 2).

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Together with other transformative education strategies, the method known as Education for Sustainable Development (ESD) and SD aimed to be a catalyst for this change. ESD and SD seek to equip learners with the knowledge, skills, values, and attitudes that will enable them to make informed decisions and act responsibly in order to achieve environmental integrity, economic viability, and a just society, as promoted by UNESCO, the United Nations' lead agency for ESD. While valuing cultural variety, it aspires to empower everyone, including present and future generations.

In fact, "Sustainable Learning" or sustainable learning and education (SLE) is a relatively new idea and an evolving educational philosophy. Hays and Reinders (2020) were among the first to offer the concept of SLE, where the development and dissemination of curriculum and instructional practices that are renewable, sustainable, and that equip students with the information, skills, and attitudes they need are emphasized. Authors emphasize that these are necessary to thrive in today's complex and ever-changing contexts; these are indicated as the objectives of sustainable learning and education. ESD is located at the intersection of two distinct but linked processes: the rising focus on educational sustainable development content and the greater weight given to education and learning in the context of the global endeavor to achieve sustainable development.

While the European Commission, 2019, article 2.2.4, in the European Green Deal makes certain promises: "The Commission will prepare a European competence framework to help develop and assess knowledge, skills and attitudes on climate change and sustainable development" (European Commission. The European Green Deal, 2019; <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640>), it is up to professional educators to participate in the process.

3. Potential of implementation of SD competencies into the content of FLTL curriculum/program for SP

In this particular research it was first of all aimed to adopt an educational research perspective to course/curriculum development in FLs. This involved a detailed description and justification of course design, learning objectives—including ESD-related goals—materials, activities, and instructional approaches, among other aspects. It also meant gathering data from students as a regular part of their activities, tasks, and projects for assessment purposes, some of which could eventually be used to assess aspects of the educational process (important note – only part of the extensive collected data is explicated in the paper, due to the limitations for the scope).



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A survey was implemented (a questionnaire was used) to collect the feedback/insights on potential of FLTL for SP from students' perspective/awareness.

Information about the educational process that was organized and implemented. The following steps were implemented:

- Designing a FLTL curriculum/program for SP, the 'language-content was based on the regular Business module that comprises 64 hours or 5 ECTS (The European Credit Transfer and Accumulation System); the target language (English) in specific fields (Business, Law).
- Creating FL content classes among specialty topics (Business or Law in this case), that are mandatory for the subject knowledge and skills to gain, social and environmental sustainability topic was integrated so that students may learn about sustainability while using the target language. In this regard, emphasis is placed on the subject, literature and materials that are embedded the subject module.
- Designing the research, the purpose is to encourage long-term learning of SD through the language teaching and learning for specific purposes. Here in this case SD is defined as sustainable Teaching and learning that entails learning as superior, long-lasting, more effective, rapid, motivational, and pleasant.
- Designing a FLTL curriculum/program for SP, a deeper understanding of the function of particular texts—both written and spoken—is made possible by the work of discourse and genre analysis and the outcomes of computer-based analysis. It gives an update on this significant FLTL for SP advancements and a description of the current state in the field of SD. It is significant that new ideas in the areas of business and law-enforcement and other disciplines of Higher Education, new technologies have entered and affected the teaching and learning of foreign language methodology. Methods, literature, methodology, techniques, instructional structure, and expected results of the module are therefore given priority.
- Designing a FLTL curriculum/program for SP, it is also significant to consider SD as the ability to accommodate current societal needs while yet preserving the future. In other words, the way the Brundtland Commission of the United Nations defined sustainability in 1987 as "meeting the needs of the present without compromising the ability of future generations to meet their own needs."
- Therefore, it is expected that the curriculum or program's sustainable FLTL material will satisfy the needs of a modern sustainable society and the student's potential career.
- Designing a FLTL for SP curriculum/program for SP, it should be taken in consideration that FLTL for SP is now widely recognized as a significant and distinctive component of FLTL process.



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- The curriculum must be pedagogically informed by constructivist learning strategies, such as problem-solving or community engagement, which emphasize collaborative, participatory learning, strike a balance between content and language instruction, and help students reach their highest levels of linguistic development.
- Learner-centered teaching strategies that enhance the learning process were emphasized. Teaching and learning process was task-based, problem-based, project-based
- While designing the research, we took the Wiek and colleague's (2016) sustainability competencies for SD.

3.1. Competencies and pedagogies for sustainability development

Wiek and colleagues (2016) were the first to introduce their work on sustainability competencies. Therefore, they started discussions about the set of competencies that could be most effective in teaching (and learning SD) the curriculum/program content. For example, Wiek et al. (2016) formulated and offered these sustainability competencies for SD:

1. Systems-thinking competence: the "ability to collectively analyze complex systems across different domains (society, environment, economy, etc.) and across different scales (local to global), thereby considering cascading effects, inertia, feedback loops and other systemic features related to sustainability issues and sustainability problem-solving frameworks" (p. 207),

2. Anticipatory competence: "the ability to collectively analyze, evaluate, and craft rich 'pictures' of the future related to sustainability issues and sustainability problem-solving frameworks" (pp. 207, 209),

3. Normative competence: "the ability to collectively map, specify, apply, reconcile, and negotiate sustainability values, principles, goals, and targets" (p. 209),

4. Strategic competence: "the ability to collectively design and implement interventions, transitions, and transformative governance strategies toward sustainability" (p. 210),

5. Interpersonal competence: "the ability to motivate, enable, and facilitate collaborative and participatory sustainability research and problem solving" (p. 211),

6. A "Meta-competence of meaningfully using and integrating the [other] five key competencies" to "[solve] sustainability problems and [foster] sustainable development" (p. 243).

The whole spring semester of 2023 we worked with the students of VU BS on SD through sustainability competencies; this framework has served as a point of departure for formulating and teaching sustainability competencies.



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Wiek et al (2016) described Transformative sustainability work as a result of several Sustainability field Core Competences, encompassing:

1. Creative and Strategic Competence;
2. Critical and Normative Competence;
3. Transdisciplinary Competence;
4. Systems Competence and
5. Interpersonal Communication Competence.

Thus, designing the Curriculum/program of SD in the FLTL curriculum/program for SP, we applied Sustainability Competencies that Wiek et al (2016) recommended. We adapted them for educational process and then examined whether they were conducive for educating towards SD in foreign language teaching and learning for specific purposes classes.

3.2. The process, participants and the results of the research

A survey was implemented (a questionnaire was used) to collect the feedback/insights on potential of FLTL for SP from students' perspective/awareness. For the survey the questionnaire with open- and closed-ended questions was designed. Respondent were invited to indicate their opinions anonymously (several answer options were available, respondents had an opportunity to write their own answers). The questionnaire contained 20 questions, only a part of findings are presented here.

The **limitations** of the study stems from the fact that the number of students in groups (control group (1, MRU) without specific input/attention on SD and a group with the specific input/attention on SD (2, VU)) in the sample was not high, however, in Lithuanian context, the number is adequate to existing HE setting in the country.

Participants. Totally, 127 students participated in the study. 100 students from Vilnius University Business School (VU BS) participated in the research. They were all the students of the first year who studied Business English. In addition, a group of 27 full time students in law enforcement from Mykolas Romeris University (MRU) were included as a control group that studied Law English for specific purposes; but they did not have a specially designed curriculum/program with implemented SD content. They did not learn any particular SD competencies and the curriculum/program content was not adapted to SD content and this inclusion had to strengthen the objectivity of the research data. The five competencies for SD in the control group were not implemented and the students of MRU did not know about existing synchronous experimental group of VU BS. Both groups of the research comprised first year students.



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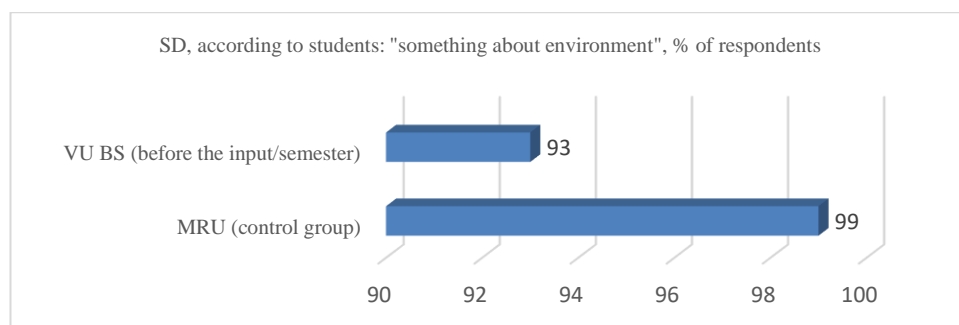
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The students were asked 3 questions about general educational background, what they knew about sustainability, social responsibility, social development, relationship between the profession and the SD (the questions were posed to determine to what extent – according to students - their future profession, for which they are studying, can help achieving SD).

Results. In the beginning of the semester, the opinions in both groups were similar, Figure 1.

Figure 1. Opinions of respondents in the beginning of the semester



Interestingly, control group (1, MRU) stated (98%) that higher education institution should actively incorporate and promote sustainable development in their FLTL for SP in curriculum/program. Almost all of them reported that they hardly knew what sustainability was and added that the only thing that they associated with this concept was environmental problems. However, some students from the control group (2 %) feel that Sustainable Development (SD) topics are covered in their course. The vast majority of students (94%) feel that MRU could do more to educate students about the SD. This shows that MRU still have a role to play in educating students in the area of the SD and incorporate SD into the content of the subject.

Meanwhile, VU students (2, VU) before the course had very similar results to the students in control group (1, MRU). When asked the questions about SD, 93 % of students stated that they had little idea about SD: most of the answers were similar to MRU students' stereotypes regarding SD being related only to environment. Though 33% heard of Sustainability, but they did not know what it was and 16% had never heard of it and had little idea how SD could correlate with their future career. As it can be observed, almost all the students of both universities believe that their understanding of the SDGs was very low.



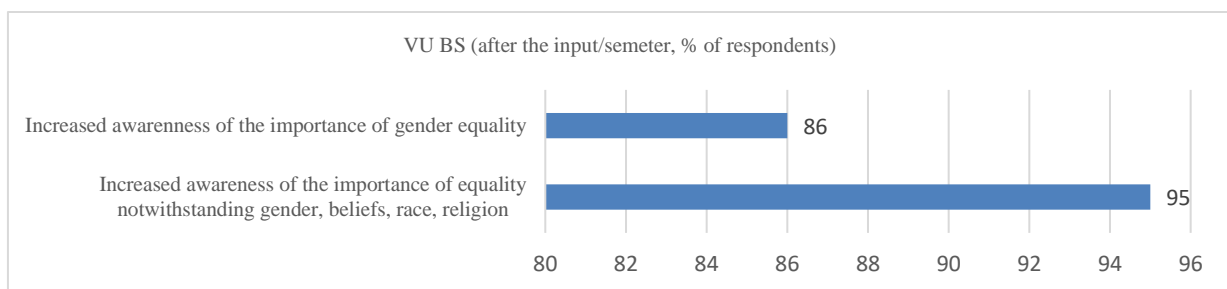
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The situation became dramatically different at the end of the course, when students of VU BS were invited to complete the questionnaire again. 98% of students stated that they were much more confident about SD. 96% stated that their knowledge, skills and competencies completely changed. They were positively surprised that knowledge of SD helped them better realize their future career goals and that teaching-learning actions definitely improved the knowledge, perception, and opinion regarding the contribution of teaching and learning FLTL for SP on the future profession thanks to the SD. There were other positive opinions about the input, Figure 2.

Figure 2. Opinions on positive outcomes of the input (incorporating learning on SD)



It is very interesting, that a majority of students have changed their attitude to gender equality due to SD. For example, they state that it is important to pursue important professions for the benefit of the general welfare, sustainable environment, moreover, and that the empowerment of women must be encouraged and valued. One more interesting fact is to be mentioned: after SD course students have become certain that people should not be discriminated according to their age, sex, race (Figure 2).

The students also claimed that after the course they were surprised to learn specific methods for reducing inequality, such as the dissemination of useful knowledge, tools, technology, etc., that can "bring closer" the wealth-producing sectors of society.

Moreover, as educational professionals we will note another aspect, that is, positive assessment of educational approach. The majority of participants think that the other students' active participation through different activities, such as debates, discussions, role play, and etc. in class was the biggest incentive to learn SD through the FL content. Students not only became much more confident about the essence of SD, but also had positive comments on educational process *per se* (Figure 3).

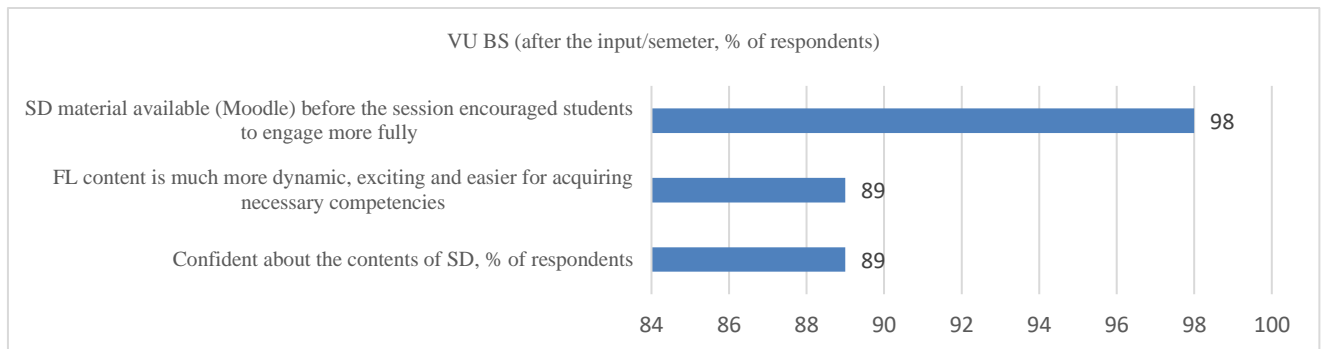


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Figure 3. Respondents on educational process



During the course (64 hours or 5 ECTS) of FLTL for SP various topics, issues, trends, and challenges related to SD have been taught through different contents, assignments, presentations, and projects and 5 SD strategies and methods. Further, these assignments, projects, discussions and initiatives helped students to understand the importance of SD and showed them the bigger picture.

Furthermore, practical initiatives helped them understand the relevance of SD in their lives. A carefully designed curriculum/program mitigated students to learn easier the FL for SP.

It is evident, notwithstanding the limitations on the research, that:

- The primary goal of the research to implement SD competencies into the content of FLTL curriculum/program for SP has been successfully accomplished. The content of the FLTL for SP curriculum/program accomplished its goal due to implementation of the SD competencies.

- The students have become much better aware thanks to SD: gained new knowledge, skills and competencies necessary for their future career and understanding the world they live in. Moreover, they have become more concerned about issues related to social justice issues.

- SD education plays a significant role in helping students think more critically about their choices in nearly every aspect of their lives.



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4. Conclusions and future recommendations

The study indicates that concepts and practices of sustainability are based on studying, comprehending, engaging with, and changing complex systems—it requires systems competency. SD is a transdisciplinary field that addresses complex issues and challenges by involving multiple disciplines and professions in dialog and practice—it requires transdisciplinary competency. Interpersonal and communication skills are necessary for SD, since it entails tackling connected problems and difficulties while engaging a variety of stakeholders. SD is ultimately about changing the way people live in industrial societies through studying and critically analyzing assumptions and practices that drive unsustainable practices—it requires critical and normative competency. Moreover, to build and implement plans for individual, societal, and organizational transformation, SD advances beyond criticism and understanding; this calls for creative and strategic aptitude. Regarding practice in HE, it should be noted that when students learn a FL for SP, they are often focused on using that language for SP, such as in a business setting or in an academic context. This means that they need to be able to use the language in a way that is sustainable, meaning that they use it effectively for the purpose they are learning it for. SD is important for students when they learn a FL, because they are more likely to learn better the language and be able to use it effectively. This is because when they learn a language through SD, they are using a variety of different methods of learning strategies and competencies, which help them to learn the language more effectively.

This study articulates and describes the depth of the set of five competencies for SD and suggests potentially effective pedagogies for teaching towards them. Findings in the areas of both competencies and pedagogies for SD education imply the benefits of integrative, active, collaborative, and applied approaches to curriculum development and teaching.

The curriculum must be pedagogically informed by constructivist learning strategies—pedagogies like problem-solving that prioritize collaborative, participatory learning, balance content-language instruction, and help learners reach their highest levels of linguistic development. The FLTL might and should, play a part in promoting sustainability awareness in the context of higher education; this study, its results provide grounds that FLTL for SP has potential for education towards SD.



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