

Article

Teachers and Students as Promoters or Repressors of Sustainable Education: Navigating the Blended Learning Landscape

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Abstract: Technology is acting as a catalyst for the transformation towards sustainability in education and as a means of reshaping the educational experience. This transformation is part of an overall transformation in our society, and education should be dedicated to creating satisfied students able to think autonomously, take responsibility for their views, and contribute to society. Both sustainable education and education for sustainability benefit from blended learning, which facilitates participatory teaching and empowers learners. The aim of our research was to determine teachers' and students' (a) awareness of the development of digital platforms for teaching and learning, (b) perception of their own digital skills, (c) use and experience of Coursera, and (d) attitudes towards the content and benefits of digital platforms, such as Coursera, for teaching and learning. The analysis was carried out using a questionnaire in which we collected feedback from students and teachers at the University of Sarajevo about their awareness and preferences of the contents offered by Coursera and their readiness to use those additional learning and teaching resources. The results of this study show that there is a lack of awareness of online e-learning platforms among students, with more than half of the sample professing ignorance about these sites. The identified lack of experience and a noticeable lack of motivation could present significant repressors in the transformation of education if not addressed properly.

Keywords: sustainable education; digital technologies; blended learning; personalized learning; Coursera



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1. Introduction

Traditional teaching and learning paradigms have been challenged by the digital transformation of education. The rapid development of educational technology has changed the educational process from traditional teacher-centered methods to flexible student-centered strategies that meet the needs and demands of a wide range of students, which is in line with the new paradigm of sustainable education [1].

The use of digital technologies and learning platforms offers creative and imaginative approaches to education, providing access to learning materials, activities, and resources from any place and at any time [2]. Teachers, students, and policy makers have been significantly affected by this transition. It has given teachers state-of-the-art tools to deliver materials and assessments, but it has also granted students the freedom to take control of their education [3]. Students no longer have to rely solely on a teacher's expertise and guidance to expand their knowledge of a particular subject [4].

The combination of online and face-to-face teaching removes spatial and temporal barriers to learning, enabling inclusive education and also promoting economic sustainability through efficient and effective educational services [5].

1.1. About Sustainable Education

Different interpretations of sustainable education are explored in [6], and the authors identified two principal different approaches to defining sustainability in education. The first approach is focused on teaching practices and learning strategies involving ‘sustainable feedback’ and the premise that students should become self-initiated seekers and users of information [7]. The main feature of such an education is the redirection away from traditional teacher-centric methods to student-centric teaching and learning. The authors in [6] describe teaching practice with “potentially sustainable nature of multidisciplinary and multicultural teamwork, where members engage with real-case tasks” and recognize the significance of technology advancements in enabling the proposed practice.

The other approach defines sustainable education in the context of “sustainable development”, or “education for sustainable development”, and links learning outcomes to the UN Sustainable Development Goals (SDGs). The UNESCO Education Sector Technical Note [8] emphasizes the need to “integrate key sustainable development issues such as climate change, disaster risk reduction and biodiversity into teaching and learning” as well as the need to “use participatory teaching and learning methods to empower learners to take action for sustainable development”.

The importance of both approaches is also outlined in [9], where the authors note the need to integrate sustainable education and learning for sustainability, leading to “values-based education”.

1.2. Blended Learning as a Way to Achieve Sustainable Education

The term “blended learning” refers to a combination of technology and face-to-face teaching [10]. Blended learning programs differ from traditional teaching in the ratio of face-to-face and online instruction and in the way in which these processes are blended. The philosophy behind the development of blended learning courses is also based on the understanding that learning is not a one-off event but a process that is shaped by the characteristics of the learner and takes time [11].

The authors in [10] explain the development of blended learning in two phases. In the first generation of blended learning, the teaching materials used in the classroom were repeated in an online environment [10]. This is a modest method in which students use the materials in a similar way to the classroom, except that they turn the pages with a click of a keyboard or computer mouse rather than in a physical book. This way of organizing and presenting material does not offer too much engagement, choice, or social interaction. In short, this type of online teaching does not utilize the full potential of technology and does not motivate students to use it to its full potential. It should be noted that many universities were offering first-generation blended learning long before the COVID-19 pandemic, as there were online hubs with learning materials and sometimes video lectures. Detailed variants of blended learning as described in [12] are listed in Table 1.

The authors in [11,13] explain that blended learning has become popular because it can be designed to compensate for the shortcomings of both traditional and online learning. Blended learning offers flexibility and self-directed learning. In addition, blended learning is beneficial to students who are not studying full-time, such as students who have a full-time job, students who are parents, or students who live elsewhere. Flexible learning is something that education should offer today and in the future to meet the demands of a digital, ever-changing world. There is a broad need for lifelong learning programs, and the number of people working more than one job is also increasing.

The research presented in [14] describes a meta-analysis of studies that have investigated the effectiveness of blended learning. Their results indicate that, despite a reduction in teaching time between 30 and 79 percent, no negative effects on learning outcomes were found. The statistics show that blended learning is slightly more effective compared to face-to-face teaching and has no negative effects, with around half of the studies reporting positive results and the other half reporting negative results, with significant differences

between the studies. This means that replacing face-to-face teaching with online learning does not always lead to a neutral or positive outcome.

Table 1. Variation of blended learning.

Dimension of Blended Learning	Explanation
Blending online and offline learning.	Blended learning at its simplest form combines online internet content and offline classroom content. An example of this kind of program is offering classroom mentoring and teaching, while research and study materials can be found on the web.
Blending self-paced and live collaborative learning	A blended program design can integrate conversations and documents from learning that are spontaneous, like discussions between colleagues, into knowledge repositories that can be accessed later, in case of need.
Blending custom content with off-the-shelf content	Off-the-shelf content is, in fact, generic content. Generic content is cheaper and has a better production value since it can be used by a large number of different users. Generic self-paced content can be designed in combination with live or online content or with content customization.
Blending learning, practice, and performance support	This form of blended learning includes extra practice with simulation models so that execution of a task is improved.

Based on: [12].

However, blended learning models support sustainable education. One of the ways to create this reorientation is to take advantage of technological advances, especially digital learning platforms with MOOCs, such as Coursera. It is plausible to say that MOOCs themselves cannot replace the traditional model of higher education [15]. Research findings on the effectiveness of MOOCs within the traditional educational process vary in their conclusions and depend on disciplines, cultural expectations, and student expectations [16]. However, MOOCs are becoming increasingly popular. Coursera, for example, is currently used in over 5000 universities around the world to provide additional content in the curricula.

1.3. About Coursera and Its Use in Bosnia and Hercegovina

One of the pioneers in transforming education is Coursera, an online learning platform that has established itself among students and higher education institutions by offering high-quality educational content and promoting individualized instruction. According to the official Coursera website, Coursera is a global online learning platform that provides anyone, anywhere, access to online courses and degrees from leading universities and companies. Coursera partners with more than 250 leading universities and companies to provide flexible, affordable, and career-relevant online learning to individuals and organizations worldwide. Coursera offers a range of learning opportunities, from hands-on projects and courses to professional certificates and degree programs.

The emergence of platforms such as Coursera, which offer the opportunity to customize learning experiences as well as sharing video courses and educational content, make the above possible. Coursera also invites educators and institutions to embrace blended learning models that harmoniously combine virtual and traditional learning. To determine the impact of Coursera on the individualization of teaching and whether educational institutions are prepared to incorporate this digital platform into the teaching process, a quantitative approach is used in this paper.

Before the COVID-19 pandemic, teaching at the University of Sarajevo was predominantly classroom-based, and the curricula did not recognize learning from other sources such as MOOCs. During the pandemic, in the period from 2020 to 2022, when teaching and learning shifted to an online mode, teachers and students began to discover the benefits of digital courses; however, these courses were still not an integral part of the official

system recognizing learning within the curriculum, nor were they recognized as additional learning resources to a greater extent. Coursera and other similar teaching and learning platforms were not very popular in Bosnia and Herzegovina before the pandemic, and no local educational platforms had been developed for similar purposes. One of the reasons for this is that funding for institutional subscriptions to online platforms at public universities is limited, as is funding for the development of original digital educational materials.

In response to global trends, the University of Sarajevo, the largest and oldest university in Bosnia and Herzegovina, organized the symposium “Future of Education: Higher Education for Sustainable Development 2030” in January 2022 to draw lessons from the COVID-19 pandemic and incorporate the benefits of digital learning technologies into the standards for future teaching design. In preparation for the symposium, we conducted a survey to determine the attitudes of teachers and students towards blended learning and their role in the transition to sustainable education.

Recognizing that developing a high-quality and outcome-oriented e-learning offering is a costly process and that teachers still need support in planning and implementing e-learning offerings, we focused on assessing the teachers’ readiness to combine their traditional teaching with the delivery of freely available online educational content such as Coursera. We chose Coursera because of the fact that it is one of the most popular platforms and offers a substantial amount of free learning content.

The aim of our research was to determine teachers’ and students’ (a) awareness of the development of digital platforms for teaching and learning, (b) perception of their own digital skills, (c) use and experience of Coursera, and (d) attitudes towards the content and benefits of digital platforms such as Coursera for teaching and learning.

It is interesting to note that there are not many research studies comparing the views of teachers and students [17]. Even in the most recent studies, specific research topics focus either on the role of teachers and their tendency to change with technology adoption [18] or on student behaviors related to the user experience [19,20]. It is important to recognize these specific roles of academic staff and students, but, in order to guide the overall process of educational transformation, it is important to assess both groups and compare their views and attitudes.

The paper provides insight into Coursera’s effectiveness in tailoring educational content to the specific needs of students while contributing to the broader goals of sustainable education. To provide perspective on the digital revolution in education and its potential to transform the future of learning, this paper aims to shed light on teachers’ and students’ attitudes towards Coursera’s opportunities and challenges in the context of blended learning.

The remainder of the paper is organized as follows: Section 2 describes the research process, the sample, and the instrument used; Section 3 presents the findings; Section 4 presents the discussion and contextual implications and limitations of the findings; and Section 5 contains the conclusions and the recommendations for future research.

2. Materials and Methods

This study used a quantitative research approach to examine Coursera’s function in the preparedness of educational institutions, teachers, and students to adopt blended learning. This study involved the administration of standardized surveys to teachers and students, with a focus on the quantitative evaluation of their experiences and perceptions.

2.1. Participants

The research involved 198 students and 195 members of the academic staff from the University of Sarajevo who responded to the web-based questionnaire distributed by email. Table 2 shows the number of students and academic staff in the sample by gender.

As Table 2 shows, 132 (70%) students were female; 54 (27.3%) students were male, and 5 (2.5%) students refused to give this information. The gender structure of the sample of academic staff was as follows: 103 (55.7%) female, 80 (43.2%) male, and 2 (1.1%) did not want to share this information.

Table 2. Gender structure of the sample.

	Students	Teachers
Male	54 (27.3%)	80 (43.2%)
Female	132 (70.0%)	103 (55.7%)
No information	5 (2.5%)	2 (1.1%)

As can be seen in Table 3, when it comes to level of study of the students who participated, the sample structure is as follows: 147 (74.2%) students were at the Bachelor level, 36 (18.2%) students at the Master level, and 15 (7.6%) students were attending integrated study programs.

Table 3. Level of study of the sampled students.

Study Level	Number of Students (Percentage)
Bachelor	147 (74.2)
Masters	36 (18.2)
Integrated study	15 (7.6)

The percentage of teachers according to their academic level in the sample (Table 4) corresponds to the current distribution at the University of Sarajevo, which means that no group is under- or over- represented in our study.

Table 4. Academic level of the university staff sample.

Academic Level	Number of Staff (Percentage)
Teaching assistant	25 (13.5)
Senior teaching assistant	26 (14.1)
Assistant professor	48 (25.9)
Associate professor	55 (29.5)
Full-time professor	31 (16.8)

2.2. Instruments and Procedure

The two comparative survey questionnaires were developed to obtain data on the following: demographics, self-assessment of digital skills, awareness of learning platforms, passive/active behavior in the use of learning platforms, and attitudes towards learning platforms. We created a thorough questionnaire specifically designed to handle the complexities of the online learning environment for this study. We put our instrument through a rigorous validation process to ensure its validity. Pilot testing and expert assessments were part of the validation process. Professionals in this domain offered input, and the questionnaire was modified to improve its applicability. We used a small sample of participants in a pilot test to determine the reliability of our questionnaire. Statistical techniques were used to assess the data, and any ambiguities or inconsistencies were fixed. The completed survey showed a high degree of reliability, guaranteeing that replies would be consistent over several administrations.

The demographic section included questions on gender, status (students/academic staff), degree program for the students, and academic title for the staff. The participants' self-assessment of digital skills was assessed with a general question, as follows: "How would you rate your own digital skills?" on a three-point scale, where 1 meant "advanced user", 2 "average user", and 3 meant "basic user". The participants' awareness of digital platforms was assessed using two questions with binary answers (yes/no). The first question was the following filter question: "Do you know Coursera?". If they answered yes, the second question was as follows: "Are you a registered user on Coursera?".

The usage and experience scale contained 11 binary questions (yes/no) and was designed to assess whether the participants were passive or active users. For example, the

question on passive use was “I have attended a few Coursera seminars to get an overview of online courses”, while the questions on active use referred to paid membership, earning certificates, being an evaluator, or being an active teacher of online courses.

The participants’ attitudes towards Coursera were assessed using 10 questions with three options (Yes, No, I have no opinion). Examples of these questions include the following: “Coursera courses can help students understand the subjects better” and “I think the way online courses are taught resonates with young people”. Two reverse questions were used (“Many important topics are not found on Coursera” and “I do not trust the credibility of certificates earned on online platforms”).

The research instrument was distributed by email via the Google Forms tool. Participation was voluntary and anonymous. All the teachers and students were given thorough information about the study’s goals, methods, and possible consequences prior to enrollment. Every participant gave their informed consent, confirming that they were participating in the study voluntarily. Additionally, all data were anonymized and all identifying information was kept private in order to respect the participants’ right to privacy. The participants received guarantees that the information they provided would be combined and presented in a manner that would make it impossible to identify any particular response.

3. Results

The results of the research are presented in the following sections.

3.1. Awareness of Coursera or Other Learning Platforms

The results of the survey imply that teachers are more aware of Coursera than students. Only 28.8% of the students had heard of Coursera, compared to 53% of the academic staff sampled. Of the 28.8% students who had heard of Coursera, only 65% were registered users (18.7% of the total sample). When asked about being a registered user, only half of the academic staff, 55 (29.7%), stated that they were (Table 5).

Table 5. Frequency of answers about Coursera usage.

Question	Students		Academic Staff	
	Yes	No	Yes	No
Do you know about Coursera	57 (28.8%)	141 (71.2%)	98 (53%)	87 (47%)
Are you registered user of Coursera	37 (18.7%)	161 (81.3%)	55 (29.7%)	130 (90.3%)

In order to identify awareness of any learning platform among the participants, the next question was open-ended, asking the participants to name any learning platform similar to Coursera that they were familiar with. Only 45 out of 198 participants answered this question, and the most frequent reply was Microsoft Teams ($f = 20$). Only one participant mentioned Udemy as a recognized e-learning platform. These results confirm the previous assumption about a lack of awareness and use of online e-learning platforms among the students and teachers at the University of Sarajevo. The fact that they mostly recognized Microsoft Teams can be explained by the fact that MS Teams was widely used for online teaching during the pandemic. However, MS Teams is a tool for video lectures and discussions and a space to share materials and assignments, not an e-learning platform. We can conclude that the current awareness and usage of digital learning platforms among the students and teachers at the University of Sarajevo is at a very low level.

3.2. Self-Evaluation of Digital Competencies

To better understand the responses on the attitudes towards the use of Coursera, the students and academic staff sampled were asked to self-assess their digital skills. The results are shown in Table 6.

Table 6. Self-evaluation of digital competencies showing the count (f-frequency) and proportion (%) for answers.

How Would You Grade Your Own Digital Competency	Students f (%)	Academic Staff f (%) (%)
Professional level of expertise	30 (15.2)	58 (31.4)
Advanced user	80 (40.9)	70 (37.8)
Average user	74 (37.4)	54 (29.2)
Basic user	13 (6.6)	3 (1.1)

The majority (almost 70%) of the teachers rated their digital skills as professional or advanced. This means that the teachers sampled perceive themselves as competent users who are familiar with technology. Almost 80% of the students rated their digital skills as average or advanced. This means that they too feel competent in using digital tools and have no problems experimenting with new tools.

These results are in some ways surprising and raise an important question about how students and teachers are actually using technology and whether they are using it to improve teaching and learning. As shown in Table 5, 80% of the students rated themselves as average/above average technology users and not afraid to experiment with technology. However, self-assessment as a competent technology user does not necessarily mean that the use of technology is productive and educational. Coursera and similar educational platforms provide educational content and are used to expand knowledge on specific topics. They can also be seen as knowledge repositories where a lot of knowledge can be found regarding many professions. Considering that much of this content is free and that there are no comparable platforms in Bosnia and Herzegovina, the results of the survey are even more surprising. One explanation for these results can be found in current course requirements. In most current college courses, instructors provide the required literature and align instruction and assessments accordingly, promoting reproductive learning and performance goals rather than goals related to a deeper understanding of subject matter and its mastery. The required literature is specified in the semester syllabi for each course, and it seems that this literature list is all that students care about, because, in order to pass the exam, students are required to learn the specified texts, and they do not have to “waste” time and energy learning and thinking about content in a deeper way.

This also raises the question of how extra work and personal initiative are evaluated at the University of Sarajevo and whether they are registered and evaluated by teaching staff at all. If there is no incentive for extra effort, only the most motivated students will do more than what is necessary.

3.3. Use and Experience of Coursera

The students and teachers who were familiar with Coursera or other similar learning platforms were asked to indicate the nature of their Coursera use and experience. We performed a Chi-square test to evaluate the significance of a difference in frequencies in the two groups of responses to the corresponding questions.

The analysis of these differences shows that teachers are generally more engaged than students. Regarding passive strategies when using Coursera (getting to know the content, using it to gain an overview of the platform), the results of the Chi-square test show that teachers are more involved in these behaviors than students. As can be seen in Table 7, only 54.38% of the students were familiar with Coursera, compared to 93.8% of the teachers. The teachers were also significantly more likely than the students to have participated in some courses (79.5% vs. 61.4%) and to have used Coursera to gain an overview of the platform. This result suggests that teachers are more likely to search for new sources of educational content than students. It can be assumed that students are unaware of Coursera because they lack the initiative to explore different learning sources. It is also evident that there was little to no encouragement from the teachers to explore different learning methods. However, it is encouraging to see that 31 students (out of the 57 who

stated they were familiar with Coursera) had taken at least one of the courses to be familiar with the platform.

Table 7. Analysis of Coursera usage and experience between students and teachers, showing the count (f-frequency) and proportion (%) for answers, and probability P for Chi-Square test.

Question	Students		Teachers		Chi-Square
	Yes f (%)	No f (%)	Yes f (%)	No f (%)	p-Value
Familiarity with Coursera	31 (54.38%)	26 (45.61%)	92 (93.8%)	6 (6.1%)	0.000 *
Use of Coursera for general ideas	31 (54.38%)	26 (45.61%)	77 (78.5%)	21 (21.4%)	0.002 *
Use to learn innovative teaching	31 (54.3%)	26 (45.6%)	62 (63.26%)	36 (35.7%)	0.310
Search for useful content for teaching	31 (54.38%)	26 (45.61%)	50 (51.0%)	48 (49.0%)	0.770
Participation in a few courses	35 (61.4%)	22 (38.5%)	78 (79.5%)	20 (20.4%)	0.012 *
Successfully completing a few courses	17 (29.8%)	40 (40.1%)	40 (40.8%)	58 (59.18%)	0.227
Experienced users of Coursera	16 (28%)	41 (72%)	35 (35.7%)	63 (64.2%)	0.378
Sharing certificates on social platforms	5 (8.7%)	52 (91.2%)	14 (14.2%)	84 (85.7%)	0.447
Paid membership	8 (14%)	49 (85%)	16 (16.32%)	82 (83.67%)	0.820
Coursera evaluator	3 (5.2%)	54 (94.7%)	5 (5.1%)	93 (94.9%)	0.618
Teacher on Coursera or another platform	7 (12.2%)	50 (87.7%)	14 (14.3%)	84 (85.7%)	0.811

* $p < 0.05$.

Regarding the more active strategies of using Coursera, a total of 31 students stated that they had found relevant content to their studies on Coursera. A total of 16 students considered themselves experienced Coursera users, and 17 had completed at least one course. Only eight students possessed a paid Coursera membership. A total of 35 students stated that they had used Coursera to expand their knowledge on certain topics, a result which is surprising and not consistent with the results of the previous questions. There is a possibility that the four students who had stated that they were not aware of Coursera but answered yes to this question were taking into account their perception of Coursera as a tool to deepen knowledge on specific topics and not their actual experience. The results for the teachers sampled show that more than 63% of the sample stated that using Coursera had enlightened them about innovative teaching. However, the number of positive responses from the teachers in relation to Coursera membership, assessment, and involvement in Coursera content creation is not optimistic. The majority of the sample (>80%) did not have a paid membership, were not evaluators, did not post Coursera certificates on social media, and did not participate in the teaching process on Coursera or any other online platform. The results of the Chi-square test on our questions about more active strategies show that there were no differences between the students and academic staff sampled.

For students, a low percentage of participation in active strategies is to be expected, as these require more expertise and financial resources. However, the fact that there is no difference in the percentages of active participation between the teachers and students in our study suggests that the teachers at the University of Sarajevo still do not show enough initiative to take an active role in reforming teaching and introducing digital content, and it is, therefore, not to be expected that many students will be highly engaged and interested. Interestingly, both the students and teachers sampled reported generally positive Coursera experiences.

In a study comparing the views of lecturers and students [17], the authors concluded that these views were far from balanced and proved that “there are differences in the

quantity and severity of problems experienced by students compared to lecturers in using online learning environments, and there are differences in the quantity and quality of benefits experienced by students and their lecturers". In the context of our research, findings related to the questions about usage and experiences could help us identify the weaknesses that prevent an intensive and comprehensive digital transformation of teaching towards sustainable education. They can help us find out who are the promoters or repressors that hinder this process.

3.4. Attitudes towards Coursera Content and Use

Table 8 contains information on the attitudes of the students and the teachers towards the usage of Coursera in teaching at the University.

Table 8. Analysis of attitudes towards Coursera between students and teachers, showing the count (f-frequency) and proportion (%) for answers, and probability P for Chi-Square test.

	Students			Teachers			Chi-Square
	Disagree f (%)	No Opinion f (%)	Agree f (%)	Disagree f (%)	No Opinion f (%)	Agree f (%)	p Value
Content well designed	2 (3.51%)	14 (24.56%)	41 (71.93%)	2 (2.04%)	16 (16.33%)	80 (81.63%)	0.122
Content up to date	1 (1.75%)	13 (22.81%)	43 (75.44%)	1 (1.02%)	19 (19.39%)	78 (79.59%)	0.368
Content similar to one at faculty	3 (5.26%)	19 (33.33%)	35 (61.40%)	10 (10.20%)	27 (27.55%)	61 (62.24%)	0.805
Lot of important topics	14 (24.56%)	32 (56.14%)	11 (19.30%)	13 (13.27%)	45 (45.92%)	40 (40.82%)	0.482
Helping advanced students broaden their knowledge	1 (1.75%)	14 (24.56%)	42 (73.68%)	4 (4.08%)	13 (13.27%)	81 (82.65%)	0.014 *
Helping students to better understand topics	2 (3.51%)	16 (28.07%)	39 (68.42%)	4 (4.08%)	23 (23.47%)	71 (72.45%)	0.164
Helping students if classes missed	3 (5.26%)	22 (38.60%)	32 (56.14%)	13 (13.27%)	32 (32.65%)	53 (54.08%)	0.812
I recommend online courses	2 (3.51%)	26 (45.61%)	29 (50.88%)	9 (9.18%)	27 (27.55%)	62 (63.27%)	0.269
Online courses respond with young people.	8 (14.04%)	23 (40.35%)	26 (45.61%)	13 (13.27%)	25 (25.51%)	60 (61.22%)	0.049
I don't trust in credibility of online certificates	13 (22.81%)	35 (61.40%)	9 (15.79%)	17 (17.35%)	34 (34.69%)	47 (47.96%)	0.125

* $p < 0.05$.

If we look at the frequency distribution, we can see that there is a positive trend when it comes to the perception of the possibilities of using Coursera in teaching and learning. Most of the students in the sample believe that the educational content on Coursera is well designed, up-to-date, and can help expand students' knowledge.

Academic staff generally have a positive attitude towards the use of Coursera in teaching. More than 70% of the sample believe that the educational content is well designed and up-to-date and that using Coursera can help increase students' knowledge and help them understand topics better. However, the teachers in the sample have less confidence in using Coursera to help students who have missed some classes (54%). In addition, most teachers sampled indicate that they do not have confidence in the credibility of certificates earned on online platforms. This is an interesting result as there is also a high level of trust in the quality of Coursera content. These results are in line with the study described in [21], which looked at respondents' perceptions of trust in an e-learning course, with the instruction dimension scoring about 10% higher than the 'privacy' and 'security' dimensions. The importance of confidence in e-learning assessments is also illustrated in a recent Special Issue on current trends in e-learning, in which the authors provide an

overview of approaches which can be used in e-learning assessments to improve learning quality [22]. The results of the Chi-square test we conducted indicate that there is almost no difference in the attitudes of teachers and students regarding the possibilities and importance of using Coursera in teaching/learning. A significant difference is found in the question of Coursera as a useful tool for expanding students' knowledge, as the students sampled are more skeptical about this benefit. It seems that students do see Coursera as a useful tool but not for instrumentally improving the knowledge required to pass an exam. They see Coursera as a means to understand phenomena from different angles or simply as an interesting source of information on a topic they are already interested in. This finding is consistent with the assumption that students do not develop a positive attitude towards other sources of knowledge due to the somewhat rigid requirements of the teachers in a course.

4. Discussion

The importance of conducting evaluations involving both academic staff and students is evident, and more detailed research, focused on different specific concepts of the teaching/learning process, is needed. A previously mentioned study comparing the views of educators and students [17] found that some of the concepts were shared, but there were important concepts valid only for educators and others only valid for students, showing that some of the views were not shared between the groups. Identifying these differences could help one design more appropriate strategies for transforming education, addressing specific needs, and affecting student motivation to be more actively involved in this process.

The fact that the study participants who only even had the chance to use Coursera exhibited favorable sentiments towards the quality of the content, its applicability, and its potential to improve teaching practice is encouraging. The evaluation of our results is in line with the review presented in [23], reporting that most of the studies conclude the following: (1) blended learning can improve the performance, attitude, and achievement of learners; and (2) while a majority of learners positively assess blended learning, blended learning "cannot significantly improve student engagement". Therefore, it is important for educators to motivate and engage students with different interactive and innovative teaching practices. Educators need to recognize this responsibility and help students develop the skills needed for sustainable education.

Limitations

Though our study offers insightful information about the beliefs and actions of teachers and students in the examined educational institutions, it is critical to acknowledge the limitations of our study's generalizability. The results could be context-specific and impacted by things like regional variances, institutional regulations, and cultural differences. Therefore, when extrapolating these findings to a larger educational landscape, care should be taken. The use of self-reported data presents a possible restriction, since the submitted information is based on the participants' subjective viewpoints. This raises the likelihood of self-reporting bias, according to which participants provide false or socially acceptable information. Because self-reporting is inherently subjective, the results' accuracy could be affected.

Our research focuses on Coursera in particular, which limits the applicability of our findings to other online learning platforms, even though it enables a thorough analysis of the attitudes and behaviors associated with this platform. It is possible that distinct platforms would generate different attitudes and experiences, and our findings might not be directly applicable to conversations regarding blended learning preparedness on various platforms. The survey information gathered for this research provides an instantaneous picture of the opinions and actions at a particular moment. Our approach's cross-sectional design offers a transient perspective, but it is unable to capture the dynamics and changes which might take place over a longer time frame. A longer-term investigation would be

required to have a more thorough comprehension of perceptions regarding Coursera and blended learning.

5. Conclusions

The synergy between advanced technologies and sustainable education has led to innovative educational paradigms. Both sustainable education and education for sustainability benefit from blended learning, which facilitates participatory teaching and empowers learners, as foreseen by the UNESCO [8], thus enabling teachers to educate future citizens capable of taking action for sustainable development. Coursera, as a leading platform for online learning, offered individualized teaching and encouraged blended learning models desirable in and relevant to today's age. This paper analyzed the role of blended learning and Coursera as a metaphor for blended learning in the transformation of education and the readiness of teaching staff and students to accept this transformation.

Our results show a lack of knowledge about online e-learning platforms. More than half of our sample had no knowledge of Coursera. The result was much higher for the students than for the academic staff sampled. It seems that the students at the University of Sarajevo are not open to new, non-traditional learning sources. This observation could be explained because students do not see additional educational sources as instrumental in achieving their primary goal, which is to pass an exam. Academic staff does not promote alternative learning sources as a part of the regular curriculum, and, consequently, students only see them as an extracurricular activity. It is encouraging that both the students and academic staff sampled who had used Coursera had positive attitudes towards its usage, content quality, and possibilities of usage in teaching. The identified issues are significant repressors of the posed educational transformation unless addressed properly.

The benefits of using Coursera are reflected in several key segments. Using online learning platforms is a great way for universities with limited funding to access new cutting-edge scientific data and teaching methods. The University of Sarajevo has a lot of room to improve instruction by introducing blended learning and incorporating online resources into the curriculum. This is because the teaching approach of sustainable development has a positive impact on students' ability to take action towards sustainability [24]. This would make the University of Sarajevo more open to different categories of non-traditional students such as working students, full-time parents, people who want to change their career, etc.

Additionally, Coursera contributes to the individualization of teaching, i.e., the adaptation of educational content to the different needs and preferences of students. Coursera helps in the development of educational institutions by offering technological infrastructure and pedagogically adapted courses that facilitate the path to sustainable education. Our findings point to the fact that this and similar platforms need to be further promoted and approached strategically in order to use their full potential.

The potential for Coursera and other digital learning environments to enhance sustainable education is evident. Individualized blended learning experiences have the ability to fundamentally alter the way we think about education by making it more accessible, adaptable, and sensitive to students' changing needs. Stakeholders, from educators to legislators, must work together to resolve the problems and take advantage of the opportunities granted by evolving technologies.

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