

ONLINE TEACHING IN HIGHER EDUCATION IN THE FIELD OF INDUSTRIAL DESIGN⁴

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Abstract: Higher education is in a state of transition with the implementation of the Strategy for the Development of Higher Education in the Republic of Bulgaria for the period 2021-2030. One of the key processes in the functioning of the higher education system is the application of adequate educational technologies and approaches. The Coronavirus pandemic also has a significant impact. A leading change in the education system is the implementation of online teaching which puts forward the need for monitoring the quality of higher education in a state of visible transformation.

The question that arises is whether students receive high quality education and how they react to this change. The second equally important question is whether lecturers manage to adapt to this change and, more importantly, whether they perceive online training as an opportunity or as a threat in the current situation. The present work aims to discuss the advantages and disadvantages of online learning in higher education and in particular in the field of Industrial Design education.

Keywords: higher education, transition, Coronavirus pandemic, online learning, students, advantages and disadvantages, Industrial Design.

JEL: I2, I23

INTRODUCTION

Higher education is in a state of transition which is related to the implementation of the Strategy for Development of Higher Education in the Republic of Bulgaria for the period 2021-2030. (<https://www.mon.bg/bg/143>). One of the key processes in the functioning of the higher education system is the application of adequate educational technologies and approaches (Pencheva V., 2017; Beloev H., 2018; Doychinov Y., 2020). The Coronavirus pandemic also has a significant impact. A leading change in the education system is the implementation of online teaching which puts forward the need for monitoring the quality of higher education in a state of visible transformation.

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EXPOSITION

According to data on the development of the Coronavirus pandemic in 2020, online teaching will continue to serve as a lifebelt for educators who implement different digital devices and resources in their classrooms. This is a result of the level of morbidity and its intensity in the different regions of the country. The training of part-time students at the University of Ruse is an example of how digital technologies allow for flexibility during a pandemic – the training of first year students is conducted face-to-face, while that of the second, third- and fourth-year students is done in a virtual learning environment. The main reason for the implementation of this approach in the organization

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of first year students' teaching and learning is the need for them to get acquainted with academic life, with the institutional culture and the ways to perform academically.

Online teaching in higher education in the field of Industrial Design follows its own rhythm of development. Over the past academic year, the bachelors began their education in a face-to-face mode with online training introduced at a later stage. Experience shows that online teaching has a positive effect on students' active participation in classes. On the one hand, the online training is new for them and as such it engages students to actively explore the opportunities of digital technologies for exchange of information, which in the foreseeable future is likely to be used both during their academic development and after their graduation.

More important is the way online teaching and learning facilitate the process of exchange of information related to the practical tasks that students have to complete in the respective semester. The solutions that will be offered by students will be strongly individual as each of them will share a different point of view that will contribute to enriching the way in which the seminars are conducted but that will also allow the students to compare their progress with that of their peers. Online education provides a more accessible form of exchange of this type of information. Moreover, students demonstrate stronger interest in the study of each educational and practical case. Practical work is essential because it facilitates students' understanding of the material presented during the lectures.

The use of a digital teaching and learning environment also allows students to develop systematically their projects in the form of a series of presentations during the semester which helps improve their presentation skills and which facilitates the exchange of information.

Last but not least, we need to mention the opportunity that online training brings in terms of delivering classes (lectures and seminars) from home or from the workplace – the latter involves the creation of a productive working environment in the home office. Both options were possible in the past academic year with a tendency for the teaching staff to show a preference for conducting classes from home. This trend in business circles is well known as "work from home" (home office) – it is widespread, and it is not new. However, in the context of the pandemic, the academic community was forced to consider this possibility in order to limit the spread of the Coronavirus.

Online teaching also has some drawbacks that need to be discussed. In the first place it is the lack of opportunity to demonstrate how students can use the multivariate approach to create and synthesise ideas through sketching, including modelling and prototyping, which is essential in a design training course. The specificity of this process is related to the application of technical approaches which are more difficult to demonstrate by the lecturer and mastered by the student in the online environment. This is one of the main reasons why online teaching in the field of industrial design is accepted as a complementary approach rather than as an alternative.

The second and more important disadvantage is psychological. It is related to the active monitoring students' development which in the absence of face-to-face classes is difficult to handle. Undoubtedly, one of the leading aspects of higher education is the personal growth of students which implies close cooperation in the implementation of practical tasks, but also an analysis of the ways in which students take management decisions when they develop more complex projects. This can also be achieved in online training but with some difficulty.

In order to get a clear snapshot of the current situation a survey was conducted. It gathered information about the opinion of students regarding hybrid teaching in higher education in the field of industrial design. The survey was anonymous and obtained feedback from 33 students from the Department of Industrial Design. The questionnaire used in the study contained five questions (with alternative answers - "Yes" and "No") presented in Table 1.

Table 1

Research on students' attitudes related to online teaching in the field of Industrial Design

No	Question	Answer
1	2	3
1	Is the presentation of the study material in an online environment understandable enough?	"Yes / No"

2	Is there enough time to master the study material during the online training?	"Yes / No"
3	Do you get enough information when the study material is presented in an online environment?	"Yes / No"
4	Are additional consultation hours required?	"Yes / No"
5	Do you prefer hybrid teaching (a combination of face-to-face and online classes)?	"Yes / No"

The results of the study are presented in the diagrammes of Fig.1.

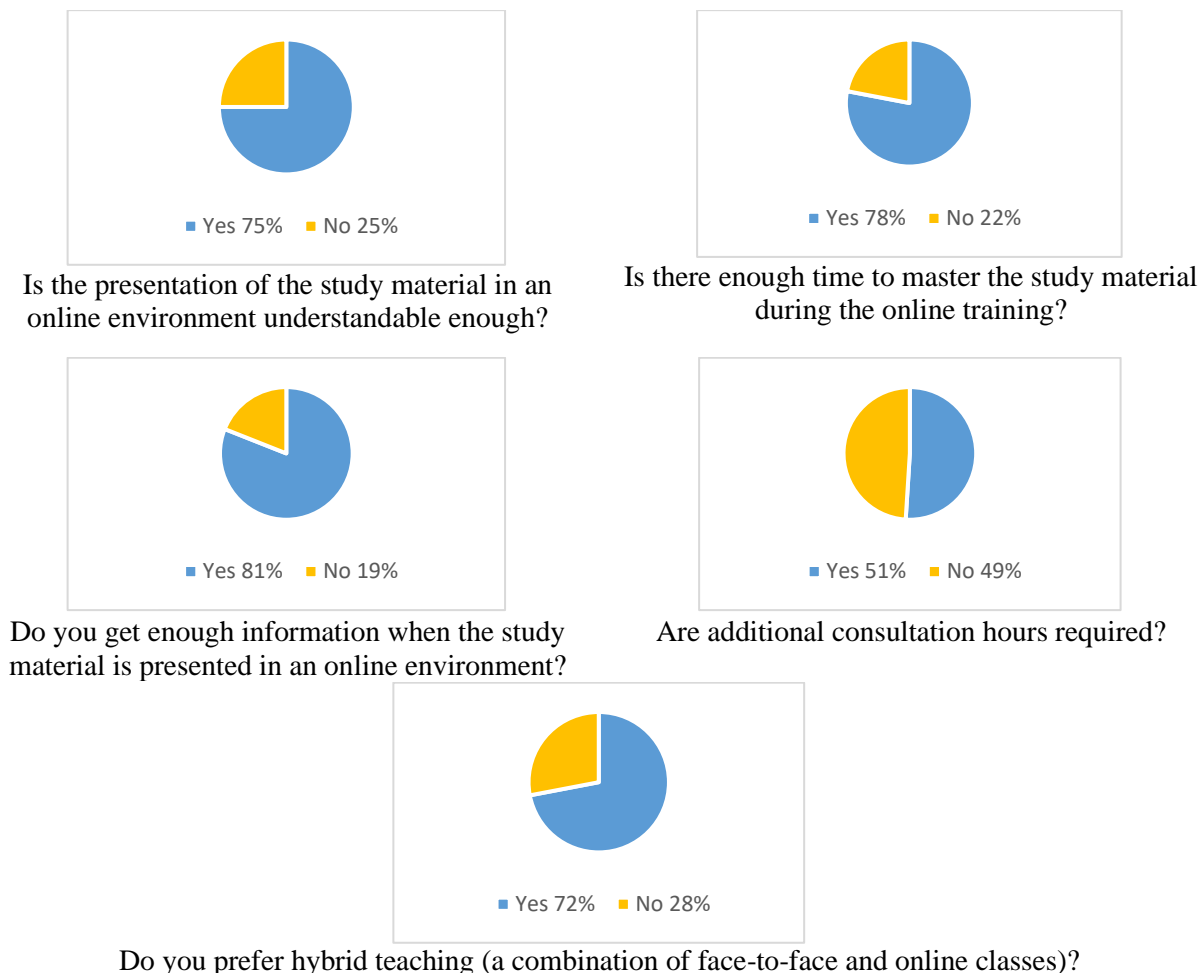


Figure 1. A study related to the opinion of students regarding hybrid teaching in higher education in the field of Industrial Design.

The prevailing opinion shows that the study material is sufficient, as well as the time for its assimilation and the amount of information received during the teaching process. Preference is given to hybrid teaching. The opinion of students about the need for additional hours of consultation is polarized. This comes to suggest that lecturers should announce additional hours for consultation, as well as to respond promptly to students' inquiries by e-mail.

Overall, the study shows that online teaching is perceived positively by the bachelor degree students in the current pandemic environment. This is an adequate solution that does not compromise the quality of academic training. The question related to the need for offering additional consultations to students remains, since online classes cannot compensate for real-time communication in face-to-face education.

CONCLUSION

1. Online teaching allows both lecturers and students to exchange information during the work of practical tasks and at the same time it allows teachers to get a clear idea of students' progress

when assessing their performance. It encourages the development of better presentation skills of students. The opportunity for "working from home", which online training allows, and which is in line with the current technological development, provides an adequate solution in the specific pandemic situation.

2. The disadvantages of online teaching and learning are lack of opportunities to demonstrate conventional methods for sketching, prototyping, and modelling; difficulties in assessing students' personal growth, especially in terms of how learners take management decisions when developing more complex projects.

3. The conducted survey shows that online training is accepted by students as an adequate solution in the current pandemic situation – it does not compromise the quality of academic training. The need for additional consultations to students can be explained by the fact that online classes cannot compensate for real-time communication in face-to-face education.

4. Contemporary higher education, which includes face-to-face teaching as a leading approach and which uses online training as a secondary approach, will continue to serve its purposes. At the same time higher education institutions will look for opportunities to implement hybrid forms of teaching and learning. This implies that the difficulties which higher education faces at the moment will serve as a trigger that prompts the development of a new academic image as a sign of the successful adaptation of universities to the current situation and the visible transformation of educational institutions.

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