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Activity 3.4. Scientific research with potential for
innovation and knowledge/intellectual property
transfer

OBSERVATIONS ON THE ATTITUDES OF TEACHERS AND STUDENTS TOWARDS THE USER INTERFACE OF REMOTE LEARNING SYSTEMS

INTRODUCTION

The article examines the attitudes of teachers and students towards the remote learning systems they use. The results obtained allow for commentary on the user experience (UX) encountered by students and teachers when working with these systems. The research methods include a combination of quantitative (survey) and qualitative (focus group) studies, based on which the most important characteristics that a digital remote learning platform must have to be effective and well-received by its users are identified. The article is the result of field research conducted at the Private Specialized High School Educational Technologies in Sofia. The research results indicate that for both teachers and students, criteria such as good graphic design, easy navigation, and the availability of interactive features contribute to a good user experience.



PROJECT GUIDELINES

In the information-intensive modern society and the globalized world, brands face a number of challenges that have not been a priority in their management and communication until recently. Paradoxically, the decline in trust in traditional public institutions (including government and media) leads to higher consumer expectations of the brands they consume. As a result, building brands based on values, maintaining constant interaction with their consumers and even taking clear public positions on provocative issues becomes a significant communication challenge. The implications of success or failure in this communication situation often go beyond the specific brand and have repercussions in the economic and social sphere. It is these changes that support the reconceptualization of brand management as a discipline and its transfer more into the field of strategic communication, moving it away from classical marketing. Numerous studies point to the central role of brand authenticity in communicating with consumers in a contemporary context and in turn this concept is closely related to the **user experience (UX)** a brand provides.

The team of project No.70-123-200/12.02.2024 – „BRAND AUTHENTICITY: MODERN ASPECTS, EFFECTS OF THE CONCEPT CONSUMER DEMAND AND BRAND INTERACTIONS“ started its theoretical framing of the concept back in February 2024 but as a result of its progress delved into empirical research focused on user experience as integral part of the brand interaction in a concrete context. Using the experiences of students and teachers from the Private Specialized High School Educational Technologies in Sofia gave us the opportunity to test in an empirical manner some of the theoretical concepts, which we have outlined in the first phase of our research project. The team's efforts are now focused on completing the theoretical framework in the field and continuing in the second phase of empirical research to provide further insights in the investigated phenomenon and its core aspects.

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METHODOLOGY

The article also includes an extended methodology, including both **quantitative and qualitative methods**. Students were surveyed using questionnaires filled out personally by them, while teachers were interviewed in a focus group moderated by the author of the article. The study was conducted in Private Specialized High School Educational Technologies in Sofia. The school was selected because of its previously stated policy to implement innovative teaching methods, including distance learning platforms. The quantitative part of the study included 20 students in the high school stage of education, and 6 teachers participated in the focus group.

The students who participated in the study were between the ages of 16 and 18 and were between the 10th and 12th grades in the school studied. Each of them was at the same school during the COVID-19 pandemic, which began in 2020, and has experience with different distance learning systems, including during the time when this was the only possibility for conducting classes. The choice of school for the study is not random, but is based on the active use of innovative and digital technologies in the learning process. Students still receive assignments and learning materials in a digital environment. Among the platforms used are Google Classroom, Moodle (for asynchronous communication), Skype (for synchronous communication meetings). Four criteria were selected by which respondents in the questionnaires evaluate their work with distance learning platforms - Usability, Design, Accessibility and Interactivity. In these questionnaires, the cards represent a series of closed questions of the "Likert scale" type with 5 possible answers - from 1 to 5. Answer "1" means that for the respective respondent the respective characteristic is not at all important for a good user experience (UX), and answer "5" - that the respective characteristic is of key importance for UX.

The second part of the study was conducted in the form of a focus group with teachers from the Educational Technologies Group. The study included respondents with different levels of familiarity with distance learning technologies. Four of the teachers have a good level of familiarity, having worked with various programs since 2020. One of the respondents has a high level of familiarity, declaring that he has also worked with distance learning software since before 2020 and is also familiar with the basic concepts of user interface design and user experience. The last participant in the focus group has limited experience with distance learning systems as a specialist in physical education and sports.

RESULTS

Based on the responses received, the students' desire for easy navigation of the software stands out. More than half of the respondents say that this is very important for them. At the other extreme are the opportunities for self-study, which are assessed by a significantly smaller proportion of the participants as very important.

On the issue of easy access (with less interaction) to various learning resources, students are almost unanimous that this is rather important or very important. The speed of response of the digital environment collects a larger number of neutral answers (neither important, nor unimportant), but is still generally also highly valued by respondents.

Contrary to the researchers' initial expectations, the availability of rewards and feedback upon completion of an activity remained behind in the study. This element, sometimes called gamification of learning content, is increasingly being used among distance learning platforms. Successful completion of certain tasks brings badges, certificates, or a progress bar filled by the instructor. This is still important for the students in the study, but not as much as the opportunity to interact with other students on the platform.

Based on this, it can be concluded that all three criteria set in the design category are an important element in building positive attitudes towards research among students. Consistency of visual elements stands out as the most important characteristic in the design. The lack of visual consistency can be considered as a sign of insufficiently maintained and up-to-date software. This is a statement that is also confirmed in the course of the focus group study with teachers.

The **focus group study** was held in the building of the Private Specialized High School Educational Technologies in Sofia and lasted approximately one and a half hours. The author of the study acted as the moderator of the focus group. Participants were asked pre-prepared questions related to their work with distance learning platforms. The purpose of the questions was to assess the most important features for teachers in the user interface according to their observations. Although they were not explicitly included in the wording of the questions, specific platforms that the respondents were familiar with were also discussed during the focus group in order to outline good and bad examples.

During the preliminary discussion, it became clear that they currently prefer to teach directly to their students, without using LMS (learning management systems). Even the best online tools are still of lower quality compared to the experience of talking with students in the same room. Teachers noted that their students performed worse during the COVID-19 pandemic, when distance learning was the only possible option for them.

Teachers highlighted the need for a built-in search engine that allows for quick discovery of content and resources. There is also a need for easily accessible instructions and support materials for using the system that can assist users in navigating.

During the discussions, it became clear that the focus group participants were not familiar with the concept of "responsive design", in which the appearance of the software is adapted for proper visualization on mobile and desktop devices. Practically all lessons in the distance learning form are conducted using desktop devices and there are no indications for the use of others.

Secondly, teachers note that some platforms that are not specifically designed as LMSs perform just as well for basic educational purposes. Platforms such as Microsoft Teams, Zoom or even Skype can be used to some extent as substitutes for LMSs. They even outperform platforms such as Moodle or Google Classroom in terms of connection stability and latency during sessions with many participants with cameras turned on.

By "accessibility," most of the focus group participants understand the possibilities for accessibility for people with various disabilities. Among the ideas that the teachers had was that the platform should be compatible with screen readers that allow people with visual impairments to navigate and use the content.

Teachers largely interpret interactivity as a function of their pedagogical activity and seek in it an opportunity to provide feedback to students. The opportunities for interaction between users, which are typical of platforms such as social networks, did not come into the conversation.

During the focus group, no strong opinions were expressed regarding the graphic design of the user interface. The participants united around the concept of a simple and minimalist design that eliminates unnecessary elements and focuses users on the core functions. Overly complex menus and visual details are better avoided.

CONCLUSION

Based on the conducted quantitative and qualitative research, it is shown that some of the working hypotheses are confirmed.

- Both students and teachers are united in their opinion, the answers received highlight the students' desire for easy-to-use navigation. This means avoiding cluttered design elements and purely decorative elements that can confuse users. This reaffirms findings made long before the massification of LMS systems, in studies of cognitive load (Sweller 1988, p. 257-285). As early as 2003, Meyer and Moreno proposed various ways to reduce this load, which include avoiding such cluttered elements (Meyer, Moreno 2003, p. 43-52).
- Students respond positively to functionalities for communication with their classmates, but do not care for those for communication with teachers. In this sense, they seem to be interested in creating their own profiles and communicating with each other similar to that which can be observed on social networks.
- The gamification elements of the software such as badges, certificates and progress bars are not particularly important for students.
- Teachers raise the issue of the accessibility of distance learning platforms for people with various disabilities.

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