

## MOBILE TECHNOLOGIES – A KEY ELEMENT IN CONTEMPORARY APPROACHES TO LEARNING

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### Abstract

Mobile technologies catalyse radical transformations in contemporary society's perceptions and needs. In terms of information and education services modern users require major changes in the approaches of provision of access to knowledge.

This paper presents the results of a survey concerning mobile digital libraries and mobile learning conducted in June – July 2021 among information users, namely students at the University of Library Studies and Information Technologies – BULGARIA. The study was realised in accordance with the research project “Information portal for mobile learning and mobile access to library services and resources”.

The main aim is to analyse to what extent information users benefit from mobile devices for reading, learning and access to information resources, what their opinion on the inclusion of mobile digital services and learning in library services is and whether they support international policies on mobile learning and mobile access to library services and resources.

For the achievement of this goal a questionnaire with three main sections has been devised: Part 1. Mobile devices, applications and mobile digital libraries; Part 2. Mobile learning and lifelong learning; Part 3. Policies for mobile information provision and mobile learning.

The study has been conducted via an online questionnaire form and the application Google Forms. The empirical data has been inserted and treated with the statistics software IBM SPSS Statistics 21.

The results of the survey prove that the inclusion of mobile technologies in the contemporary university environment is widely welcomed by students and effectively satisfies the individual needs of every learner.

**Keywords:** *Mobile digital libraries, mobile learning, mobile technologies, research project, higher education.*

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### 1. Introduction

Mobile technologies are an essential element of almost all human activities today. The development of information and communication technologies has changed both the economy and social life, the cultural and educational environment. In the new information environment, intellectual activities and searches, educational and cultural needs have radically been transformed, but new opportunities have also appeared. The inclusion of modern mobile technologies in the educational process, the discovery of more efficient and responsive ways of accessing knowledge and information, the high level of information literacy of both teachers and students today are key elements of modern effective educational approaches.

### 2. Scientific research project for mobile learning and mobile digital libraries

The use of modern mobile technologies in education and in library and information services, respectively mobile learning and mobile digital libraries are the focus of attention of a team of researchers from the University of Library Studies and Information Technologies - Sofia, Bulgaria, who have worked on a project entitled: “Information Portal for Mobile Learning and Mobile Access to Library Services and Resources”. The project is under contract №KII-06-M35/2 of 18.12.2019, as part of a competition for funding fundamental scientific research by junior scientists and post-doctoral students – 2019, funded by the Bulgarian Science Fund of the Ministry of Education and Science.

**The main project objective** на проекта is through a systematic study of the issues related to mobile learning and mobile access to library services and resources, both in Bulgaria and in other European countries, to reach new scientific knowledge and products, united and presented in a common information internet portal, through which to reveal and summarize the positive changes information technologies bring to modern society in terms of new opportunities to access learning and information through the active role of mobile digital libraries.

**The specific project aims are** conducting scientific research that will lead to obtaining new theoretical knowledge, scientific-applied results and new educational content; stimulating the scientific potential and development of postdoctoral students, PhD students and students; the popularization of mobile forms of training and information among the library community and in educational environments; promotion of mobile access to digital collections of cultural institutions as a modern approach to the socialization of literary cultural heritage, to stimulate scientific research in the field and to preserve the cultural identity of the society.

### **3. Research on the attitude of information users and learners towards mobile digital libraries and mobile learning**

As part of the activities of the “Information Portal for Mobile Learning and Mobile Access to Library Services and Resources” project, a study was conducted on the attitude of information users and learners towards mobile digital libraries and mobile learning. For this purpose, in the period June - July 2021, a survey on the topic “Mobile Digital Libraries and Mobile Learning” was conducted. The object of the research are students as active learners and users of information resources and digital services. The survey was sent to 1,943 respondents, covering the students of the two faculties of the University - Faculty of Library Studies and Cultural Heritage (FLSCH) - n=71, 52.2% and Faculty of Information Sciences (FIS) - n=65, 47.8%.

**In this survey, we have focused our efforts** on researching and analyzing the current needs and demands of users of information and knowledge in relation to library and educational services; to what extent information users use mobile devices for reading, learning and accessing information resources; what is their attitude towards the inclusion of mobile digital services and learning in the library service; and how informed and supportive they are of international policies for mobile access to learning and library services and resources.

In order to realize the set objective and fulfill the identified research tasks, a questionnaire with three main panels was developed specifically for the needs of the specific empirical study:

- PART 1. Mobile devices, applications, and mobile digital libraries;
- PART 2. Mobile education and lifelong learning;
- PART 3. Policies for mobile information services and mobile education.

**The questionnaire** included closed, half-open (using the 5-degree Likert scale) and open-end questions.

**The research methodology** was implemented through an online form of a structured questionnaire and through the Google Forms application, through which 136 students from the University of Library Studies and Information Technologies, Sofia with different professional and socio-demographic profiles were surveyed in the period June - July 2021:

- gender - men (n=52, 38.2%) and women (n=84, 61.8%);
- age - 18 – 25. (n=58, 42.6%), 26 – 29. (n=11, 8.1%), 30 – 39. (n=36, 26.5%), 40 – 50. (n=29, 21.3%) and over 50. (n=2, 1.5%);
- education - secondary (n=53, 39%), secondary-vocational (n=42, 30.9%) and higher education (n=41, 30.1%);
- place of living - Sofia (n=107, 78.7%), a district center (n=15, 11%), another town (n=9, 6.6%) and village (n=5, 3.7%);
- educational and qualification degree- BA students (n=120, 88.2%), MA students (n=8, 5.9%) PhD students (n=8, 5.9%).

**The empirical data** were entered and processed with the statistical software IBM SPSS Statistics 21. Univariate frequency distributions and qualitative content analysis of the answers to the open questions were used in the processing of the empirical data.

**The results of the research**, summaries and analyses are described in detail in the monograph “Highly Sophisticated Mobile Technologies in Library and Education” by Elisaveta Tsvetkova, as well as in a number of publications presented at international scientific forums (Garvanova, 2021, p. 2024-2029). (Garvanova, 2021, p. 1848-1853), (Tsvetkova, 2022), (Tsvetkova, 2022, p. 5811-5818).

**The main conclusions** of the realized scientific research, made after a thorough analysis of the obtained data, can be formulated through the following conclusions:

- The use of mobile technologies by modern information users is extremely active and widespread;
- The provision of mobile information, educational and library services is the necessary and adequate response to current readers' searches and needs;
- Modern users need an information environment that meets European and global trends, including digital and mobile information provision;
- Although they appreciate the opportunities and good prospects of mobile and digital forms of providing information and knowledge and support their implementation and development, information users are insufficiently informed on these issues and insufficiently familiar with global trends in this direction;
- A need for a single informational Internet portal was identified, which would unite information on these problems and promote them among all interested parties.

#### 4. Conclusions

Summarizing the analysis of the results of the conducted survey, the thesis is proven that modern information users very actively use mobile devices – especially mobile phones – for reading, learning and searching for information. However, the possibility of mobile library service and mobile learning is still poorly represented, awareness of these issues is not sufficient, and higher information literacy is needed. At the same time, the responses of the respondents show a very positive attitude towards the introduction of mobile information services and the construction of digital and mobile digital libraries.

The results of the research also prove that the introduction of mobile information technologies in the modern education system is very well-received among the user community and can satisfy the needs of learners in today's global educational and information space, oriented to the individual needs of each learner.

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