University students with special educational needs highlight the benefits of e-assessment

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Digitization represents a key solution to the challenges of higher education institutions and for students with special needs. Credit: Sergey Zolkin, Unsplash

While the digitization process offers an extensive list of opportunities, it also presents a number of challenges for higher education institutions, a

primary one of which is learner authentication in online education. More and more higher education establishments are making use of digital learning environments (DLE), and electronic assessment systems are now an increasingly important element in the digital age, both for academic institutions and for students, including those with special educational needs and disabilities (SEND).

David Bañeres is a researcher with the IN3 SOM Research Lab group and professor at the Faculty of Computer Science, Multimedia and Telecommunications at Universitat Oberta de Catalunya (UOC). He recently published a study in the ETHE open access journal, that he conducted in conjunction with researchers from Finland, Turkey and the United Kingdom to evaluate the needs of this faction of the student community. "The study was developed as a result of one of the advantages provided by the UOC's TeSLA system (an adaptive trust-based e-assessment learning authentication system), which facilitates access to online assessment for students with disabilities."

The researchers analyzed the perceptions and views of students representing this group that attend those universities that have participated in the European TeSLA project: the University of Jyväskylä (Finland), the Open University (UK) and Anadolu University (Turkey). As Bañeres explained: "We evaluated the perceptions of students with special educational needs and disabilities in relation to the use of an authentication and authorship validation system and the sharing of personal biometric data, which, for some students, may include highly sensitive information related to their special need or disability."

The study was carried out within the framework of legislation related to online education and online services. New legislation has been introduced in the EU regarding privacy and data transfer (General Data Protection Regulation, GDPR) and accessibility (Directive [EU] 2016/2102), which has led to an increased awareness of these issues

among end users (European Commission, 2016; Voigt and Bussche, 2017).

Electronic authentication for students with disabilities

Digitization undoubtedly represents a key solution to the challenges of modern society: it presents the opportunity for greater flexibility in higher education learning and makes it available to all students, regardless of their disabilities or special needs, personal circumstances, geographic location, or exceptional local or global context, such as with the COVID-19 pandemic.

The identification process typically requires users to introduce information, such as their name, user ID or email address, while authentication requires them to disclose private and secret information, such as a password. In general, both non-private and private user information can be compromised in a variety of ways, which may potentially jeopardize user identification and authentication. Trust is a fundamental precondition for the success of any new form of technology, particularly in the field of education, and trust in relation to electronic authentication appears to be a complex issue.

To what extent do students accept the sharing of personal data for e-authentication purposes? Do background variables, such as type of disability, gender, age, educational level, etc., play a part in terms of the willingness of SEND (special educational needs and disabilities) students to share personal data for e-authentication? What are the advantages and disadvantages of using e-authentication in electronic assessment according to students with special educational needs?

Crucial factors for the acceptance of the system

The responses collected by the study ruled out special educational needs or disabilities as a variable that influences a student's willingness to use an authentication system, such as TeSLA, highlighting factors such as age, gender and previous technological experience as more likely to impact their acceptance of the system. After analyzing the results, the researchers identified three factors as being crucial with regard to system acceptability: familiarity with the technology on the part of the student; the additional effort required for using the system, and the degree to which students deem the technology to be intrusive.

The results of the study are of particular interest to academics and researchers working to facilitate access to online assessment for students with disabilities. As Bañeres pointed out: "The study gives us an understanding of their perceptions and therefore helps with making decisions in terms of the most suitable system for use in these cases and which authentication and authorship identification tools they are willing to use. It also gives us an insight into how they feel about sharing personal data."

It is important to consult students with special educational needs on their views regarding e-authentication in education and maintain their trust when implementing new technologies, as well as to respond to the doubts and needs of students with disabilities to prevent e-authentication from becoming a barrier to their studies.