Module 3
Unit 2

Unit 2 – New software and apps to help learning providers to manage, plan, deliver and track the learning process

Module 3: NEW EDUCATIONAL OPPORTUNITIES CREATED BY DIGITAL TECHNOLOGIES AND BARRIERS TO GOING DIGITAL

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Unit 2: New software and apps to help learning providers to manage, plan, deliver and track the learning process

Module 3: New Educational Opportunities Created by Digital Technologies and Barriers to Going Digital

The ESCALATE Module 3 is composed by 3 units, the second of which is delivered through this document.

1. Accessible and flexible educational contents
2. **New software and apps to help learning providers to manage, plan, deliver and track the learning process**
3. Barriers to going digital

The objectives of this Unit are:

- To get acquainted with the main tools available to manage, plan, deliver and track the learning process
- To learn about what digital learning management systems and e-learning platforms are
- To be aware of the most popular e-learning authoring tools
- To acknowledge the rapid up-take of videoconferencing tools
- To understand the main functionalities of the online assessment tools

Contents

2.1. Digital learning management systems and e-learning platforms

The systems that allow teaching and learning through the internet have received a number of different names throughout recent years: *web-based training, computer-mediated learning, e-learning systems, digital learning management systems, virtual learning environments and e-learning platforms*, are the most common terms used.

Regardless of their name, all these systems have the use of the Internet in common, and certain features that allow registration, assessment of the activities of learners and teachers, and that also facilitate the delivery of lectures and interaction between students, their colleagues and teachers.

In this Unit we will refer to these systems indistinctively either by e-learning platforms or by digital learning management systems.

Source: [1]

2.1. Digital learning management systems and e-learning platforms

The e-learning process in higher education takes place with the help of these online platforms.
When using such systems...

1. EDUCATORS can assign work, share course content, give homework and assignments, post grades and collaborate with the class...
2. LEARNERS can turn in their work, access course material, view grades, and collaborate and communicate with other students and the teacher...

The key features of these digital learning management systems and e-learning platforms geared towards higher education varies depending on the specific tool used, but all of them are designed to manage, plan, deliver and track the learning process.

Source: [2], [3]

2.1. Digital learning management systems and e-learning platforms

The main functionalities of e-learning platforms include:

Enable instructors to develop an educational workflow

- Offer a virtual space where learning courses and materials are hosted
- Aid teachers in managing their lectures and courses
- Create an educational workflow that makes sense for different environments including blended learning

- A real-time communication platform (web-conferences, chats...)
- Asynchronous communication channels, such as forums or conversation threads
- A one-to-one communication channel for teacher-student consultations

Collaborate within the system – both teacher with students and students with students

Create, administer, and grade homework, assignments, projects, quizzes, and tests.

- Possibility to monitor and evaluate students, give grades, to monitor course attendance
- Create, administer and score quizzes, tests, exams...
- View scores and progress
- Access to assignments and possibility to turn in work

- Create data and reports to track student progress
- Automatically generate reports based on the data collected, for example: student progress reporting, course time tracking, course feedback from the students, teacher assessment by students, student engagement and participation

Generate reports for students, teachers, and administrators

Enable mobile access

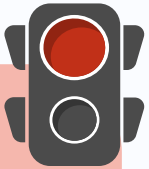
- A mobile version should be available for a more optimized experience
- Ability to access course material using cellular data

Source: [1], [2], [4]

2.1. Digital learning management systems and e-learning platforms

Benefits

- student-centeredness
- flexibility
- improved interaction with students through embedded communication tools such as e-mail, forums, chats, videoconferences
- distribution of content at the same time, to a large number of users
- advantages to learners such as control over the content, control over the time spent learning, and thus the process can be adapted according to the learner needs and objectives of learning
- access to online courses and classes at learners' convenience and outside the reach of wired Internet connections



Challenges

- decreased motivation in students
- delayed feedback or help due to the fact that teachers are not always available at the time students may need help while learning
- feelings of isolation due to lack of physical presence of classmates

* Nonetheless, these challenges can be overcome with the help of teachers who should adapt their teaching strategies to the needs of students. In order to do so, experience and knowledge about teaching in the online environment are necessary.

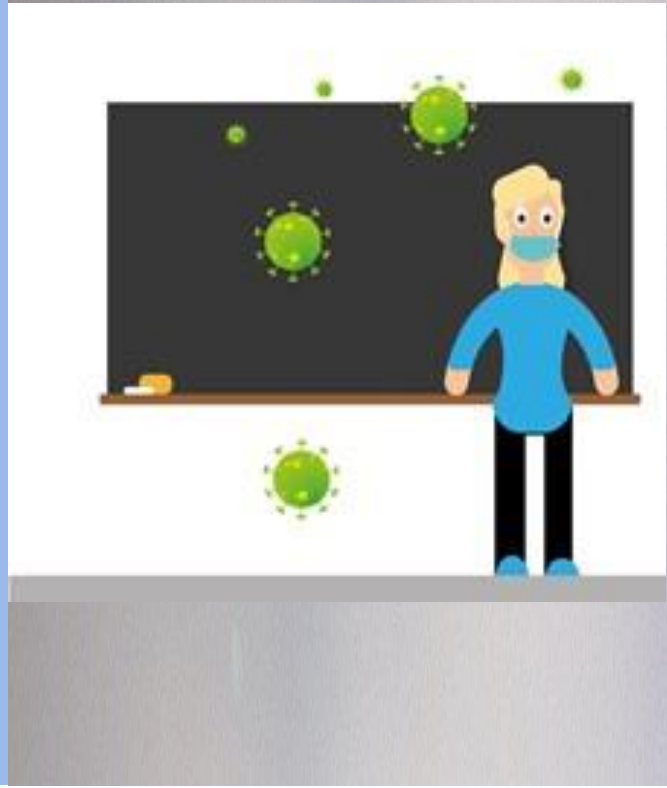
Source: [1]

Did you know...

During the first period of the COVID-19 pandemic the educational process took place exclusively online and **university members** came across many challenges, among which:

- the lack of teachers' experience in using e-learning platforms
- the short time in which they had to adapt their teaching style to the new conditions
- keeping an equilibrium between online courses and non-digital activities
- analyzing and focusing on student's emotional health
- providing students with support throughout the process of learning, taking into account the fact that not all students have access to the internet, and managing and monitoring their access to devices in order to effectively collaborate with them.
- keeping the content of the course consistent and relevant

The main challenges that **students** encountered were: accessibility, connectivity, lack of appropriate devices, social issues represented by the lack of communication and interaction with teachers and peers.



Source: [1]

2.1. Digital learning management systems and e-learning platforms

- There are many e-learning platforms that can be used in higher education.
  - Some are free (open platforms) and others are paid (commercial or proprietary)
  - Some offer just a structure or skeleton for a developer to set-up and others are fully-featured
- The most popular ones are listed below:

1. **BLACKBOARD** Fully functional. The system integrates with the student information system and has mobile and desktop versions. Includes an online web conferencing system.
2. **SCHOOLOGY** It includes built-in integrations so that tools such as YouTube, Google Drive and Dropbox, can be used directly within the system.
3. **CANVAS** Easy-to-use interface, Canvas has recently been gaining traction within higher education institutions (HEI). It can be tried for free.
4. **BRIGHTSPACE** Educators respect the insight and functionality the platform provides. It is not as easy as others, but it's functional and has standout features.
5. **MOODLE** One of the most popular learning management systems. While not as appealing and easy-to-use as its paid competitors, it offers everything a HEI needs.
6. **SAKAI** Open-source learning management system, Sakai is another popular choice among HEI. It offers APIs and community features.

Source: [3]

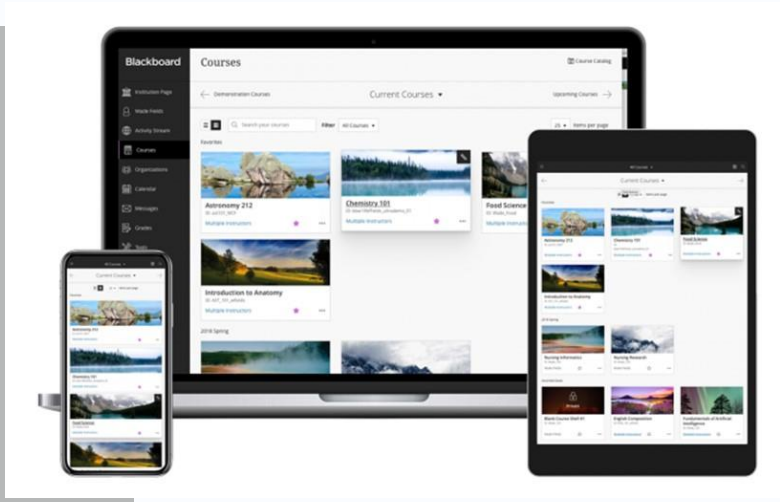
Example

Blackboard

“With a modern intuitive, fully responsive interface, Blackboard Learn™ delivers an unmatched learning experience. This learning management system (LMS) is simple and easy to use, yet powerful, and will enable teaching and learning to happen anywhere at any time.”

“With the help of Blackboard’s evidence-based solutions, colleges, universities and systems can identify and overcome barriers to student success and keep learners on track for graduation”. - https://www.blackboard.com/teaching-learning

- Blackboard Analytics for Learn → insight into how learning tools are used
- Blackboard Assessment & Accreditation → helps simplify the ongoing program assessment
- Blackboard Engage → helps identify students at risk, making early intervention possible, personal and scalable
- Blackboard Intelligence → helps identify barriers to student progression and optimize institutional performance
- Blackboard Collaborate → online conferencing solution



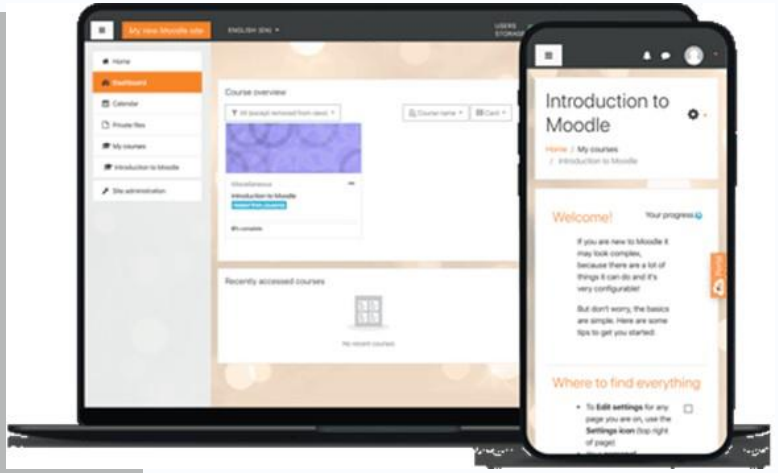
Source: [5]

Example

Moodle

“Moodle is a free, online learning management system enabling educators to create their own private website filled with dynamic courses that extend learning, any time, anywhere.”- https://moodle.org/

- Modern, easy to use interface → Designed to be responsive and accessible, the Moodle interface is easy to navigate on both desktop and mobile devices.
- Personalised Dashboard → Display current, past and future courses and tasks.
- Collaborative tools and activities → Work and learn together in forums, wikis, glossaries, database activities, and much more.
- All-in-one calendar → Moodle’s calendar tool helps keep track of your academic calendar, course deadlines, group meetings, and other events.
- Convenient file management → Drag and drop files from cloud storage services including MS OneDrive, Dropbox and Google Drive.
- Simple and intuitive text editor → Format text and conveniently add media and images with an editor that works across all web browsers and devices.
- Notifications → Users can receive automatic alerts on new assignments and deadlines, forum posts and also send private messages to one another.
- Track progress → Educators and learners can track progress and completion with options for tracking individual activities or resources and at course level.



Source: [6]

2.1. Digital learning management systems and e-learning platforms

What is Moodle? by Moodle

https://www.youtube.com/watch?v=3ORsUGVNxGs

Source: [24]

Reflection

Explore

1. Take some time to visit the websites of the top learning management systems:
   - Blackboard https://www.blackboard.com/
   - Schoology https://www.schoology.com/
   - Canvas https://www.canvas.net/
   - Brightspace https://www.d2l.com/
   - Moodle https://moodle.org/ FREE!
   - Sakai https://www.sakailms.org/ FREE!
2. Which ones did you like better?
3. Do you know about other e-learning platforms?
4. Which one is used at your University?

Good practice

Coronavirus: online learning resources

Discover a selection of online resources and tools for learners, teachers and educators in the recently published new section by the European Commission.

https://ec.europa.eu/education/resources-and-tools/coronavirus-online-learning-resources_en

The EU collects substantial amounts of information relevant to education, training and professional development across Member States. Sharing this knowledge and providing the resources necessary for individuals to take that first or next step into education is crucial.

This website offers a wide range of online learning materials referring to online platforms and to EU-funded projects.

Source: [25]

2.2. e-learning authoring tools

E-learning authoring tools allow to create digital educational content, converting traditional content into an e-learning format. This content is then ready to be distributed among learners via a learning management system or the web. By e-learning content we mean e-courses, video lectures, assessments, simulation, etc.

Authoring tools can be used by non-professionals with no programming skills. With an authoring tool, instructional designers or educators can create professional e-learning content, which in the old days would have required the work of an experienced programmer.

Authoring tools offer educators a friendly interface and predefined elements that facilitate the creation of materials through work based on icons, objects and option menus.

Source: [7]

Did you know...

OER and MOOC are not the same

- Open Educational Resources (OER) are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions.
- Massive Open Online Courses (MOOCs) are free online courses aimed at unlimited participation and open access via the web.

OER refer to the learning material, the content.
MOOCs, on the other hand, are courses and a new model of teaching on-line to a wider audience.

So, though MOOCs are offered with open education access and are mainly free, in most cases their contents are not necessarily released with open licenses, hence making a key distinction from OER.

Source: [8], [9]

2.2. e-learning authoring tools

- Authoring tools range from very powerful to very basic.
- Some learning management systems come with built-in authoring tools. These are often basic and have limited options and features.
- On the other hand, standalone authoring tools are specifically developed for the production of digital learning, therefore they are fully functional and offer educators or instructional designers more freedom to create high-quality, customized content.
- E-learning authoring tools can also be desktop-based or cloud-based.

Source: [10]

2.2. e-learning authoring tools

Four examples of the most popular e-learning authoring tools are described in the diagram:

Adobe Captivate

A rapid authoring tool that allows to create attractive, mobile-ready courses in minutes with new features and interactions. You can create interactive videos, buttons, VR hotspots and copy appearance and style.

https://www.adobe.com/products/captivate.html

iSpring Suite

PowerPoint-based toolkit for creating courses, quizzes, role-plays, and video lessons. You can add video narrations, shoot screencasts, etc. Once ready, upload the course to your learning management system.

https://www.ispringsolutions.com/ispring-suite

Lectora

One of the most versatile authoring tools. You can create video-based, scenario-based and responsive learning materials, as well as conditional branching and sequenced events for a personalized learning experience.

https://www.lectoraonline.com/

Articulate 360

Includes both Storyline 360 and Rise 360. With Storyline 360 you can develop custom, interactive courses with any interaction imaginable. With Rise 360 you can build fully responsive courses in minutes.

https://articulate.com/360

Source: [11], [12], [13], [14]

Good practice

Free authoring tools for e-learning

CourseLab	CourseLab is a powerful, yet easy-to-use, e-Learning authoring tool that offers a programming-free WYSIWYG environment for creating high-quality interactive e-Learning content that can be published on the Internet, Learning Management Systems (LMS), etc. It offers 6 bands of module templates, space for two animated character objects, and 6 supported types of questions. There is also a paid version with more extensive features. http://www.courselab.com/
iSpring Free	iSpring Free allows you to create responsive courses and quizzes right in PowerPoint. You can easily convert your slides to HTML5 or SCORM. You can create learning materials with no training required. Turn your PowerPoint slides (maximum 15 slides) into eLearning, create interactive quizzes, enhance courses with web objects, upload courses to your LMS, and make your courses available on any device. iSpring Suite is the paid version which offers other powerful features. https://www.ispringsolutions.com/ispring-free

Source: [15], [16]

2.3. Communication tools

Virtual classrooms

- Even before COVID-19, educators were already facing increasing demands for distance learning programmes and were already using video conferencing tools and apps.
- But then COVID-19 happened and virtual communication completely replaced the face-to-face classes.
- Thanks to these video conferencing tools, classes can go virtual and run much as they would in person, with lectures, presentations, and discussions.
- This new way of teaching and learning requires a bit of adjustment, but it can ultimately optimize learning.

Source: [17]

2.3. Communication tools

As seen in sub-unit 2.1., most of the learning management systems or e-learning platforms offer a built-in communication/ collaboration tool for educators and learners to effectively communicate with each other. These include asynchronous communication tools such as discussion boards but also synchronous tools for videoconferencing and chatting.

Outside the e-learning platforms there are also powerful stand-alone tools and apps specifically designed for videoconferencing that are currently being used by higher education for the classes to take place virtually.

Either way, video conferencing solutions bring learners and educators together in a virtual space where they can discuss as they would in person.

Most tools are very intuitive and ensure easy operation, although we can face a learning curve as we adjust to new digital tools.

Source: [17]

Did you know...

Global top 5 conferencing tools in HE

The top five tools in Higher Education in June 2020 were **Zoom, Blackboard, Microsoft, Cosco Systems, and Panopto**, as published by the market research firm ListEdTech based on a survey to 2,800 higher education institutions.

Bigger institutions have more than one conferencing tool, in fact, more than half of institutions use more than one system.

Unsurprisingly, the survey also revealed that the year 2020 had the highest number of new implementations of conferencing systems in Higher Education.

Blackboard's market share is decreasing and seems to be tied up to its learning management system. Zoom and to a lesser rate, Microsoft, are the two systems that are increasing their new implementation rates. This is enhanced by the fact that the actual number of implementations is increasing.

Source: [18]

2.4. Assessment tools

Online assessment tools allow educators to evaluate their students through the internet using assignments, tests, quizzes, surveys and evaluations.

In the market there are powerful stand-alone assessment tools. However, all learning management systems and e-learning platforms include built-in assessment tools to track the students' progress and assess their performance. Through these tools, the students access the tests and the testing software evaluates the tests and returns the results. Faculty can view their students' scores and share the results to students through the learning management system and alerts.

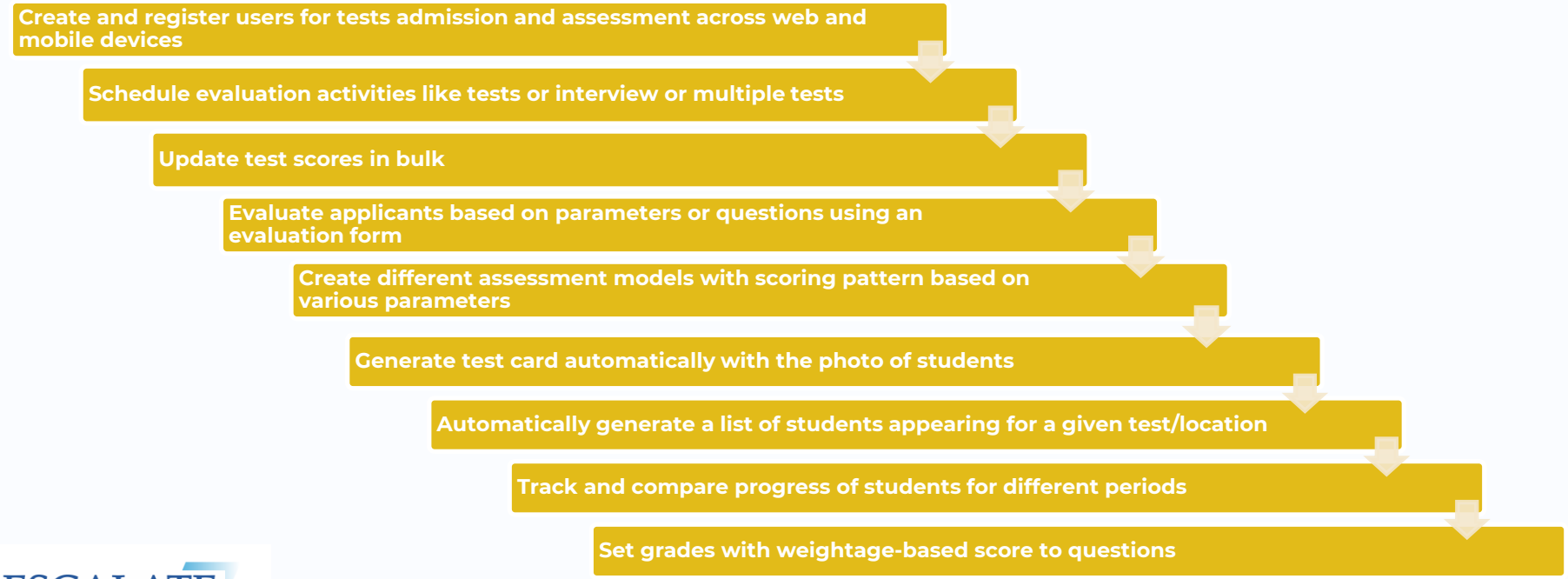
Any concept can be tested online including questionnaire and surveys in any style or format, which requires students to fill in or select the answers from multiple choice.

Students can also upload documents, which are submitted to the instructor for grading.

Source: [19]

2.4. Assessment tools

- Some of the functionalities offered by most online assessment tools are:



Source: [19]

Example

ProProfs Online Assessment Software

ProProfs has a long-standing history as one of the best online assessment and quiz tools. It allows educators to import questions from a question bank, which contains over 100,000 different ready-to-use questions on various topics. You can pick the questions, and the type of answers you want to receive.

It allows teachers to automate grading and scoring. Moreover, it provides instant feedback and scores based on the controlled answers, facilitating students a brand new level of insight into their online assessment, and allowing educators and learners to track their performance through reports.

ProProfs is fully customizable and also allows to reward learners with customizable completion certificates.

https://www.proprofs.com/quiz-school/solutions/assessment-software/

ProProfs Quiz Maker

Source: [20], [21]

Example

ExamSoft

ExamSoft is an advanced assessment platform which takes a very professional approach.

It might require some more effort and time to create the assessments but the end product is excellent. Educators can minimize the time spent administering and grading exams

ExamSoft provides detailed assessment feedback, performance data, class- wide and programme- wide data trends and much more.

Moreover, it completely locks down the exam taker's device and blocks Wi-Fi, preventing cheating.

https://examsoft.com/

Source: [20], [22]

2.4. Assessment tools

- Higher education institutions are turning to online proctoring to prevent cheating during online exams.
- Remote proctoring platforms can surveil the student's activities , while doing exams online.
- Tools such as ProctorU, Examity, Respondus and Proctorio, are designed to monitor students' laptops, tablets or phones during the course of an exam.
- Some proctoring tools use algorithms and artificial intelligence (AI) to flag suspicious behaviour. Some also offer human proctors as an option in combination with AI.
- Proctoring tools can monitor eye movements, capture students' keystrokes, record their screens and track their searches as well as their home environments and physical behaviours.
- However, proctoring methods can invade privacy and break trust so they must be used carefully.

Source: [23]

Key takeaways

- Digital learning management systems and e-learning platforms are designed to manage, plan, deliver and track the learning process.
- There are many e-learning platforms that can be used in higher education, some of them are open platforms and others are commercial.
- E-learning authoring tools allow to create digital educational content, converting it into an eLearning format.
- Authoring Tools offer educators a friendly interface and predefined elements that facilitate the creation of materials through work based on icons, objects and option menus.
- Video conferencing tools allow classes to go virtual and run much as they would face-to-face, with lectures, presentations, and discussions.
- Video conferencing solutions bring learners and educators together in a virtual space where they can discuss as they would in person.
- Online evaluation tools allow educators to assess their students through the internet using assignments, tests, quizzes, surveys and evaluations.
- Higher education institutions are turning to online proctoring to prevent cheating during online exams. Proctoring methods can invade privacy and break trust so they must be used carefully.

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