D-Upskill.50

E-GUIDE 3:

Assessment Strategies & Tools

D-Upskill.50: Smart toolkit for supporting adult workers and adults educators in the educational digital upskilling pathway

Co-funded by the European Union

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Introduction

Monitoring the learning process involves observing and tracking the progress of a student or group of students over time, in order to identify areas of strength and weakness, and make adjustments to teaching and learning strategies as needed. This can be done by giving students regular tests, feedback, and talking with them, as well as by the teacher always thinking about and evaluating themselves.

Monitoring the learning process can also involve getting grades, test scores, and other signs of academic progress from students and analysing them. This information can be used to find patterns and trends in how students do in school, which can then be used to help decide how to help students and improve their learning.

For example, if a teacher sees that a certain group of students has trouble with a certain subject or skill over and over again, they may need to change how they teach, give those students more help or resources, or change the curriculum to better meet those students' needs. On the other hand, if a teacher sees that a particular student is excelling in a certain area, they may choose to provide more challenging assignments or opportunities for deeper learning in that subject.

It is also important for teachers to **regularly communicate with parents and guardians** about their child's progress, and to involve them in the monitoring process. This can help to ensure that everyone is working together to support the student's learning and development.

The learning process can also be monitored by using technology. These tools can provide detailed data and analytics on student progress, engagement, and performance, which can be used to inform teaching strategies and provide targeted support.

When integrating digital aspects into learning and teaching, digital technologies are crucial as an indispensable element of assessment strategies. You, as a digitally-competent educator, should be able to create or facilitate innovative assessment approaches appropriate for selected age groups of learners. You can use digital technologies to directly monitor learner progress, to facilitate effective feedback, and to provide evaluation at the end of the learning process. You should analyse data produced during the assessment of each individual learner's learning behaviour and interpret it alongside with conventional evidence on learner's behaviour in order to make informed decisions.

Tips: Formative assessment is a type of ongoing, low-stakes test that is used to check how well students are learning and understanding throughout a unit or course of study. The goal of formative assessment is to give students and teachers feedback about how they are learning, so that they can improve how they learn in the future. Examples of formative assessment include quizzes, polls, exit tickets, and class discussions. Formative assessment is often contrasted with summative assessment, which is a high-stakes evaluation of student learning that occurs at the end of a unit or course.

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1. Assessment strategies

Introduction

The objective of this part of the guide is to equip you to use digital technologies to monitor a learner's current progress and to evaluate learner's achievements at the end of the instructional unit. To enhance the diversity and suitability of assessment formats and approaches for learners by elderly educators.

Objetives

- to use digital assessment tools to monitor the learning process and obtain information on learners' progress.
- to use digital technologies to **enhance assessment strategies** for monitoring a learner's current progress.
- to use digital technologies to enhance **summative assessment** in tests.
- to use digital technologies to record, store, and archive the artefacts of learning and reflection for an individual learner in order to promote the usefulness of learning.

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- to use a variety of digital and non-digital assessment formats and be aware of their benefits and drawbacks.

- to critically reflect on the appropriateness of digital assessment approaches based on experiences and adapt strategies accordingly.

Instructions

Digital learning presents unique opportunities for assessment, as well as some challenges that require careful consideration. Here are some assessment strategies for digital learning:

Formative assessment through digital tools: Digital tools can be used to provide ongoing formative assessment throughout the learning process. Tools such as quizzes, polls, and surveys can provide immediate feedback to students and inform the teacher on how to adapt their teaching to better meet the needs of students.

Project-based assessment: Digital learning allows for collaborative and multimedia-rich projects that can be assessed using digital tools. Students can work on projects that incorporate different types of media, such as audio, video, images, and text. They can also use collaboration tools, such as Google Docs or Microsoft Teams, to work together on a project.

Peer assessment: Peer assessment can be used to give students the opportunity to learn from one another and provide feedback to their peers. Digital tools can be used to facilitate peer assessment, such as online discussion boards or video conferencing tools.

Authentic assessment: Digital learning provides opportunities for authentic assessment, where students are assessed on real-world tasks that are relevant to their lives. For example, students could create a website or social media campaign to address a real-world problem, and their work could be assessed using digital tools.

Gamification: Gamification is the use of game-like elements to enhance learning and motivation. Digital tools can be used to create games that assess student knowledge and skills, and that provide immediate feedback to the student.

Adaptive assessment: Digital learning can be used to create adaptive assessments, where the assessment adapts to the student's abilities and knowledge. Digital tools can be used to create assessments that are personalized to each student, providing a more accurate measure of their learning.

Tips: Gamification! Digital assessment tools can be used to create educational games and simulations that engage students in the learning process while also providing valuable data on their progress.

Assessing and grading learners in educational games can be a useful way to monitor their progress and provide feedback on their learning. Here are some tips for grading and monitoring learners in educational games:

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Establish clear learning objectives: Before using an educational game for assessment, it's important to establish clear learning objectives and identify how the game will help learners meet these objectives.

Use rubrics or scoring guides: Rubrics or scoring guides can be helpful tools for grading and monitoring learners in educational games. These tools should be based on the learning objectives and should clearly identify the criteria for success in the game.

Monitor learner progress: Many educational games have built-in monitoring tools that allow educators to track learner progress and identify areas where learners may be struggling. These tools can be used to provide feedback to learners and to adjust instruction as needed.

Provide feedback: Feedback is an important part of any assessment process. In educational games, feedback can be provided in real-time or after the game is completed. Feedback should be specific, focused on the learning objectives, and should provide suggestions for improvement.

Consider peer assessment: Peer assessment can be a useful tool for grading and monitoring learners in educational games. This approach allows learners to evaluate each other's work and provide feedback, which can help to promote collaboration and reinforce learning.

Balance grading and fun: Educational games should be engaging and fun for learners. When grading and monitoring learners in these games, it's important to balance the need for assessment with the need for learners to enjoy the game and stay motivated to continue learning.

Gamification Techniques For Learning

You can use a range of gamification techniques to enhance your learning environment. The most well-liked ones are:

The point system Points awarded for doing various activities might motivate people to put in extra effort. In order to demonstrate how much they have improved over the course of the session, it also accurately portrays their degree of effort.	**Badges** Badges are an excellent method way to thank and honour people for their achievements. A badge is a form of recognition that comes in the form of an image or other virtual object that you can pin to your profile. It's a great way to show how much you appreciate the time and work that went into the project.
Leaderboards Leaderboards are excellent for inciting competition among students since they will push them to study harder if they want to see their name at the top. Even better competitiveness can be achieved by separating the participants	**Challenges** A challenge is a task that demands time and effort from the performer but has no negative consequences if completed successfully or incorrectly. Challenges might include learning

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into smaller groups and creating distinct leaderboards depending on the various teams.	techniques like problem-solving, where people must think creatively to come up with a solution.

Digital assessment tools can be used in a number of ways to keep an eye on the learning process and find out how students are doing:

- learning management systems (LMS),
- online quizzes and tests and
- video assessment.

There are many LMSs available on the market, each with its own unique features and benefits. Some of the most popular and highly rated LMSs are Canvas, Blackboard, Moodle, Google Classroom and Schoology. These are just a few examples of popular LMSs, and there are many others available on the market. When choosing an LMS, it's important to consider your specific needs and goals, as well as those of your learners.

Source:
https://www.instructure.com/sites/default/files/svg/2022-08/Canvas_Horizontal_ByInstructure_Color_RGB.svg

Canvas

Canvas is a cloud-based LMS that is known for its user-friendly interface, robust mobile app, and integration with a wide variety of third-party tools. Canvas is used by educational institutions and organizations to manage, deliver, and track online learning activities. Canvas provides a platform for instructors to create and deliver course content, engage with students through various communication and collaboration tools, facilitate online assessments and grading, and track student performance through analytics and reporting. Canvas also allows for customization to meet the unique needs of individual institutions and instructors.

Example*:*

Let's say you want to use Canvas to assess your students' understanding of a particular topic. Here's what you might do:

- Create a quiz in Canvas that assesses your students' knowledge of the topic. You can create multiple choice, true/false, short answer, or essay questions.

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- Use Canvas to automatically grade the quiz and provide students with immediate feedback. You can set the quiz to show students the correct answer after they've submitted their response, and you can use Canvas to calculate and record the students' scores.
- Use Canvas to provide feedback on individual questions or on the quiz as a whole. You can use comments or annotations to give students specific feedback on their responses, or you can use the SpeedGrader tool to grade and provide feedback on the quiz as a whole. SpeedGrader allows you to view and grade student assignment submissions in one place using a simple point scale or complex rubric. Canvas accepts a variety of document formats and even URLs as assignment submissions. Some document assignments can be marked up for feedback directly within the submission. You can also provide feedback to your students with text or media comments.
- Use Canvas to monitor student progress and engagement with the quiz. You can see how long students spend on each question, how many attempts they make, and how they perform overall. This information can help you identify areas where students might need additional support or clarification.
- Use Canvas to communicate with your students about the quiz and their performance. You can use the messaging feature to send messages to individual students or to the whole class, and you can use announcements to provide general updates or reminders.

Blackboard®
LEARN

Source:
https://www.blackboard.com/sites/default/files/styles/500w/public/2019-09/Blackboard%20PSS_learn.png?itok=4UbYkgg0

Blackboard

Blackboard LMS, also known as *Blackboard Learn*, is a web-based learning management system designed for educational institutions. It provides tools for course management, communication, collaboration, and assessment. Blackboard Learn allows instructors to create and manage course content, including syllabuses, assignments, quizzes, and discussions. It also provides tools for communication and collaboration, such as email, messaging, and virtual classrooms. In addition, it offers a range of assessment tools, including online tests, surveys, and gradebook management.

Blackboard Learn is used by many universities and schools around the world, and it is particularly popular in the United States. It is known for its flexibility and customization options, which allow institutions to tailor the platform to their specific needs.

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Source: https://upload.wikimedia.org/wikipedia/commons/thumb/c/c6/Moodle-logo.svg/2560px-Moodle-logo.svg.png

Moodle

Moodle is an open-source LMS that is widely used by educational institutions around the world. It was created by Martin Dougiamas in 2002, with the goal of providing a free and open platform for online learning.

Moodle provides a wide range of tools for course management, communication, collaboration, and assessment. It allows instructors to create and manage course content, including lessons, assignments, quizzes, and forums. It also provides tools for communication and collaboration, such as messaging, discussion forums, and wikis.

In addition, Moodle offers a range of assessment tools, including online tests, surveys, and gradebook management. It is highly customizable, allowing institutions to tailor the platform to their specific needs. Moodle also has a large community of developers and users, who create and share add-ons and plugins to extend its functionality.

One of the key features of Moodle is its flexibility. It also has a responsive design, which means it can be accessed on a range of devices, including desktops, laptops, tablets, and smartphones.

Overall, Moodle is a powerful and versatile LMS that has become a popular choice for many educational institutions around the world. Its open-source nature and strong community support make it a cost-effective solution for schools and universities of all sizes.

Example*:*

Here is an example of how Moodle can be used for learning assessment:

Create a quiz: In Moodle, instructors can create quizzes with various question types, including multiple choice, short answer, and essay questions. The quiz can be set up with a time limit, and it can be set to automatically grade the questions.

Use the gradebook: Moodle's gradebook allows instructors to keep track of student grades and provide feedback. Instructors can set up grade categories and weights, and they can add grades for quizzes, assignments, and other assessments.

Set up assignments: Instructors can create assignments in Moodle, where students can submit their work online. Moodle allows for a variety of submission types, including text, file uploads, and online text. Instructors can also set up grading rubrics for the assignments.

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Use the feedback feature: Moodle allows instructors to provide feedback to students on their assignments, quizzes, and other assessments. Instructors can provide feedback through comments, annotations, or grading rubrics.

Use the survey tool: Moodle also provides a survey tool, which can be used for a variety of purposes, such as course evaluations or gathering feedback from students.

Source: https://classroom.google.com/

Google Classroom

Google Classroom is a cloud-based LMS developed by Google. Google Classroom is a free LMS that is designed for use in elementary schools. It offers tools for creating and managing assignments, grading, and communicating with students and parents.

It is designed to help teachers and students manage and organize assignments, discussions, and communication in a digital classroom setting.

Google Classroom is integrated with other Google apps such as Google Drive, Google Docs, and Google Calendar, making it easy for students and teachers to collaborate on assignments and other class activities.

Some key features of Google Classroom include:

Assignment creation and submission: Teachers can create assignments, attach files, and set due dates for students to complete and submit. Students can complete and submit assignments within Google Classroom, and teachers can review and provide feedback on their work.

Communication: Teachers and students can communicate with each other using the platform's built-in chat feature, as well as email, comments, and announcements.

Class scheduling: Teachers can schedule class sessions and invite students to join via Google Meet, Google's video conferencing platform.

Collaboration: Google Classroom allows for collaborative work between students and teachers. For example, teachers can create shared documents or folders for students to collaborate on.

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Grading and feedback: Teachers can grade and provide feedback on assignments and other assessments within Google Classroom. The platform also includes a gradebook feature that can help teachers track and manage student grades.

Source:
https://upload.wikimedia.org/wikipedia/commons/thumb/a/a3/Schoology_Logo.svg/495px-Schoology_Logo.svg.png

Schoology

Schoology is an LMS that is widely used in elementary schools. education. Schoology is a cloud-based solution. It provides tools for course management, communication, collaboration, and assessment. Schoology allows instructors to create and manage course content, including assignments, quizzes, and discussions. It also provides tools for communication and collaboration, such as messaging, discussion forums, and video conferencing.

In addition, Schoology offers a range of assessment tools, including online tests, surveys, and gradebook management. It also allows instructors to provide feedback to students through comments and annotations.

One of the key features of Schoology is its integration with a wide range of third-party applications, including Google Drive, Microsoft OneDrive, and Turnitin. This allows instructors to easily incorporate external tools into their courses, such as multimedia content or educational apps.

Schoology is also known for its mobile app, which allows students and teachers to access course materials and communicate with each other on-the-go.

Overall, Schoology is a versatile and powerful LMS that can be used in a variety of educational settings. Its integration with external applications and its mobile app make it a popular choice for schools and institutions that value flexibility and mobility.

Online Quizzes and Tests

Digital assessment tools can be used to create online quizzes and tests that can be easily administered and graded. Online quizzes and tests are a common feature of many learning management systems and educational websites as seen above.

Here are some key features of online quizzes and tests:

Automatic Grading: Online quizzes and tests are typically designed to automatically grade student responses, which saves teachers time and effort.

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Customization: Teachers can create custom quizzes and tests to align with specific course objectives and learning outcomes.

Randomization: Online quizzes and tests can be designed to randomly select questions from a pool of questions, which helps to reduce the risk of cheating.

Feedback: Online quizzes and tests can provide immediate feedback to students, which can help them identify areas where they need to improve.

Accessibility: Online quizzes and tests can be accessed from anywhere with an internet connection, which makes them a convenient option for both teachers and students.

Security: Online quizzes and tests can be designed to prevent cheating by using features such as randomized question order and time limits.

Tips: When designing online quizzes and tests, it's important to keep in mind the principles of good assessment design, such as aligning assessments with learning outcomes, using clear and concise language, and ensuring that the assessment is valid and reliable.

While online quizzes and tests have many benefits, there are also some potential negative sides to consider:

Technical problems: Online quizzes and tests can sometimes have technical problems, like when the internet doesn't work, when the website or server crashes, or when there are problems with the test-taking platform.

Cheating: Online quizzes and tests can be made to make cheating less likely, but students can still cheat by looking at course materials, working with other students, or using unapproved resources.

Limited scope: Online quizzes and tests may not fully capture the breadth and depth of student learning, and may not assess all relevant skills and knowledge.

Lack of personal interaction: Online quizzes and tests don't give teachers and students the same chances to talk to each other in person, which can be important for giving feedback and help.

Limited feedback: While online quizzes and tests can provide immediate feedback on individual questions, they may not provide more detailed feedback on student performance as a whole.

Technology dependence: Online quizzes and tests are dependent on technology and may be inaccessible to students who do not have access to the necessary technology, which can contribute to equity issues.

Video Assessment

Video assessment tools can be used to record and evaluate student presentations and projects. These tools can provide valuable feedback on both the content and delivery of student work.

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Video assessment is a method of evaluating student performance using video recordings. This approach allows educators to observe and evaluate student skills, behaviors, and competencies in a more authentic and meaningful way than traditional assessments.

Video assessment can be used in a variety of contexts, including in-classroom observations, remote learning environments, and performance-based assessments. For example, video assessments can be used to evaluate student presentations, group projects, or lab experiments.

To conduct a video assessment, educators typically record student performances using video cameras or screen recording software. They can then review the recordings and use them to evaluate student performance against specific criteria or rubrics. This approach allows educators to provide more detailed and personalized feedback to students, as well as to identify areas where students may need additional support or instruction.

Video assessment can also be used to improve teaching practices. By reviewing video recordings of their own teaching, educators can identify areas where they may need to improve, such as pacing, clarity of instructions, or student engagement.

There are various video assessment software options available, each with its own unique features and capabilities. Here are some popular video assessment software tools that educators and trainers can consider:

Flip: Flip is a video assessment platform that allows educators to create and share video prompts for students to respond to. Students can record short videos to demonstrate their learning and share their understanding with others.Flipgrid is a part of Microsoft.

https://info.flip.com/about/_jcr_content/root/container/container/container_1456718408/container_1610110309/container/teaser.coreimg.85.600.jpeg/1661876799073/about-media-resources.jpeg

Panopto: Panopto is a video management platform that allows educators to record and store video lectures, presentations, and demonstrations. It also includes video assessment tools, such as the ability to create quizzes, polls, and discussions based on video content.

https://logo-download.com/wp-content/data/images/png/Panopto-logo.png

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Edpuzzle: Edpuzzle is a video assessment and interactive learning platform that allows educators to create video lessons and assessments. Teachers can add quizzes, open-ended questions, and notes to their videos to engage and assess students' understanding.

https://edpuzzle.imgix.net/edpuzzle-logos/vertical-logo.png

Screencast-O-Matic: Screencast-O-Matic is a screen recording and video editing software that allows educators to create video assessments by recording their screen, webcam, or both. It also includes editing tools to enhance and customize video content.

https://dfjnl57l0uncv.cloudfront.net/www/6bbd5e55/images/som_logo.svg

VidGrid: VidGrid is a video assessment and interactive learning platform that allows educators to create and share video assessments with students. It includes features such as video quizzing, interactive annotations, and closed captioning.

https://www.vidgrid.com/assets/uploads/2019/01/17/vidgrid_cover_logo_blue.png

Tips: When choosing a video assessment software, it's important to consider factors such as ease of use, pricing, and compatibility with existing technology. It's also a good idea to consider what type of assessments you want to create, as different software tools may be better suited to different assessment formats.

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While video assessment can be a powerful tool for evaluating student performance and improving teaching practices, there are some potential negative sides to this approach. **Here are some of the downsides to video assessment:**

Time-consuming: Video assessment can be a time-consuming process. It requires educators to record, watch, and evaluate student videos, which can take a significant amount of time.

Technical difficulties: Video assessment relies on technology, which can sometimes be unreliable or difficult to use. Technical difficulties with recording or uploading videos can create frustration and delay the assessment process.

Limited scope: Video assessment may not be appropriate for all types of assessments. Some skills and competencies may be difficult to assess through video, and the approach may not be suitable for all subjects or learning environments.

Security and privacy concerns: Video assessment raises security and privacy concerns. Student videos may contain sensitive or personal information, and there is a risk that they may be shared or viewed by unauthorized individuals.

Bias: Video assessment may be subject to bias, as educators may unconsciously or consciously evaluate student videos differently based on factors such as student appearance, behavior, or background

Repository

Resource name	**Resource type**	**Links:**
Canvas	Learning management system	https://www.instructure.com/resources/videos https://community.canvaslms.com
Blackborad	Learning management system	https://www.blackboard.com/
Moodle	Learning management system	https://moodle.org/
Google Classroom	Learning management system	https://classroom.google.com/
Schoology	Learning management system	https://www.powerschool.com/classroom/schoology-learning/
Flip	Video assessment	https://info.flip.com/
Panopto	Video assessment	https://www.panopto.com/
Edpuzzle	Video assessment	https://edpuzzle.com/
Screencast-O-Matic	Video assessment	https://screencast-o-matic.com/
VidGrid	Video assessment	https://www.vidgrid.com/

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Assessment

Assessment strategies - statements	Yes	No
I do not or only very rarely use digital assessment tools.		
I use digital technologies to create assessment tasks which are then printed to paper, as it is more appropriate for certain learners.		
I plan for learners' use of digital technologies as an additional tool of traditional assessment strategy.		
I use some existing digital technologies for monitoring learners' progress and evaluating their achievements (e.g. web-based quizzes, smartphone applications).		
I adapt digital assessment tools to support my specific assessment goal of teaching to different age groups of learners, e.g. create a test using a digital test system, organize on-demand video calls for assessment.		
I use digital assessment tools as a strategy to provide feedback but not necessarily to give grades.		
In the class and for learners to employ outside class, I use a variety of e-assessment tools, applications, and methodologies for formative assessment.		
I use digital assessment formats in the form of a game-based approach.		
I choose the assessment type that best reflects the nature of the learning outcome.		
I create trustworthy and user-friendly digital tests.		
I use digital assessment formats to promote autonomy, considering the learning styles, interests and expectations of the individual learners.		
I use assessment data to showcase the usefulness of learning that responds to the personal and social needs of learners.		
I use digital assessment formats to show learners what they learnt to understand their new abilities and knowledge.		
I am familiar with the advantages and disadvantages of a variety of digital and non-digital assessment formats that are in accordance with content and technological standards (e.g, W3C standards)		
I critically evaluate how I use digital tools for assessment accounting the specific needs of learners and change my tactics as necessary.		
I create fresh digital assessment formats that take into account cutting-edge instructional ideas and support the evaluation of cross-disciplinary competencies.		
I develop digital assessment formats tailored based on the experience of my online and offline networks of peer educators.		

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2. Analysing evidence

Introduction

Analyzing evidence of the learning process involves examining data and other forms of evidence to gain insights into how learners are progressing and what areas they may need additional support or instruction in.

Objective is to create, choose, evaluate, and understand digital data on learner's performance, progress, and activities in order to inform teaching and learning.

As an instructor, you should be able to analyse the data on student attendance, test scores, homework completion, and other relevant metrics. In order to do so you should select digital tools that can help you capture student progress data. These may include learning management systems, student information systems, gradebooks, and other tools. It's important to ensure the accuracy and consistency of the data collected. You can achieve this by setting clear standards and protocols for data collection and entry. Once you have collected data, it's time to correlate it to identify patterns and trends. This could involve the use of data visualization tools, such as graphs and charts, to help you make sense of the data. Once you have analyzed and interpreted data, you can use it to make informed decisions. This could include making adjustments to lesson plans, identifying areas where additional support is needed, and developing strategies to help students achieve their learning goals.

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Objectives

- to develop and execute educational activities that produce data on learner performance and activity.
- to capture, correlate, and combine data on student progress using digital technologies.
- being conscious of the fact that learner's behaviour in digital contexts produces data that may be used to guide teaching and learning.
- analyze and interpret data produced by the used digital technology in order to understand learner activity and progress.
- to take into account, synthesise, and assess many sources of data on learner performance and progress.
- to respect evidence that can be used to inform teaching and learning critically.

Instructions

To understand digital data on a learner's performance, progress, and activities, there are a few key steps you can take:

Identify the relevant data: Determine what types of data you want to collect, such as quiz scores, online activity logs, or digital assignments. Consider which data points are most relevant to your learning objectives and how they will inform your teaching and learning.

Analyze the data: Once you have collected the data, analyze it to identify patterns and trends in learner's performance, progress, and activities. This could include looking for patterns in quiz scores, identifying areas where learners are struggling, or analyzing the frequency and type of activities learners are engaging in.

Compare the data: Compare learner's performance and progress over time, as well as to other learners, to gain insights into areas where individual learners may be falling behind or excelling. Consider using graphs or charts to visualize the data and highlight any trends or patterns.

Identify areas for improvement: Use the data to identify areas where learners may need additional support, such as struggling with a particular concept or activity. Use this information to adjust your teaching methods, develop new materials or activities, or provide targeted support to learners who need it.

Communicate the data: Share the data with learners to help them understand their own progress and areas for improvement. Use the data to provide feedback and support that is specific and actionable, helping learners understand how they can improve.

Continuously evaluate and refine: Regularly evaluate the data you collect and the insights it provides to refine your teaching and learning approaches. This will help you to continually improve learner's performance, progress, and activities over time.

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Tips: Analysing student data in Moodle

Analysing student performance in Moodle can be done in several ways. Here are some methods:

Gradebook Analysis: Moodle's gradebook allows instructors to track student grades and progress throughout the course. Instructors can use the gradebook to identify students who may need additional support or to analyze the performance of the entire class. Some things to look for include trends in grade distribution, grade averages, and grade fluctuations over time.

Quiz Analysis: Instructors can view quiz statistics to identify areas where students may be struggling or to analyze the difficulty of specific questions. They can also review individual student performance on each quiz and determine where students need additional support.

Activity Completion Analysis: Instructors can use Moodle to track when students complete planned activities. This information can be used to analyze student engagement and identify students who may need additional support.

Student Progress Reports: Moodle provides student progress reports, which show an overview of a student's progress in the course. These reports include information such as completed activities, grades, and overall progress in the course.

Course Logs: Moodle also provides detailed course logs that record each student's activity within the LMS.

Apart from modules in learning management softwares, there are several data analytics software tools that can be used for student assessment. Here are a few examples:

Tableau: Tableau is a data analytics and visualization tool that can be used to analyze and present data in a way that is easy to understand. It can be used to analyze a wide range of data types, such as student performance metrics or test scores.

http://dev3lop.com/wp-content/uploads/2017/04/tableau-logo-tableau-software.jpg

Google Analytics: Google Analytics is a web analytics tool that can be used to track and analyze online student behavior, such as engagement with online learning materials or participation in discussion forums.

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https://upload.wikimedia.org/wikipedia/commons/thumb/7/77/GAnalytics.svg/800px-GAnalytics.svg.png

Power BI: Power BI is a data analytics and visualization tool that can be used to analyze a wide range of data, such as student performance metrics or learning outcomes.

SPSS: SPSS is a statistical analysis software that can be used to analyze and interpret data, such as exam scores or other performance metrics.

R: R is an open-source programming language and software environment for statistical computing and graphics. It can be used for data analysis, statistical modeling, and visualization.

It's important to choose a data analytics software tool that is appropriate for the specific assessment needs and data types. Additionally, it may be necessary to provide training for educators and students to ensure that they can effectively use the software for assessment and feedback.

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Repository

Resource name	Resource type	Links
Tableau	Data analytics software	https://www.tableau.com/
Google Analytics	Data analytics software	https://analytics.google.com/analytics/web/
Microsoft Power BI	Data analytics software	https://powerbi.microsoft.com/en-us/
IBM SPSS	Data analytics software	https://www.ibm.com/spss
R software	Data analytics software	https://www.r-project.org/

Assessment

Analysing evidence - statements	Yes	No
I do not or only very rarely refer to digitally recorded data to understand where my learners stand.		
I analyze learners' performance data (such as scores) as well as administrative data (such as attendance) to provide individualized feedback and advocacy work.		
I understand that using digital evaluation tools in the classroom and during online classes can help me get immediate feedback on my learners' progress.		
In order to improve instruction, I analyze information gleaned from digital assessments.		
I know that I can track my learners' development and offer timely comments and support thanks to the information gathered.		
I include digital tools into my lessons to collect and analyze data in real time on my learners' understanding and performance.		
I track and analyze activity using the data analysis tools that my digital settings give.		
I analyze the data and supporting information to better comprehend the support requirements of learners.		
I employ digital tools in analysing data in real time to support, cohesion and interaction to achieve more proactive learning.		
To quickly identify and respond to problematic behaviour and individual issues learners may have, I continuously monitor digital activity and frequently reflect on learner data		
I analyze and combine the data produced by different digital technologies.		
I reflect on the effectiveness and accessibility of different teaching strategies and learning activities, in general and for groups of learners (e.g. elderly learners).		
I implement advanced data generation and visualisation methods into the digital activities I employ, e.g. based on learning analytics.		
I use assessment data to focus on mastering digital skills weaknesses of learners.		

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I include digital tools into my lessons to collect and analyze data in real time on my learners' understanding and performance.		
I track and analyze activity using the data analysis tools that my digital settings give.		
I critically assess and discuss the value and validity of different data sources as well as the appropriateness of established methods for data analysis.		

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3. Feedback and Planning

Introduction

Digital technologies may assist to monitor students' advancements, to offer evaluation and to facilitate teacher to evaluate and adjust their instructional methods.

Objectives

This chapter deals with utilising digital technologies to offer tailored and punctual evaluation to students. Moreover, it aims at adjusting instructional methods and to offer tailored assistance on the basis of information produced by the digital technologies applied and at allowing students and parents to comprehend the information generated by digital technologies and to utilise it for reaching a decision.

Instructions

Providing students with feedback is an important part of the learning process. Feedback can help students understand their strengths and weaknesses, identify areas for improvement, and guide their future learning.

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Guidance for providing feedback to students 	 **Be Specific!** Feedback should be specific and targeted to the learning objectives and goals of the assignment or assessment. Use concrete examples to illustrate areas where the student has done well and where they need improvement.	 **Be Timely!** Timely feedback is crucial for students to understand their progress and improve their learning outcomes. Provide feedback as soon as possible after an assignment or assessment is completed, while the information is still fresh in the student's mind.
 **Be Balanced!** Feedback should be balanced, highlighting both strengths and areas for improvement. Emphasize the positive aspects of a student's work while also providing constructive criticism and suggestions for improvement.	 **Be Personalized!** Personalized feedback is more effective than generic feedback. Address the student by name, refer to specific aspects of their work, and provide feedback that is relevant to their individual learning needs.	 **Be Encouraging!** Encouragement can motivate students to continue to improve. Highlight the progress that the student has made, acknowledge their efforts, and provide encouragement for future growth.

Providing students with feedback using digital tools can be a convenient and effective way to communicate with students and improve their learning outcomes. Here are some ways that digital tools can be used to provide feedback to students:

Online Discussion Boards: Online discussion boards, such as those provided in Moodle, can be an effective way for instructors to provide feedback to students. Instructors can respond to student questions and comments in real-time, allowing for ongoing feedback and engagement.

Video and Audio Feedback: Instructors can use tools such as Screencastify or Loom to record personalized video feedback for students. These tools allow instructors to provide a more personal touch to feedback, allowing students to see and hear the instructor's feedback as if they were sitting in the same room.

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A Google Documents extension called Kaizena (https://www.kaizena.com) offers voice comments, lessons, and skills. Without leaving Google Documents, you can mark something as highlighted and add a voice comment. By tagging previously saved feedback, you can use the Lessons function to be even more effective. Also, Kaizena allows anyone who uses Google Docs as a collaboration tool to offer input. With Skills, teachers may keep tabs on their students' advancement.

Rubrics: Digital tools such as Rubistar allow instructors to create rubrics that can be shared with students. Rubrics provide clear expectations for assignments and assessments, and allow instructors to provide specific feedback on each area of the rubric.

Commenting Tools: Digital tools such as Turnitin or Google Docs allow instructors to provide comments and feedback directly on student assignments. This allows students to see their mistakes and learn from them while working on future assignments.

Peer Review: Instructors can use digital tools to facilitate peer review sessions, allowing students to provide feedback to each other. This not only provides additional feedback for students, but also promotes collaborative learning and critical thinking.

Tips. Quizlet

https://assets.quizlet.com/a/j/dist/app/i/brandmark/1024.0e9431247202b7b.png

Quizlet is a popular online learning platform that provides a range of tools to help students study and learn. Some of the key features of Quizlet include:

Flashcards: Quizlet allows users to create digital flashcards that can be used for studying and memorization. These flashcards can be customized with text, images, and audio, and can be shared with others.

Practice Tests: Quizlet provides a range of pre-made practice tests that cover a variety of subjects and topics. These tests are customizable, allowing users to select the specific topics they want to study.

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Games: Quizlet offers a range of interactive games that help students to review and practice their knowledge. These games include matching, multiple-choice, and fill-in-the-blank games.

Study Modes: Quizlet provides several study modes that allow students to customize their learning experience. These modes include the traditional flashcard mode, a learn mode that provides a more interactive study experience, and a test mode that simulates an actual test.

Collaborative Learning: Quizlet allows students to collaborate with their peers and work on study materials together. Students can share flashcards and practice tests with each other, and even work on group projects.

Repository

Resource name	**Resource type**	**Links**
Student Assessment & Feedback Tools	Website repository	https://cooltoolsforschool.net/student-assessment-tools/
Kaizena	Add-on for feedback	https://www.kaizena.com
Quizlet	Digital flashcards and study tool	https://quizlet.com/

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Assessment

Feedback and planning - statements	Yes	No
I don't know in which way digital technologies can assist me to give feedback to students or to change my instructional methods.		
I utilise digital technologies to keep track of the advances of my students. This also serves as a means to provide feedback and assist my learners.		
I utilise digital technologies to respond to tasks that have been submitted digitally.		
I assist learners and/or their parents to retrieve data related to the students' progress by means of utilising digital technologies.		
I adjust my instructional and evaluation strategies, resting on the information produced by the digital technologies I utilise.		
I give personalised feedback and provide diversified assistance to students, resting on the information produced by the digital technologies I utilise.		
I utilise digital technologies for students and learners to keep track of the advances and to make well-founded choices with regards to learning priorities, electives or future studies.		
I support students in finding fields for progress and work out study plans together with them to tackle those fields, resting on the information at hand.		
I utilise the information produced by digital technologies to analyse which instructional practices are suitable for which kind of students and adjust my instructional practices correspondingly.		
I analyse, talk about, revise and invent or update instructional practices in answer to the digital proof I detect, regarding the students' priorities and requirements and the efficiency of various instructional approaches and study forms.		

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Glossary

Formative assessment - work that a student carries out during a course for which they get feedback to improve their learning, whether it is marked or not.

Summary assessment - occurs at an endpoint, summarizing a student's achievements.

Video assessment is a form of assessment that involves using video as a means of evaluating student learning and progress. It typically involves having students create a video project that demonstrates their understanding of a particular concept or topic, which is then evaluated by their instructor. Video assessments can take many different forms, from short presentations to full-length documentaries.

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