Abstract

The MODERN Tool Kit project (www.modern.pm) aims to enhance digital integration in learning teaching and training for adult learners in VET and HE, with the end goal of contributing directly to the professional development of VET teachers and trainers, as well as HE teaching staff. This work contains detailed assessments of the 25 most promising mobile, online and digital resources suitable to be used in a teaching/learning environment, that were originally identified as part of research on MODERN’s IO1. The assessment includes a minimum of 2 tools per category, of the 10 main categories that have been identified.

Keywords: e-learning tools, assessment, VET, HE.
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1 INTRODUCTION

This Intellectual Output, which builds on the work of IO1, details the strengths and weaknesses of top 25 mobile and digital learning resources based on their potential for innovative pedagogic strategies; an online version with links to the “top 25” is also available.

2 METHODOLOGY

The 86 tools identified in MODERN’s IO1 – “Audit of Digital and Interactive learning resources for European Vocational Training and Higher Education” were split into 10 different categories, as follows:

- **Course Creation Tools/E-learning Authoring Tools.**
- **Course Management Tools/LMS Tools.**
- **Quizzing, polling and testing Tools/Online Assessment Tools.**
- **Collaboration and File Sharing Tools.**
- **Capture Tools – Screencasting and audio.**
- **Presentation Software/Animation Tools.**
- **Bookmarking and Curation tools.**
- **Video hosting services/Editing Tools.**
- **Blogging and Social Network Tools,**
- **Webinar/Meeting Tools.**

A description of each of these categories and the rationale for their inclusion is available in the IO1 report. Based on the outcome of the evaluations of IO1, we set on selecting the best tools for each defined category. This involved a round table session with the MODERN partners, in which different aspects were discussed.

The focus point was the pedagogic value of the tools and the likelihood of their application teachers, students or institutions. We analysed the strengths and weaknesses of the tools; key indicators contemplated involved popularity of tools, accessibility, price and, for those more intended to the professional market, what their potential could be in teaching environments. The points of view of teachers as well as students were analysed, taking into account especially those end groups at which MODERN is aimed for: VET and HE. Finally, a validation from UPV researchers was requested.
3 RESULTS: THE TOP 25

3.1 Course creation tools/E-learning Authoring Tools

Introduction
Software or online services that enable users to create courses, simulations, or other educational experiences. These tools typically support conventional, presentation-like courses, and may enable screen recording, multimedia, interactivity and non-linear or adaptive approaches.

Because this is arguably one of the most important and wide-ranging categories, our choice here includes four tools: WordPress, EdPuzzle, TEDed and GoConqr.
Pedagogical Assessment of:
Modern Tool Rating: 4.5
Website: www.wordpress.com

Usage
Originally best known as a blogging tool when it was first established, WordPress ranges from simple websites, to portals and enterprise websites, and even mobile applications; many of which include useful educational content.

WordPress combines simplicity for users and publishers with extensive programming options; making it flexible whilst still being easy-to-use. In our opinion and experience it is the ideal tool for online course creation.

WordPress is open source - that means it’s free and also has a very large community of developer and contributors working on it.

Below we have listed some of the features of WordPress but we feel it is particularly effective for course creation, primarily because it’s responsive which means that it automatically optimised how your course is displayed across different devices such as phones, tablets and laptops; a useful feature for the modern learner.
Usages

The following is a list of some of the features that come as standard with WordPress; however, there are thousands of plugins that extend what WordPress does, so the actual functionality is nearly limitless.

Here are some of the features that are very useful:

-Flexibility: With WordPress, you can create any type of online course be it: a personal blog or website, an online course, a full Learner management system, an online community, even a network of websites. This flexibility makes WordPress a highly useful educational tool as it can be catered to the course/learning requirements.

-User Management: Not everyone requires the same access to your website. Administrators manage the site, editors work with content, authors and contributors write that content, and subscribers have a profile that they can manage. This lets you have a variety of contributors to your course, and let others simply be part of the learning community; contributing to greater collaboration and sharing.

-Full Standards Compliance: Every piece of WordPress generated code is in full compliance with the standards set by the W3C. This means that your website will work in today’s browser, while maintaining forward compatibility with the next generation of browser.

-Easy Theme System: WordPress comes bundled with two default themes, but if they aren’t for you there’s a theme directory with thousands of themes for you to create a beautiful website.

-Extend with Plugins: WordPress comes packed full of features for every user including social networking, forums, calendars, fine-tune controls for search engine optimization, and forms.

-Multilingual: WordPress is available in more than 70 languages.

-Easy Installation and Upgrades: WordPress has always been easy to install and upgrade. If you’re happy using an FTP program, you can create a database, upload WordPress using FTP, and run the installer. Not familiar with FTP? Plenty of web hosts offer one-click WordPress installers that let you install WordPress with just one click!

-Freedom: WordPress is licensed under the GPL which was created to protect your freedoms. You are free to use WordPress in any way you choose: install it, use it, modify it, distribute it.

-Community: As the most popular open source CMS on the web, WordPress has a vibrant and supportive community. Community is at the heart of WordPress, making it what it is today.
Pedagogical Assessment

Due to its ease-of-use, WordPress allows educators and training professionals to quickly create valuable content. The simplicity and the variety of themes available in WordPress provides an opportunity create a visually engaging user-experience, while at the same time providing optimised delivery across all devices. This software caters to different learners, particularly visual and kinesthetic learners. However, the success of WordPress largely depends on the resources made available to students (content including videos, quality of material) and how the website is structured.

Example of how WordPress can be used depending on the nature of learning/aims:

- In order to track student’s progress through the course, add an LMS plug-in.

Advantages

- It is open source and free. People create themes and plugins for others to download.
- It has apps for IOS, Android and Windows Phone. Also, its website is responsive.
- Easy to set up and use.

Disadvantages

- There have been some security concerns so it’s important to install updates as they come available.
- Some technical knowledge is required.

Conclusion

If you want to create a visually engaging online course content which optimises across devices, Wordpress is the best tool available.
Usage

EdPuzzle enables students to learn through videos, voiceovers, audio notes and embedded questions and quizzes. Educators can take any video from YouTube, Khan Academy, Learn Zillion etc. and can adapt them to suit the educational content of a course.

Given the increasing importance of assessment in education, the quizzing feature of EdPuzzle provides teachers with the potential to create tests and assess pupils through digital technology (e.g. iPad); helping to reduce the time devoted to marking and tracking.
Ease of Access
It is provided as web service. Internet connection is required which makes it difficult to use without broadband connection due to video-based technology (e.g. LAN, Wifi). EdPuzzle is also free to use for both students and teachers.

Pedagogical Assessment
EdPuzzle allows both teachers and students to build video based courses, and to customise videos. This is a highly useful educational tool as it enables the educator to isolate the most important part of the video, insert audio comments to explain the topic or add quizzes for formative assessment to aid student understanding; allowing the educator to use their class time more efficiently. Although watching online video may only require lower level thinking skills, the use of task success criteria for class work/ or assessment in addition to the video can help to promote the development of higher thinking skills as students are required to evaluate the video to find key learning points or to use their knowledge to formulate an answer to an assessment question. As this tool encourages greater independence in learning, it also promotes the development of critical thinking skills; enabling the educator to become a facilitator and learning to become more student led.

Example of how to use this tool in the classroom:
E.g. Video on health and safety (different types of fires)
Students will be quizzed on what they need to do if a fire caused by _____ begins.

Reviews
“I like that it is simple to set up with very intuitive controls. This app enables me to assess student's learning when viewing digital instruction via videos I have made or found. My only complaint is I wish this could be integrated into my learning management system that we use (Canvas) instead of having to make my students keep track of one more login.” Ryan W. (Educator)

“I have used videos from YouTube and inserted questions (multiple choice and open-ended) as well as comments to draw students' attention to key points in the video. Using EdPuzzle, students watched on ipads (could be smart phones or computers, too) and worked at their own pace. The first video was filled with questions to prompt them to figure out a new concept (guided discovery). After the lesson, we discussed the concept as a whole class. The second video asked questions to encourage practice.” Rachel M (Educator) 3

www.graphite.org/website/edpuzzle-teacher-review/4077446#4077446
Advantages
- It is completely free and it offers unlimited space quoted for videos, classes and students.
- It is an easy-to-use tool which allows its users to add voice-overs, comments and quizzes to existing videos from public repositories (e.g. Youtube, TED) or local files.
- It has features that allow teachers to monitor the progress of their students.

Disadvantages
- The quality of the learning highly depends on the original video.
- All the videos created by teachers are public.

Conclusion
EdPuzzle is an easy-to-use tool allows teachers and students to customize, remix, and enhance online videos. Students get immediate feedback in the multiple-choice quizzes. Options for more types of formative assessment could expand the tool's capabilities.

www.graphite.org/website/edpuzzle-teacher-review/4033756
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.ed.ted.com

Usage
TED Ed is a website which offers a set of freely available talks that have the potential to supplement a wide variety of courses. Moreover, since there are many videos available, it is highly appropriate for flipped classroom. This is an accessible website for students as the speakers often focus on discussing aspects of a concept in a simplified manner with supporting examples. TED Ed is a highly useful tool for personal research and has fantastic learning potential; especially for visual, auditory and kinaesthetic learners.

Teachers can build TED-Ed lessons around a previously created video as long as it has been uploaded to YouTube and is listed as public.
Ease of Access
As TED Ed is an online application it needs Internet connection. Users do not need to login in order to watch TED-Ed lessons but it is required to save answers, participate in discussions or create new lessons around a YouTube videos. Therefore, it would be advisable to plan a lesson involving TED Ed in a computer room/using iPads. Log in with Facebook is also available so users do not need to create an account dedicated to TED Ed.

Pedagogical Assessment
TED Ed is a tool dedicated to support learning. Its videos are well produced with animations that will draw the attention of students, appealing to the different learning styles. Given the wide range of subjects, this website is particularly useful for research. Students also have the opportunity to start/contribute to discussion helping them to learn about different viewpoints, enabling them to become leaders in their own learning.

Example:
Students use TED Ed to research issues in business ethics.

Reviews
“I’ve used the videos to supplement lessons or to help students understand a confusing concept. TedED was engaging, concise, and it helped me answer their questions. I have yet to try any of their lesson plans that go with some of the videos” Josh W. (Educator)

Advantages
- Wide variety of videos on subjects, users can also create lessons around their own YouTube videos
- It provides students with a fun and engaging way to expand their knowledge.
- Its free and easy to use.

Disadvantages
- Students need to be at least 13 years old in order to create an account.
- May not appeal to certain age groups/types of learners as students may become bored listening to a talk.
- In order to create a lesson around a video, it need to be previously updated to YouTube as well as listed as public.

Conclusion
TED Ed is a great tool to expand the knowledge of students and explain them complex topics in an appealing and fun way. Given the accessible features and simple website design. In addition, teachers can use them to complement the topics covered in class and students can access to an extensive library of knowledge.

www.graphite.org/website/teded-teacher-review/4021791
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.goconqr.com

Usage
GoConqr is a personal learning environment that allows students & teachers to create, discover and share learning resources. Goconqr includes study tools to create Mind Maps, Flashcards, Notes and Quizzes. With GoConqr, you can also plan your studies and monitor your progress in real time, as well as connecting with friends and sharing knowledge.
Useful features for both teachers/students:

- **Create** - there is a suite of creation tools at your disposal; GoConqr gives the user full control over learning. You can create things such as engaging Mind Maps, Flashcards, Slides, Quizzes and more, and make study a more immersive experience. This is particularly useful for students when revising as they can collaborate and create resources which can be shared/personalised by class members (appeals to different learners).

- **Discover** - Go Conqr gives you access to find the content you’re looking for by browsing through our library of 4 million learning resources covering thousands of subject categories across multiple languages and exam levels.

- **Share** - Go Conqr offers sharing options that are fully interactive. Set up or join a community, invite your friends and get collaborating. You can either choose to share creations of your own, or those of other learners. As publicly published resources are free to use by everyone, you can copy, edit and share the best learning content out there.

**Ease of Access:**

They offer 3 packages as well as an app that is downloadable to androis and iOS devices. The three packages are:

1. The basic package, which allows you to create 3 subjects and a total of 20 resources.
2. The basic+, which allows you to create unlimited subjects and unlimited public resources by referring 3 friends to GoConqr.
3. With premium you have the ability to create private resources and go ad free for £9.99 per year

Overall the software is user friendly and very interactive. It allows for connections to be made all across the world through the sharing of educational ideas.

**Pedagogical Assessment**

GoConqr is a tool that allows students to build their own learning environment. Besides that, they can access to more than 3 million resources and share them. By doing so, they can create learning communities where knowledge is shared. In addition, it provides several tools that help its users to learn faster and monitor its progress.

**Example:**

Students should create an interactive mindmap on computer software and computer hardware for class presentation.

**Reviews:**

“I’m convinced GoConqr contributed greatly to our excellent examination which were our best ever - I couldn’t recommend it highly enough to other teachers.” David Bayne (Educator)

“A student gave myself and other educators a demo of the GoConqr platform - I like that students use it to connect ideas, study and create Quizzes.” Rafraz Davis (Educator)
Advantages

- It is a very powerful tool for both students and educators. It allows its users to create, discover and share content.
- It appeals to a variety of learners and is more engaging (due to interactive nature).
- It can be enjoyed for free and its premium version only costs around 13 euros per year.
- Could be used to establish networks between schools to share learning content.
- It is a web application so you only need an Internet connexion in order to use it. In addition, it has free applications for IOS, android and windows phone.
- It is available in 5 different languages (English, Spanish, Portuguese, Brazilian Portuguese, and German) but you can create your own resources in any language.

Disadvantages

- It is not possible to create resources using their mobile app. Accessing to the web is required in order to do it.

Conclusion

GoConqr is a tool used by more than 1.7 millions of students and teachers. It allows its users to become actively engaged in the learning process and makes the studying easier and more productive.
3.2 Course Management Tools

Introduction

A learning management system (LMS) is a software used for delivering, tracking and managing training and education. An LMS can for example track attendance, time on task, and student progress. Educators can post announcements, assignments, check on course activity, and participate in class discussions. Learners can submit their work, read and respond to discussion questions.

The choice of an LMS is typically done at institutional level, not by the teachers or students themselves; even so, they can use the assessment to favour one choice or another, and to find features they were unaware of.

We have selected two options: Blackboard and Moodle.
Usage

Blackboard Learn enables educators to design and manage blended and online courses, assign assessments and grades, and augment their systems using the so-called Blackboard Building Blocks.

Campuses can choose to host the learning management system themselves or have Blackboard host the system for them. Blackboard also offers a dedicated set of collaboration tools (Blackboard Collaborate), analytics for tracking student retention, enrolment, and engagement (Blackboard Analytics), a mass notification system (Blackboard Connect), a social media manager for K-12 institutions (Blackboard Sociability), as well as commercial content from major publishers.
Ease of Access

As with any learning management system, it must be set up by the administrators of the institution. Internet access is necessary in order to use it. In addition, windows operating systems should also be used as this software can support all of Blackboard’s features.

Pedagogical Assessment

Teachers can easily set up and manage many courses and track the progress of their students.

A useful feature of Blackboard is that it allows educators to organise contents, links and tools into their Modules for student viewing. This is beneficial, as students can access material from a variety of sources which helps to expand their understanding of a topic.

Blackboard also makes more accessible to students who can revisit content when they are studying for examinations or if they have missed class content for any reason. The learning content should promote greater independence in learning and can be used for in class assessment.

Reviews

“Blackboard’s interface is easy to use and fairly standard from institution to institution. For students, the layout couldn’t be more simple and to the point; and for instructors and administrators the customization tools help give class and department pages a personal touch without throwing students for a loop.

The mobile app also makes the Blackboard experience so much easier to interact with classes on the go and allow for students and professors to stay in touch without the need for laptops and the need to search for wifi while out and about.” - Christopher R.C. (Graduate assistant at Arkansas Tech University)
Advantages

- It is an established tool, providing many features and plug-ins.
- Very well-equipped, with more tools and services available via the Blackboard suite.
- Extensions (Blackboard Building Blocks) add additional functionality.
- Incorporates many partnerships (e.g. with scientific publishers).
- Standout interoperability with other systems (e.g. Student Information Systems).

Disadvantages

- User interface is unintuitive and old fashioned and makes things take long than what would be expected.
- Creating courses can require the user to be technically savvy.
- Although pricing depends on the institutional requirements, it can be expensive.

Conclusion

Blackboard is an established LMS tool that offers many features; modules can be easily built. Although the learning curve might be steep and many options remain obscure for the less tech-savvy, it is still the preferred option in many institutions.
Usage

Moodle is an open-source Learning Management System (LMS) that is compatible with other software and has a simple interface that make it easy to use. It aims to help educators, administrators and learners to create personalised learning environments. Its users can take advantage of a powerful set of tools to create an environment that enhance teaching and learning.
Ease of Access

As Moodle is web-based it can be accessed from anywhere as long as an Internet connection is available. Its users can also access its content using a mobile device.

Pedagogical Assessment

The use of activity logs enables educators to carry out a follow-up of student performance. Moreover, they can grade assignments and record scores with notes that students can view anytime. As feedback from teachers regarding strengths and areas for development is critical to student improvement, this is a useful feature of Moodle. This tool provides the teacher with the opportunity to communicate with the entire class at the same time or send messages to individuals for a more private conversation. This would be ideal if the teacher had assessed work and needed to speak to the pupil privately about an area of concern.

It also features forum discussions that can improve thought and participation between students.

Reviews

“I use this tool for both certificate training and as the main LMS for our online college level courses. Moodle is flexible and effective in hosting content, assessing students and providing a platform for discussion and other student to student, instructor to student, and instructor to instructor contact. The ecosystem of apps, addons and customizations is unmatched in online learning management systems. It’s the WordPress of the LMS world.” - Joseph Thibault (Director of Academics)

Advantages

- It has a large and diverse community that allows its users to get support and share ideas in their preferred language. Moreover, updated documentation and tutorials can be easily found.
- Since its maximum number of simultaneous users depends on the capacity limitations of the server used to deploy it, Moodle can handle large courses.
- It is highly customizable and has an overall acceptance of its graphical user interface (GUI).

Disadvantages

- Although it is provided freely, it requires people to build the system and maintain it.
- Since it offers many possibilities, it requires training and experience to be effective developing courses.

Conclusion

Overall, Moodle is an open source LMS which has become popular around the world. It provides a powerful set of tools that are beneficial for both educators and students.
3.3 Quizzing, polling and assessment tools

Introduction
Assessments are a vital part of determining learner achievement and engagement. Online assessment is used primarily to measure cognitive abilities, demonstrating the students levels of understanding of a topic or unit. Assessment Tools are useful as they provide learners with the opportunity to turn in homework online or to take an online quiz to review learning content. Regardless of their use, online quiz tools introduce an interactive dimension to learning which is critical to creating a connected classroom. Although there are a range of online assessment tools, we selected the following three based on their effectiveness and practicality in the modern classroom:

- No More Marking
- Digital Assess
- Kahoot
Pedagogical Assessment of: No More Marking

Modern Tool Rating: 4.5

Website: www.nomoremarking.com

Usage

No More Marking is a comparative judgement tool that produces an evaluation by consulting experts. These experts will evaluate the work and mark it independently. Once they have judged it, the tool will create a final metric by using their decisions.
Ease of Access

This tool is accessed through the website and the user login (which is required for use). As it is a web application, access to Internet is mandatory to use No More Marking.

No More Marking is relatively simple to use. However, the work must first be uploaded and then sent to online judges for assessment. When this has been completed, the application will automatically create the results generating for example a scale. These results can be downloaded from their website so the user will be able to use it offline.

Pedagogical Assessment

No More Marking is a useful tool that allows teachers to mark more accurately by receiving the help of professionals in the area; providing a further opportunity for collaboration and networking between educators.

Although students work needs to be firstly uploaded, this tool can help to reduce the time allocated to marking. No More Marking also ensures greater factuality and accuracy in marking (due to the creation of a scale); In addition, teachers will be able to prove that the rubric used to evaluate is fair (supported by other professionals), helping to avoid negative student opinion towards a marker.

Reviews

“We have found that experienced teachers can mark very accurately with NMM, as long as they actually professionally engage in the marking. We have had a few of the teachers simply click through the essays with median marking times of about a second or below. The great thing about the system is that these teachers can be identified and their marks removed. In some cases, these teachers were asked to remark the essays, and those who did, did so with good results. We also used FACETed scores from trained markers to work as anchor scripts and have been very pleased with the results. So far, my experience is that NMM is one of the most promising new technologies in Education to come out in many years.”

Paul Jaquith (Manager, Languages Development and Analysis, The Abu Dhabi Centre for Technical & Vocational Education & Training)

“As a headteacher (or any other leader) the ability to see so many pieces of work quickly is amazing... let alone making judgements and contributing to a process! Through doing CJ (comparative judgment) for our year 6 over what amounts to about an hour, not only do I have an idea about how they are performing, but I also know they have issues with tenses, capitalisation of proper nouns and over use of adjectives”.

Paul Lavis (Principal)

www.nomoremarking.com
Advantages

- The information is held securely as the media files are all stored in the Amazon S3 cloud (Ireland) and only accessed via ssl.
- It is supported by many browsers: Chrome, firefox, Opera and Internet explorer.
- It can help to measure things that are typically hard.
- It allows users to compare standards within a class.
- Being able to compare standards also provides the teacher with a further opportunity to explain/identify characteristics of an effective answer.

Disadvantages

- This e-learning tool requires an extra effort of putting all papers online.
- It is a new tool that hasn’t received much support in the education industry to date.
- During the judging, some errors can be introduced by judges unwillingly.

Conclusion

This tool helps to ensure greater accuracy and consistency in marking. Although subjective opinions influence a markers assessment of an answer, the way in which work is assessed using NoMoreMarking tends to be accurate as this involves consultation between professionals and a scale which is used as marking is completed.
Pedagogical Assessment of:
Modern Tool Rating: 4.5
Website: www.digitalassess.com

Usage
Digital Assess is an Adaptive Comparative Judgement tool, aiming to generate reliable results for educational assessment and is hence an alternative to traditional exam script marking. Judges are presented with pairs of student work and are then asked to choose which work is completed to a higher standard. A scaled distribution of student work can then be obtained without reference to criteria.
This software offers 5 different types of digital assessment (annotate, measure, collaborate and manage) that can help both the student and the educator. It is designed to let assessors gain a deeper understanding of learners’ capabilities and their level of understanding (low-high level thinking skills). Digital access enables the teacher to capture evidence of milestones using in-built digital features or learners’ own mobile devices. The resulting work is presented as a storyboard-style digital portfolio.

Digital Access provides learners with an opportunity to demonstrate every facet of newly acquired knowledge through project work, collaboration and evidence gathering. Educators and assessors can add marks and contextual comments to any file format, alongside proof of where the learner has met assessment criteria. They see a complete learning process, not just a snapshot at the end of term.

**Ease of Access**

Digital Assess is a multiplatform tool meant to be implanted at an institutional level, not by individual teachers or students. It has been adopted by many, mainly British, higher education and vocational training institutions.

Although there is a FAQ page, manuals or online technical support for this tool are not currently available.

**Pedagogical Assessment**

There are many uses for this tool in pedagogical activities. For instance, the ‘Annotate’ feature can be located as an integral part of a Moodle platform to support assessment for qualifications. Also, their Adaptive Comparative Judgement feature can be used to support research with the Curriculum and Standards Authority into the assessment of various performance-based qualifications. In addition, it can be used as an assessment tool to provide an efficient and easy to use way for evidencing practical skills and abilities; often an area of difficulty in VET or FE colleges.

**Reviews**

“Current approaches towards assessment remain poor at measuring and capturing vocational abilities, as well as a broader array of soft skills.... Companies like Digital Assess have put a lot of thought behind developing an approach to overcome this challenge. As a result, many organisations and institutions will now be able to benefit from a more efficient, practical and reliable way to assess the skills of the future.”- Professor Richard Kimbell. Assistant Principal of Learning and Development. Director of the Technology Education Research Unit at Goldsmiths College, University of London.

[www.digitalassess.com/distance-learning](http://www.digitalassess.com/distance-learning)
Advantages
- Offers five different types of assessments.
- Secured data storage.
- Provides a more reliable way to assess the skills.
- It can be integrated in some LMS such as Moodle

Disadvantages
- Assessments need to be carefully planned and specific to ensure they are effectively testing a learner’s understanding of a skill/topic.

Conclusion
Digital Access is a multi-platform tool that can be used widely by both students and assessors. Digital Assess provides a variety of tools that ensure a level playing field for the assessing the collective work of students as well as providing a platform for students the opportunity to self assess and review the work of other students demonstrating every facet of applied knowledge. This proves to be a useful tool that can increase the interest of the students and teachers.
Pedagogical Assessment of:
Modern Tool Rating: 4.5
Website: www.getakahoot.com

Usage
Kahoot! is a free game-based learning platform which can be adapted to a wide variety of subjects and languages. The main aim of Kahoot is to inject an interactive and fun dimension to learning to encourage student participation.

Using a simple creation tool, educators create and manage ‘Kahoots’. A Kahoot is a collection of questions on specific topics, created by teachers, students, business-people and social users. They can be one of three types: quiz, survey or discussion, which are related to the topics that are being taught; they involve either asking quick questions to get feedback or opinion, or more in depth questions for formative assessment. Content can be shared with learners, colleagues or fellow educators globally.
Ease of Access

Questions, along with answer choices, are projected onto a classroom screen while students submit responses using a personal (likely mobile) device. Playing a game of Kahoot! does not involve an account, just a game PIN from the main screen and a name. However, making quizzes involves entering user information.

Pedagogical Assessment

Kahoot!'s fresh format and fast access is appealing to many learners, and can be adapted to suit any course. The competitive features of Kahoot help to introduce an interactive and dynamic aspect to learning and assessment, helping students to become more engaged and self-directed in their own learning.

Data can be downloaded by teachers (or student creators) and viewed in Excel. With class, question, and individual information, the reports can provide helpful figures. The main drawback is in gathering and monitoring this data over time. As students don’t need accounts to connect, finding students' growth patterns or individual problem areas will be time-intensive for teachers. Nevertheless, this feature helps to keep students' data privacy in the hands of teachers.

However, this tool would be effective at the beginning or end of a class to review prior learning.

Reviews

“From gauging background knowledge to checking for understanding to test review, Kahoot has been a staple in my classes. However, in my classroom Kahoot has been most successful when the students create the questions themselves. Some students have also used Kahoot as part of a presentation to engage the audience.” Anabel G. (Educator)

Questions from the various articles and video clips were included. Students had easy access and found it engaging. It offers addressing many modalities of various students within the class.” Pamela E. (Technology coordinator) *9

www.graphite.org/website/kahoot-teacher-review/4110946
Advantages

- Different type of utilization is possible: quiz, survey or discussion
- Very easy access to the tool both for teacher and students
- The webpage has much helpful information how to start using the tool, how to manage the created account, how to create and share prepared kahoots, etc.
- Tutorials are available in many languages.
- Intuitive and easy to use interface.
- Different type of information can be used in questions: text, pictures, video.
- Possibility to create e.g. quiz, survey, discussion in many languages.
- The summary from quiz, survey, discussion is available and downloadable.
- The students ranking is made taking into account the correct answers and time of answer.
- Tool is available for free.
- There is an app for Android devices, iPhone and iPad. Additionally, you can access the tool via your browser (independent from the device you own).

Disadvantages

- Does not provide options for data permanence/ or have the ability to track student answers.
- Must have Internet to work.
- Students can be distracted by other quizzes.
- There is no way of monitoring the student out of the classroom.

Conclusion

Kahoot! is a tool which encourages student engagement and learning. Although it can be time consuming for teachers, surveys and online discussions can help students can participate in an anonymous way, increasing their interaction with their peers which helps to expand their understanding of a topic and learn about different viewpoints. This tool is highly rated by both teachers and students.
Collaborative software is application software designed to help people involved in a common task to achieve their goals. In more recent years, Cloud collaboration has emerged as a new way of sharing and co-authoring computer files through the use of cloud computing, whereby documents are uploaded to a central "cloud" for storage.

Our choice in this category includes Dropbox, probably the most popular tool for file sharing, and Slack, an ideal choice for messaging within a group while keeping track of the information included. We also award an “honorable mention” to Evernote, as a very useful note-taking and sharing application.
Usage
Dropbox has become an important tool for sharing files both publically and privately in the field of education. Dropbox is a multifaceted tool which can be used to store and sync documents and files across computers, tablets, and smart phones.

From an educational perspective, Dropbox has great potential as a learning tool as it allows materials to be shared, updated and accessed easily by students for further learning.
Dropbox is a freemium service. The free personal account includes 2GB of space. There are also paid personal plans, collectively named Dropbox Pro, which require a monthly or yearly payment, for various sizes of data storage. Business accounts are also available, with prices based on the number of users.

Ease of Access

Dropbox is a well-implemented, cloud-based, automatic, file-syncing service that has an excellent array of apps for various operating systems. You can easily install Dropbox on virtually any computer and mobile device you own to have instant access to all your files.

Pedagogical Assessment

Teachers interested in getting students set up with cloud-based storage should consider it as an option that can help organise their own work.

Students can create shared folders with documents for groups to work on collaboratively and can turn in projects or papers to an assigned folder. One feature allows the user to see deleted files, which can help mitigate accidental deletions or mistaken corrections. It also serves as a storage system for syllabi, notes to parents, assignments sheets, or rubrics for students, and files can be accessed at home, at school, on tablets, and on phones.

Reviews

“The interface may be challenging for learners, making it a less attractive option for cloud-based storage and file sharing. But once they get used to it, students will appreciate this organizational tool.”
Amanda Bindel (Educator)

Advantages

Users can access files from any device or computer and can easily share with others.

Disadvantages

May not be the best option for younger students. Simpler solutions exist for file storage and sharing, and many offer more free space than Dropbox.

Conclusion

Dropbox is a file-syncing and storage service that automatically syncs your files everywhere, so they’re available on any Internet-connected machine where you’ve installed Dropbox or that has a Web browser.
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.slack.com

Usage
Slack is a simple and dynamic messenger tool which offers integration with services students and teachers use every day such as drop box. By using specific filtering, the user can easily search/find information previously discussed. Slack also allows for private or one to one group communication regarding sensitive subjects that are specific for one user and it is accessible on the go via the app. As Slack acts like an instant messenger, this helps to ensure more efficient communication between educators and students.
Ease of Access

Setting up a Slack account is easy, involving the completion of a few simple steps before an account can be accessed. To use Slack, the user needs to fill the sign up form on Slack’s home page and follow the onscreen instructions as you go along.

Slack’s desktop app is available for Mac, Windows and Linux (beta version) and its mobile app for iOS, Android and Windows phone.

Pedagogical Assessment

Slack was designed to be a powerful communication tool to aid team collaboration. Its main use is to provide a platform for volumes of communication among large teams or classroom. As communication on this scale can become unmanageable and inefficient, this tool can be used to ensure that communications happen all in one place and can be segmented by creating Channels for various topics. Educators can assign users to as many (or as few) channels as they need in order to keep topics visible to the class members who want to see any individual topic.

Channels form the crux of Slack’s communication setup. They are simply information or message streams accessible to everyone on the team. Creating separate channels for individual projects ensures that the information related to each of them stays organized. Include a channel to note down ideas.

It’s easy to end up with too many channels because you have the freedom to create them. To keep the channels manageable, have just enough of them to separate your main projects.

Reviews

“Slack has a few unusual features that make it perfectly suited for work, including automatic archiving of all your interactions, a good search engine and the ability to work across just about every device you use. Because it is hosted online and is extremely customizable, Slack is also easy for corporate technology departments to set up and maintain.” - Farhad Manjoo (NY Times)

www.nytimes.com/2015/03/12
Advantages

- Excellent private backchannel. Great for nonessential communication and discussion.
- Wonderful, rich set of tools and options.
- Most discussions in Slack are also archive and madre searchable. As a result, over time, the chats build up into a corpus of deep historical knowledge.

Disadvantages

- No calendar, task-management, or other collaboration features.
- Requires thoughtful use to be effective.
- Students can be tempted to use it as a generic social tool.
- It does not support Boolean search: you can search messages using one term, but not several.
- It does not allow flagging messages from a specific user (e.g. the teacher).

Conclusion

Slack is a powerful communication tool to aid team collaboration. Educators can assign users to as many (or as few) channels as they need in order to keep topics visible to the class members who want to see any individual topic.
3.5 Capture Tools - Screencasting and Audio

Introduction

Screencasting allows users to share their screens directly from their browser and make the video available online so that other viewers can stream the video directly. The presenter thus has the ability to show their ideas and flow of thoughts rather than simply explain them as simple text content. In combination with audio and video, the educator can mimic the one-on-one experience of the classroom and deliver clear, complete instructions. Learners have an ability to pause and rewind, to review at their own pace, something a classroom cannot always offer. As every student learns in a different way, screencasting can be an effective method to implement as it appears to visual, auditory and kinesthetic learners. Furthermore, for the purposes of revision, screencasting is also beneficial as its ensures students have access to material which is explained by the teacher in a relevant and meaningful way.

We have selected two very popular choices: Camtasia and Screencast-o-matic, the former because it allows creating very professional-looking content and the latter because it is a very good approximation, albeit at a lower price.
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.camtasia.com

Usage
Camtasia is a software used for creating video tutorials and presentations either via screencast or via a direct recording of a MicroSoft PowerPoint presentation. It consists of two components. With the Camtasia Recorder component, the screen area can be chosen freely and then recorded. Audio or other multimedia recordings may be recorded at the same time or added separately from any other source and integrated in the Camtasia Studio editor component.
Ease of Access
In its Windows and Mac versions Camtasia is a powerful, multi-featured downloadable software with which you can capture, edit and publish video and audio of anything you can display on your computer screen.

Pedagogical Assessment
In comparison with Powerpoint, Camtasia enables the user to differentiate presentations; giving them a more professional and creative finish. For instance, if you want to overlay a music track, a video clip, and/or a video interview that supports the main presentation – explaining a concept or idea. From an educational perspective, this is more interactive as a learning tool than powerpoint

Reviews
The multi-track capability of Camtasia gives you the ability to layer video objects, images and audio clips over your main presentation, enabling presentations to become more engaging and interactive. From an educational perspective, this helps to appeal to different learners and also helps to reinforce learning (as the educator can use audio explanation and relevant material which can be viewed by the learner at any time). Learners can also benefit from using Camtasia which includes a wide range of tools which provide a more professional presentation of information which can be shared with other learners.

Advantages
- Allows many layers to be added on top of one another
- The learning curve is not steeper than that of other tools.
- It has more editing tools than any other similar software
- There are excellent online tutorials

Disadvantages
- Too expensive if you prefer using basic features.

Conclusion
Camtasia is the tool of choice for both educators and professionals, providing many features. However, as it is expensive, it would be worthwhile to discuss with other department members/professionals and to keep the learning style of students, the aims of the course (content) and what is the most effective form of delivery before purchasing.
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.screencast-o-matic.com

Usage
ScreenCast-O-matic is a form of video and audio screen capture software that can be used to create video from your screen (i.e. short lectures or course tours), that can be used online or downloaded and installed. There are both free and subscription versions of this program. The subscription service allows you to directly upload videos to Google Drive, Drop Box, and a few other spaces, though you can manually upload the files to the same spaces with the free version.

The paid version also allows you a wider range of tools to play with including the ability to record webcam footage of yourself to embed in the screen cast, which could be particularly useful for online courses especially if the student is a visual, auditory or kinaesthetic learner. This also helps to personalise online learning, as the student becomes familiar with the course creator and may feel more inclined to contact them if they encounter any areas of difficulty.
ScreenCast-O-matic offers a wide variety of features including: recording, screen & webcam recording, the ability to publish to YouTube, Google Drive, Vimeo and Dropbox, to save recordings as video files, to record Computer Audio (Windows Only), edit tools, script recordings, to draw and zoom on video recordings and to use the screenshot Tool.

Ease of Access

Screencast-O-Matic can be accessed online or downloaded to a computer. It is intended for multiple audiences (educators students, and the general public) and provides a user-friendly interface which allows an educator to record video and audio simultaneously. The website provides useful and simplistic tutorials regarding the use of the tools. The videos will integrate with any learning management system as easily as any other video and the user has the option of uploading a Youtube video or to upload the video directly.

Pedagogical Assessment

Using Screencast-O-Matic students is highly beneficial as it appeals to students with different learning styles (audio, visual, kinaesthetic). From an educational perspective, it provides greater accessibility to learning material as this has been adapted by the course creator to meet the learning needs of the students. This tool can also be used to create a flipped classroom experience for students, which encourages them to develop critical thinking and independent learning skills. If a student experiences difficulty understanding a concept, they can easily access the video (which will help to reinforce learning); encouraging students to take greater responsibility for their learning. This product can also help absent students to catch up on important learning.

www.graphite.org/website/screencast-o-matic-teacher-

Reviews

“Once you use Screencast-O-Matic (SOM), you can see an improvement in student understanding. Screencast-O-Matic is simple to use, to download to a computer and record. SOM will simultaneously video tape whatever is on the desktop of the computer you are using while audio taping too. You have the ability to save and embed without uploading to YouTube. This product is very useful for the absent student or flipping your class.

I’ve given directions to students during class and posted the video on the LMS and asked students to review the "uploaded" video assignment before coming to class. I also use this product to record assignments for rotations in my classroom. I’ve never had a student ask me to repeat the directions and because I save the videos, I can email videos to students who have been absent or to parents who do not understand an assignment. This tool works incredibly well with those large projects - students’ can’t lose the video and serves as a great reminder as well. I have also used SOM as an overview of the work expectations to be used with a substitute in class.” Shari M. (Educator)
Advantages

- The tool is available online; also, users can download an app and install on their computers.
- It is pretty simple to use.
- Video tutorials are available.
- It has free basic version.
- The application allows taking up to 15 minutes of recording time, which can be uploaded to YouTube.
- Users can record the full screen or a selected portion of it.

Disadvantages

- The free version does not record system audio.
- The free version includes a watermark.
- Simplicity comes at a price: lack of control and customizability.
- Full-screen recording is awkward to accomplish. You must DRAG the recording edges over your screen, but if you drag it out to your desktop's edges, the software's control panel becomes hidden even with the control panel at top option selected.
- Free version has a limit of only 15-seconds max time of recording.

Conclusion

Screencast-O-Matic is an incredible tool for teachers - you are really able to differentiate. It serves teachers better as they are able to see and listen to their own lesson, therefore critiquing for clarity and quality. For students, it serves as way to keep up on missing assignments and it also ensures they both see and hear what is being communicated.
3.6 Presentation and Animation Tools

Introduction

Presentation software is used to display information in the form of a slide show. It has three major functions: an editor that allows text to be inserted and formatted, a method for inserting and manipulating graphic images, and a slide-show system to display the content. Animation tools on the other hand, are great platforms for presenting your idea, with a huge variety of pre-made themes, props and characters tailored for making professional presentations.

In this category we have selected Piktochart, ThingLink and Explain Everything.
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.piktochart.com

Usage

Piktochart is an online tool for creating infographics. Combining charts, graphs, text, and graphics. Users can easily assemble and present information using the drag-and-drop interface.

Users choose a template, or theme, and then fill it with their own information. Being able to use Piktochart's bank of icons, images, fonts, and other design tools, enables learning to become more interactive and engaging. Once completed, each template can be saved for future editing, and the finished product can be exported as a PNG, JPEG, or PDF file.
Ease of Access

Piktochart is very easy to access. Unpaid users can work on up to five themes at a time. The education pricing for an individual is 35.33 euros for 12 months or 110 euros for 30 accounts for 4 months, the paid accounts offer a larger range of features and templates. Although it may initially require some time to learn about the software, Piktochart is fairly simple to apply when the user is familiar with the features.

Pedagogical Assessment

Piktochart introduces a method to teaching that is engaging and useful for condensing data. In terms of teaching it offers a visually aesthetic method of delivering large chunks of knowledge in a condensed manner. Piktochart appeals to the visual learner in particular, and helps to minimise student distraction as information is not presented in a text-heavy format.

When students are engaged in using Piktochart, they need to apply their thinking skills to communicate their understanding of a topic in a simplified manner. Piktochart also promotes the development of presentation skills as they need to decide how to display information in a visually appealing way which promotes student engagement.

Reviews

“Piktochart is very user friendly and having access through Google makes it easy for students to get to the website. Students can use the Piktochart tools, graphics, borders, or they can upload or drag and drop images into their infographic from outside sources. They are able to embed videos, maps, and charts to make their infographic more interactive. It might be a good idea to have students familiarise themselves with different tools available before having them create a project.” Franzi K. (Educator)

“After looking at many infographic creating websites Piktochart was the winner. This is an easy to use website that guides you step by step on how to create an infographic. This is a great teaching tool and offers an alternative to creating a slide show. It is important for students to show what they know and this is an awesome tool. The free version works well for students and has enough features that students did not feel limited. One feature that was helpful was that you could sign in with your Google account so students did not have to create an account in Piktochart. There is a bit of a learning curve on how to add images and move things around on the infographic so some practice is necessary, although students picked up the features very quickly. Some students will need initial support in order to get started, but with some practice all students were able to complete an infographic. You are able to drag or upload files to the site which helped students to add content. Due to the learning curve I would do a practice run first before creating a final product.” Linda W. (Technology coordinator)
Advantages

- Easy to use.
- Has Capabilities to create more than one type of document.
- Offers a free version with free templates that have a wide range of tools.
- The finished documents can be exported to images on computer or can be saved and accessed via log in to Piktochart.
- Does not require installation onto a device making setting up this tool very easy.

Disadvantages

- Requires internet in order to work.
- If connection to internet is low or poor this tool proves problematic to use.
- In order to avail of full features of this tool it requires purchasing.
- For users who are less tech savvy this tool can be prove to be time consuming and frustrating to use.

Conclusion

Overall this tool provides a platform to create documents to present in class or pass out to students that are unique and interesting. The tool can be used by both students and educators and will help develop an array of skills such as strategic thinking, presentation skills as well as communication skills. It is a very useful and widely liked tool for both recreational and educational use and is a very reliable way to introduce diversity into daily classroom activities.

www.graphite.org/website/piktochart-teacher-review/3951026#3951026
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.thinglink.com

Usage
ThingLink can be utilized as an educational tool for the features it offers in content creation and information presentation. ThingLink falls into a similar category as Glogster and Prezi, which offer users an alternative to traditional assignment and presentation formats. These types of tools utilize the collaboration of a wide number of online media services to create something new. This type of service provides students with a range of possibilities to express themselves beyond single traditional methods and allows educators to dynamically engage users with a unique way of presenting information.
Ease of Access

The service is cloud based so there is no need to download and install software with files being on a specific computer. Being cloud based, ThingLink allows users to access the service through multiple devices using several operating systems. Products are stored on the ThingLink site so users do not necessarily need a website to publish but there are several features to socially share a link to the creation, leave a comment, follow the user or embed it on another site.

Thinglink offers tiered services to business and education consumers:

- **Free Plan** – store and tag up to 50 images, add 1 ThingLink app, access online customer service, minimal branding and no stats. Educators can request increased storage and tagging amount to 500 images by email.
- **Edu Premium** – 30euro a year which gives access to up to 30 class groups, advance imaging and video, premium icon libraries and the option to embed slideshow on websites/blogs plus many more features.

Pedagogical Assessment

ThingLink is a very interactive tool. It has a very wide array of features that can be utilised by both the educator and the student that will really focus in on their presentation and design skills. Students can design their digital self (create an autobiography), answer questions with rich media and create interactive presentations, mind maps and data. In addition, teachers are able to create interactive reports. It can be used for many more activities as well and provides a wonderful platform for students to be creative.

This tool offers important pedagogical elements as it allows students to work on skills such as their communication, research and presentation skills. These skills can be developed through the use of ThingLink as students need to able to determine what they are trying to communicate to their audience through this medium they produce. Furthering this they need to ensure that the information that they relay is relevant and this requires indebt research into what they are using this tool to communicating also if they are not familiar with the tool they will need to use their own abilities to research and learn how to use the tool. Finally they need to encompass all the research they are trying to communicate into a presentational form that is appropriate and interesting. Furthermore ThingLink gives educators a way of assessing how their students skills have developed and how they have understood a topic by looking at the media they create using ThingLink hence helping them to guide students in areas they are experiencing weaknesses.

Reviews

“The thing that I liked the most about Thinglink is that you can share the final product via url or html and post it almost anywhere. I like how easy it was for learners to use. It helped reinforce everything that they learned for later application”. Robert C. (Technology Coordinator)
“Thinglink has made great strides (both as an app, and as a website) to meet the needs of educators. This app provides students with a quick and easy way to tag and make two-dimensional, non-interactive photos more interactive. By tagging images, students can demonstrate understanding, provide links/URLs to supplemental videos or websites and truly create depth to what might otherwise be basic content. Although the app is useful, I really like the online Thinglink tool better. The app and website DO interact and talk to one another so work created on the iPad will show on your online Thinglink account, but the online web-based tool allows teachers to create .edu accounts and build classes of students with their own log-ins.” Mary H. (Classroom teacher)

Advantages

- This tool offers a new way to make education more interactive
- It is an innovation tool that offers both the students and educators a platform to present information that is unique and forward thinking
- It offers a free version that has ample features for use in education

Disadvantages

- ThingLink can be frustrating to use if you have no experience in using features such as tagging or embedding links.
- Given that ThingLink products can only be displayed on its website or embedded elsewhere, privacy and Internet safety issues should be brought to student’s attention.
- Also when using this tool students also need to be made weary of copyright and how to avoid infringing on copyright issues.

Conclusion

Overall this tool is an excellent tool to introduce creativity into teaching plans and assignments. It is well equipped for educational usages and along with practice it can be an innovative way to engage with students.

www.graphite.org/website/thinglink-teacher-review/4050526
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.explaineverything.com

Usage
Explain Everything is an app which allows both teachers and students to create presentations and educational videos integrating handwriting. Starting from a whiteboard or from an existing document, its users can add annotations, images, videos, etc. recording the screen and the audio at the same time. The final output can be a video, a PDF file or an image.
Here are some of the many uses of this tool in classrooms:

1. Teachers can use it to explain maths concepts to students in an effective way.
2. It can be used in order to highlight anatomical for physio students or access issues for Occupational Therapy students.
3. Students can provide collaborative feedback on each other’s work.
4. Educators can use it in order to create a multimedia lecture.

**Ease of Access**

Explain Everything is an app available to download it from Microsoft, Chrome Web Store, Google Play and the Apple Store. It is perfect for tech savvy teachers who want new ways of engaging their classes and providing alternative methods of interaction for students.

**Pedagogical Assessment**

With Explain Everything, students can actively learn about digital creation using images, text, videos and audios. Moreover, they can learn to present both individually and group projects. By doing so, they will improve their communication skills.

Teachers can also take advantage of this tool by using it to explain complex topics in an appealing and fun way thereby improving students’ engagement.

**Reviews**

“Compared to other digital whiteboard apps available, Explain Everything allows for more options overall, making it the only digital whiteboard app a student or classroom would need. The Explain Everything developers consider the app an 'interactive screen casting whiteboard app', which highlights the additional capabilities it has over other digital whiteboard apps.” Melissa H. (Classroom teacher)

[www.graphite.org/app/explain-everything-teacher-review/4097121](www.graphite.org/app/explain-everything-teacher-review/4097121)
Advantages
- Students can import multimedia content to their presentation from multiples sources.
- Because of the detailed tutorials, in-app prompts and a really useful help section, students will be capable to learn to use it with no problem.
- There are several pricing plans, including a free account with no cost.

Disadvantages
- Some students can struggle with all the options available on the tool.
- Students need to know what makes good a presentation in order to take full advantage of the tool.

Conclusion
It is a great tool for creating multimedia content as tutorials, presentations and more. It is quite easy to set up and both teachers and students can use it in order to improve the learning experience.
3.7 Bookmark and Curation Tools

Introduction

Bookmarking tools are an emerging educational technology that has been drawing more of educators’ attention over the last several years. This technology offers knowledge sharing solutions and a social platform for interactions and discussions. These tools enable users to collaboratively underline, highlight, and annotate an electronic text, in addition to providing a mechanism to write additional comments on the margins of the electronic document.
Usage

Diigo is a social bookmarking website that allows signed-up users to bookmark and tag Web pages. Additionally, it allows users to highlight any part of a webpage and attach sticky notes to specific highlights or to a whole page. These annotations can be kept private, shared with a group within Diigo, or be forwarded to someone else via a special link.
Diigo can very effectively be used to help students learn how to manage online content using the various Diigo features. They can search for, bookmark, organize, annotate, collaborate, and share resources they find online. They can also learn about numerous subjects by conducting searches with Google or other users' libraries. It can also help students share annotated articles they have found which will be very useful in a group or team setting for projects. The sharing aspect may also be of particular interest to educators, who can use the site as a classroom tool by signing up for a Diigo educator account. Teachers can create student accounts and set up a Diigo group for classmates to access group bookmarks and forums. The functionality lets educators highlight key text and images, gather pages into thematic groups, and encourage online conversations about the materials. In addition, collaborative groups allow students to gather and annotate their own resources, strengthening their research skills. Teachers can use their educator account to create assignments that will boost students’ reading skills and encourage teamwork and collaborative discussions.

**Ease of Access**

Diigo is a very easy tool to use and access. It can be added to chrome to allow for users to easily bookmark the relevant articles and also it can be logged into from any computer using the individual log in details. The feature allowing for groups to be set up is very convenient as it makes sharing articles and lists of articles very time efficient and effective.

**Pedagogical Assessment**

Taking into consideration the features of Diigo, it is evident that it offers a good foundation for students to develop their analytical and research skills, as students will need to learn to condense the information that they add to their Diigo account. Furthermore, it will also provide an opportunity for pupils to develop skills such as collaboration as they may be accessing the Diigo account as a group for a shared task. From an educators point of view, it is a useful platform to develop organisational skills, as it is easy to organise material bookmarked to Diigo in a logical and manageable form.

**Reviews**

“Diigo is the ultimate classroom research tool for project based learning. It provides classroom teachers with a safe way for students to collect and collaborate information. It provides tools such as web highlighting, screen shots, tagging, and more. Diggo offers a school account or an individual educator account. Educators can create a free account and enroll their students without an email. Teachers also have full control of student accounts, which allows them to collaborate safely.” Mitzi V. (Developer)

www.graphite.org/website/diigo-teacher-review/3889433#3889433
Advantages

- Diigo is a powerful tool for organisation when completing online research. It ensures that all websites, articles and feeds that are relevant to you are kept in a succinct manner making all types of online research very manageable.
- Diigo offers a very useful add on to Google Chrome that means allows you to access it while you browse any article.
- There is also an app which when downloaded allows you to scroll the internet from your phone and add any articles to your reading list while you are on the go.

Disadvantages

- Diigo only offers add on features for Google Chrome and Firefox. In order to highlight and save articles on iExplorer you have to manually copy and paste the URL into your Diigo account.
- You have to download the app in order to use Diigo on a mobile device. (it can be used in Safari if you log onto Diigo account on one tab and then when searching manually copy and paste in the articles that you want to save) The app does not give you access to the articles when you are offline.
- The free version is quite limited in the features that you can use and if you have multiple groups then it might not be the most useful tool to use.

Conclusion

Diigo is a very effective tool that can really aid student’s research and collaboration tasks. It offers a lot of great features on the free version that are ample for student use. Overall it is an innovative tool that will help students complete their research in a more efficient and effective way.
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.pinterest.com

Usage
Pinterest is a thematic social networking service available as a free website or downloadable as a dedicated app for Android and iOS systems. It is the visual bookmarking tool that helps you discover and save creative ideas. Users can upload, save, sort, and manage images and other media content through collections known as pinboards. It is possible to browse the content of others in their feed.
Pinterest is an online tool that has quickly become a favourite among educators. Using online “pinboards” teachers can save everything from photos to blog posts in one easily accessible and usable place. Pinterest can be used to do research boards for different classroom research topics/assignments where they can pin relevant articles, images and videos. Historical figures presentation as an online poster with pins to online content and images relating to a famous historical figure; then present them in class. Online bibliography of all of their online references and add as a link to websites, presentations, or blogs in lieu of a formal works cited. Group collaboration create a board that multiple users can post on and then use it for group collaboration or team projects. Class board where students can post interesting articles, images, and videos they find at home relating to class work. Decades boards that visually reflect the important people, trends and culture of that time periods. Project signup boards for projects by posting a pin of an image with their name as the caption.

Ease of Access

Pinterest is a relatively straightforward tool to use. It requires the student or the teacher to set a free account and then selectively set up a board by pinning images from their research to that corresponding board. As well as this Pinterest offers students and educators the platform to upload their work and share it in order to collaborate with others and dynamically create ideas as well as this the images can be linked to relevant websites that will provide more information on certain areas being researched. Furthermore Pinterest has a free app that can be downloaded onto any mobile device that can be used on the go.

Pedagogical Assessment

Pinterest is an important tool for educators as it gives them the ability to direct students to information that will likely inspire and influence their work. Pinterest is a very interactive and engaging tool that students will find easy to navigate through. Pinterest, as an educational tool, can help students to improve research and organisational skills. These skills will be developed, as students will have to be able to think logically about what they want to research and what is the best way to condense that information.

Reviews

“This tool is great to use for teachers who are looking for ideas to use in the classroom. Teachers can create different boards such as Math, Reading, Educational Videos, etc and save links to these boards that are accompanied with pictures. Students can do the same for research and group projects as boards can be shared with others users” Julia B. (Educator)

www.graphite.org/app/pinterest-teacher-review/4014916
Advantages

- Pinterest is an important tool because of the wide variety of users and the search features that it offers. The scope of research that is offered from the one platform is impressive.
- It is a free tool and signing up to it is very easy.
- It has an app that can be downloaded and used on the go.
- It allows for the uploading of work, it becomes a valuable sharing base for ideas and themes.

Disadvantages

- Students can become easily distracted from their work and view content which is unrelated.

Conclusion

Pinterest has almost replaced magazines because it has all the components of a magazine but without all those ads. This tool can improve the imagination and learning capacities of the students.
3.8 Video hosting and editing tools

Introduction
Video hosting services are websites or software which allow users to distribute their video clips. Web based video editing sites generally offer the user some form of editing application. Some of these applications simply allow the user to crop a video into a smaller clip. Other services have invested much time and effort into replicating the same functionality that has previously only been available via Windows Movie Maker, iMovie and other client-side applications that run outside of a web page. Some of these websites may additionally offer downloadable editors, however this is not a desktop- but a web-based video editor list.

The tools selected are YouTube and Blender.
Pedagogical Assessment of:
Modern Tool Rating: 4.5
Website: www.youtube.com

Usage
A key learning resource and a place for anyone to share their own video content. YouTube is filled with fantastic video footage on practically every imaginable topic. Videos are a fantastic way of enhancing lessons as meaningful footage, graphics and sound effects can evoke even more interest in the subject.
You Tube clips can be used to promote classroom discussions, this is a robust approach to teaching which allows students to create, edit and upload and discuss their own videos is an even more powerful application of teaching.

**Ease of Access**

YouTube is an ad-funded video-hosting service and is free to use. However, in the U.S, it is currently trialling YouTube Red, a paid membership that gives you Ad-free videos, options to save videos and playlists for offline use and free Google Play Music subscription.

Anyone with a digital camera or video camera and internet connection can create, upload and share their own videos on YouTube, to use this as an educational tool can be a challenge and a thrill for students.

**Pedagogical Assessment**

There are many benefits to using video in education. For example facilitating thinking and problem solving in relation to a scenario identified or an issue discussed. Video use also enables students to acquire a range of transferable skills in addition to filmmaking itself. Moreover, it can help assisting with mastery learning, increasing student’s motivation and enhancing the learning experience.

Google has made available a special version of YouTube called YouTube For Schools, which allows students to access thousands of free high quality educational videos on YouTube in a controlled environment from YouTube EDU. These videos come from well-known organizations like Stanford, PBS and TED as well as from up-and-coming YouTube partners. It is teachers friendly as they can find in YouTube.com/Teachers hundreds of playlists of videos that align with common educational standards. These playlists were created by teachers for teachers so you can spend more time teaching and less time searching.

**Reviews**

“YouTube is an effective learning tool for sharing, searching and creating. Given the wide range of topics covered, it has great learning potential for students of any age. However, one drawback of YouTube is that video content on certain subjects is not always completely relevant. Therefore, it can sometimes be more beneficial to use YouTube alongside other tools and materials to create learning material which is focused and which ties in with learning outcomes”.

— G. Kelly (Educator)
Advantages
- Learners are likely to be familiarized with it.
- Educators post their own educational content or use YouTube to search for relevant material.
- It is available in several different languages.
- Students can expand their knowledge by accessing to a lot of videos.
- It offers a free application for IOS, android and windows phone.

Disadvantages
- Students can become distracted.
- Videos are public, so anyone can see the videos you post.
- There could be copyright infringement issues.

Conclusion
While YouTube can be a useful educational tool in the classroom, it is also full of videos that may always contain relevant material. For this reason, YouTube may be most effective when used in conjunction with a video editing tool as the educator can select the most important parts of a video for learning.
Pedagogical Assessment of: Blender
Modern Tool Rating: 4
Website: www.blender.org

Usage
Blender is an open-source suite for 3D modeling, animation, rendering, post-production, interactive creation and playback. It is available for all major operating systems under the GNU General Public License. Its animations systems support a variety of techniques and tasks, allowing the creation of complex animations.
Ease of Access:
Blender enables the user to create professional-grade animations and 3D models through a well-laid out interface equipped with a variety of tools. Whether you’re experienced in digital animation or want to develop your skills, you’ll find what you need in this comprehensive program.

Pedagogical Assessment:
Blender is an excellent tool for use in the Science-related classes; it allows the students understand physical and mathematical concepts easily, by simulation and modelling. As every student learns differently, being able to present a model of a proposed idea or to show students how a model is constructed is highly beneficial as it introduces a real-life example which can be referenced to during learning.

Reviews
“I use Blender to demonstrate a variety of technology concepts such as programming, design, 3D modeling, cartesian math, animation, rendering and graphic art. For instance, using Blender enables my students to visualize a three-axis Cartesian environment, then plan and translate the precise locations of objects into three numerical values. They use a trial-and-error approach and are able to visually see the impact of their mistakes. Through the process, students are not only being creative, they are learning important concepts associated with 3D art and 3D animation.”- Mark Gilliland (Educator)

Advantages
- Variety of features: There are options for 3D Unwrapping, Shading, Physics and Particles, Real Time 3D/Game Creation, and much more. Tools are also included for 2D and 3D procedural brushes, Edge Rendering, Collision Simulation, and Edge Rendering. And when you need to import something, you’ll find that many 2D and 3D file formats are supported.
- User friendly interface: This app condenses many features into a streamlined interface. Many frequently-used tools are included in the main screen, although they still leave plenty of room for the large viewing window. Other useful tools are quickly accessible via drop-down menus from the top of the screen. There are also several extensive and complete Help options available.
- Open source: A good alternative to commercial tools with expensive license fees.
Disadvantages

- Takes time: Even users experienced in using this type of program won't be able to jump right in and start getting results immediately. It takes a substantial time investment to really learn how to use all of the features and get the most out of the app. But if you do put in the time, you can get plenty back in return in terms of the value and convenience the program provides.

Conclusion

Blender is excellent 3D modeling and animation software. It provides a wide range of tools, and its interface makes completing all tasks convenient and efficient. Whilst you may need to take the time to work through some of the supporting documentation to learn how to use the program, it has many worthwhile educational benefits.
3.9 Blogging and social network tools

Introduction

Group webpages, blogs, wikis, and Twitter allow learners and educators to post thoughts, ideas, and comments on a website in an interactive learning environment. Social networking sites are virtual communities for people interested in a particular subject to communicate by voice, chat, instant message, video conference, or blogs. Social networking encourages collaboration and engagement and can be a motivational tool for self-efficacy amongst learners.

Our selection includes Facebook and Blogger.
Pedagogical Assessment of:
Modern Tool Rating: 4.5
Website: www.facebook.com

Usage
Facebook is one of the most popular social networks. Although it was not created for educational purposes, it has great potential to improve the learning experience of students. Instructors can share course resources, fire up discussions, promote collaborations, improve relationships between students, incorporate an array of learning tools (such as videos, images, boards, chatting and private messaging), and use it in conjunction with other social media platforms, like Twitter.
These are some examples that can be applied by instructors in order to take advantage of Facebook:

1. Create closed groups. Participants will enter only by invitation and no one else will be able to see the contents, discussions, posts etc. inside the group. It’s a great and safe way to interact and bond.

2. Create polls to receive feedback about a course or a program they are thinking of implementing, to request the opinion of their audience on a specific topic, or even to generate statistics.

3. Create questionnaires to comprehend the likes, dislikes and interests of their current or future students and build the course around them.

4. Upload course contents, material and resources in their account or the closed group they created. Everything will be available 24/7, if students make a mistake they can correct and re-upload. Educators can get immediate feedback and safe receipt confirmation, their material can be remotely accessed no matter where their students are, and classroom time will effectively be minimized.

5. Use all available learning and communication multimedia tools Facebook offers. There can be videos, presentations, images, pictures, discussion groups, chats, private messaging, sharing, liking, highlighting and promoting. In short, a user-friendly interface that everyone will enjoy exploring.

6. Tell their students to connect their smartphone to Facebook, so they can receive instant notifications about all new messages and activities related to the course. Facebook’s notification system allows everyone to keep track of anything new that happens; new groups, requests, discussions, comments, tagging, material, links etc.

Create Facebook applications and try to generate an exciting canvas for developers to add new functionalities. A fun, interactive Facebook app will definitely get people involved in no time.

8. Urge their students to introduce themselves, connect and collaborate. Instructors can also create group assignments to further promote collaboration and improve relationships between students and them. It’s true that hierarchy might be lost in the beginning, but it can always be restored, by setting the right tone, mood and style to the groups, discussions and applications. Fun is good, but let’s not forget the initial goal here, learning.

Ease of Access:

Facebook is ranked as the number one app for both users and engagement. It shows a habitual use rate of 48% of total time spent in apps. In order to use it, educators and students need to create an account (students need to be at least 13 years old).

It runs on browsers and there are various apps available for mobile devices such as iPhone, iPad, Android devices and Windows Phone. All this makes accessing to its content really easy no matter where its users are.
**Pedagogical Assessment**

Facebook is a social media with potential in learning environments. It can be useful to improve both collaboration between students and learning engagement. Among the many benefits of using Facebook in education we find:

- Improved collaboration between students.
- Chance to ask questions and help other students to solve their own doubts.
- The learning experience becomes more active.
- Chance to use multimedia resources to expand the knowledge.
- Teachers can keep track of student participation in group projects.

Although Facebook appeals to students (due to their prior familiarity with social media), it is important that students/teachers have a comprehensive understanding of what is acceptable and appropriate if Facebook is implemented as a learning and sharing tool.

**Reviews**

“Some educators find Facebook daunting and potentially perilous, but the advantages are well worth it, especially once you master all the settings Facebook has to offer. Now, is it like being in the classroom? No, it’s not like being in the classroom, but it’s purposeful, interactive, and enjoyable, and exactly what strictly discussion-board online courses were missing. Facebook makes for an optimal virtual classroom.” – Danielle Geary (Educator).

[www.teachercast.net/2016/03/01/facebook-in-the-classroom/](http://www.teachercast.net/2016/03/01/facebook-in-the-classroom/)

**Advantages**

- Most students are already familiar with it. Moreover, it is one of the easiest social media tools to use.
- It can help students to express their ideas and concerns. It enhances learner engagement.
- It allows teachers to share documentation easily to all their students.
- It is available in over 100 languages.
- It is completely free.

**Disadvantages**

- Students need to be at least 13 years old.
- Students can lose their focus and get distracted watching content unrelated to the class.
- Some students could post inappropriate content

**Conclusions**

Facebook offers a great chance to bring the “real world” into the classroom. Since it helps to enhance the learning experience and it has so much potential, many teachers are integrating Facebook in learning environments.
Usage

Blogger is a tool from Google that allows its users to create blogs. It is completely free and includes hosting and analytics. Displaying ads is allowed and, in that case, its users share in the profits.

Created blogs can be used for a variety of purposes; from discussing your point of view on some topic to updating your friends and family. When setting a new blog there are several options: using a default URL, using an existing domain or buying a new domain.
Ease of Access

As Blogger is a web-based application (it can be found at www.blogger.com), accessing to its content is possible as long as an Internet connection is available. In order to use Blogger it is necessary to have a Google account. However, another option available is to create a “limited profile” which lets users blog anonymously. It is an easy-to-use tool. In fact, it is possible to have a new blog created in less than 10 minutes.

Pedagogical Assessment

Blogger can be used for several purposes in learning environments. It allows students to share their ideas and points of view. Not only does this contribute to the development of a more sophisticated and professional style of writing, but content found on other blogs can also help to expand a students learning horizons.

Since group blogs are allowed and can be edited by several contributors, Blogger can be used to run a collaborative project. As communication, teamwork, shared problem solving and research skills are important for tertiary level education and the modern workplace, this tool is useful where these skill areas are concerned.

On the other hand, educators can take advantage of this tool since it is a great way to post information related to their subjects. Moreover, parents can keep track of the activities that their children have to do by reading an educators blog.

Reviews

“Blogger has many applications in class. I like it because it is easy to use and works well for anyone who has a gmail account It also syncs with Google drive documents, Google calendar, and generally allows for smooth compatibility between different Google services”.

Amy L. – (Educator)

“Blogger is a great tool for students to start writing on the web and keeping a blog. While it doesn't offer many customization for the user, it does offer the basic features necessary for any educator to encourage their students to blog. The interface of Blogger is minimalist and the user doesn't need to have an extensive knowledge of programming or HTML coding in order to get the most out of Blogger, unlike some other blogging platforms. If it had a text-to-speech feature, I think that would be a highly desirable functionality for student bloggers, especially those who are emerging writers or special needs students.”

Janice L.A – (Educator)

www.graphite.org/website/blogger-teacher-review/3908826
Advantages
- Both students and teachers can take advantage of its many potential uses.
- It is completely free.
- It is easy to set up and create a new blog.
- It is possible to keep blogs only visible to certain people (family, classmates, etc.).
- It is a quite robust secure platform.
- There is no storage limit so its users can publish as much content as they desire.

Disadvantages
- Educator’s guidance is necessary in order to ensure that the information published by students is only accessible to certain people.
- It is been a long time since its last major update.
- Students can access inappropriate content.
- Moving a blog to a different platform is not an easy task.

Conclusion
Blogger has great potential for classroom uses. Educators can be creative and use it according to their needs. From a student perspective, Blogger is simple to use and
3.10 Webinar and Meeting Tools

Introduction
Since webinars enable their attendees to interact with each other, they are similar to personal meetings. These tools allow their users to participate in a course or project even if they cannot be personally in class. They also offer the chance to share information as documents, photos or videos.

We have selected two tools for this category: Skype and GoToMeeting.
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.skype.com

Usage
Skype allows its users to connect with other people from all over the world via messages, voice and video calls. When it is used in learning environments, students can connect with other students, educators or interesting people who can help them to expand their horizons.

In the classroom, it allows students and educators to collaborate with other classes. Foreign-language teachers can take advantage of it in order to reinforce second-language acquisition by partnering with a class in another country.
Ease of Access

Skype is a free and easy-to-use tool. Teachers and students only need to download the app from their website and create an account in order to use it.

Pedagogical Assessment

Skype helps to extend the learning experience beyond the walls of a classroom. It provides students with the chance to meet new interesting people, talk to experts, share ideas and files, and become engaged with an interactive learning experience.

Using Skype is more interactive and engaging for the modern learner because they are provided with greater responsibility e.g. asking questions, directing the flow of a conversation based on a topic of study. Being able to connect with experts in a field studied relevant to a course is of great benefit as it helps to familiarise students with practices in different parts of the world, making learning more meaningful and connected.

Moreover, for distance learners, it provides a good opportunity to meet with their educators in a more personal way, which helps to improve their learning and helps the learner to feel more comfortable with asking questions if they encounter any difficulty.

Reviews:

“Skype alone is nothing and has no pedagogical merit, you have to create the situation to make it a powerful tool. Find another classroom, just type "Skype Pen Pals" into Google, and talk to them through Skype before exchanging letters. If you find an interesting person in a field your students are studying, send them an e-mail and see if they'll Skype with you! This is a great "world expanding" and "background knowledge building" tool, once you create the use case for it.” - Marcello S. (Educator)

www.graphite.org/website/skype-teacher-review/3964266
Advantages
• It is free to download and install.
• It has specific apps for many different devices including mobiles, TV’s and the Xbox One.
• It has a very detailed FAQ. Moreover, it offers a section aimed at educators called Skype in the Classroom.

Disadvantages
• Sound quality can be limited.
• Connection problems can appear when trying to set it up.

Conclusion
Skype is a popular tool that can be used in order to make free voice and video calls to another place in the world. It creates great educational opportunities and it can help to expand the walls of a classroom.
Pedagogical Assessment of:
Modern Tool Rating: 4
Website: www.gotowebinar.com

Usage
GoToWebinar (or go to meeting) is a tool with the potential to allow educators to set up online seminars and invite students, lecturers and panellists to join. It is an effective way to incorporate online tools, particularly for remote students.
The core features of GoToMeeting include:

- High-definition video conferencing.
- Toll-free numbers available.
- Share what you see.
- Multiple meeting facilitators.
- Share keyboard and mouse control.
- Record the meeting.
- Drawing tools.
- Access meetings from most popular platforms and mobile devices.
- Use add-ons and plug-ins to manage meetings using Outlook, Google Calendar, iOS calendars, and other popular devices and apps.

**Ease of Access**

This software is simple to use and is accompanied by many instructions as well as online support when setting up a new webinar. Some of the features (such as being able to select who can speak) gives the educator control over the event (e.g. asking questions, focusing on a topic).

Students will not need an account in order to join a meeting. Moreover, since there are apps for iOS, Android and Windows Phone, GoToMeeting can be used anywhere as long as an Internet connection is available.

**Pedagogical Assessment**

This tool allows students to meet with teachers and other students outside the classroom. This enables teachers to become more accessible to learners (particularly during times of exams when students may be on study leave). The use of webinars allows students to ask questions, encourages shared problem solving; helping others to achieve greater understanding of an area/s of difficulty. Moreover, this tool also contributes to greater collaboration as it provides an opportunity to organize meetings with professionals who are specialised in a similar area. Being able to share knowledge with professionals locally/internationally without additional travel expenses is beneficial and enables teachers to achieve a greater dimension of global citizenship within the classroom. Also, GoToMeeting is especially suitable for distance learners because it offers a more personal way of communication with their teachers than the classical email.

**Reviews**

“Easy to use and convenient. Has helped centralize meetings and enabled presentations to occur over numerous locales. For a company who has clients all over the country and world, it has helped to have conferences and seminars without having to travel arrange meetings.”

- Matthew Kesting (Firm Administrator at KramerAmado PC)
Advantages
- It is easy to set up.
- It offers a simple way to create meetings.
- As there are apps for mobile devices, it is possible to host and join meetings from everywhere.

Disadvantages
- Many users have stated that its Mac version has an outdated interface.
- It is a business-oriented application.

Conclusion
It is a flexible tool for teleconferencing, online meetings and even sales demonstrations. Despite the fact that it is business-oriented, it offers many great features that can be exploited in classrooms.
4 CONCLUSIONS

This document contains our selection of the top apps for educational purposes within the ten categories defined in our previous report. The selection has been based on a number of pre-established criteria, such as ease of use, cost, and, especially, pedagogic value, which we consider to be vital from the point of view of the educators and those interested in education.

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