

Digital
Facilitator
Trainer Role



DIGITAL TOOLS AND BEST
PRACTICES
**IN THE USE OF GAMIFICATION,
DATA ANALYTICS AND
ARTIFICIAL INTELLIGENCE IN
EDUCATION**

SPAIN RESEARCH REPORT



Co-funded by the
Erasmus+ Programme
of the European Union



Digital Facilitator Trainer Role

RESEARCH REPORT SPAIN

Cooperation for innovation and exchange of good practices

VET – Vocational Education and Training

“DigiFact”

Information

Project number	2020-1-TR01-KA226-VET-097638
Project coordinator	Osmaniye MEM [TR]
Partners	Femxa Formación S.L.U. [SP] T4Excellence [RO]
Intellectual Output	IO1: Designing the Digital Facilitator Trainer role
Activity	Desk Research
Derivable author	Femxa Formación S.L.U. [SP]

Acknowledgement

This paper has received funding from the European Commission under the Grant Agreement number 2020-1-TR01-KA226-VET-097638, ERASMUS+ Strategic Partnership project “Digital Facilitator Trainer Role”.

Disclaimer

The European Commission support for the production of this publication does not constitute an endorsement of the content which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Copyright notice

© 2021 - 2023 DigiFact Consortium





Table of content

Best practices of using AI, gamification, and data analysis in digital education. 2

Moodle as a tool for Learning Analytics and Gamification..... 2

Linguaskill an examination tool using AI4

SAKAI, a collaborative platform using Data Analytics.....4

Blackboard Learn Platform, data analytics and gamification 5

Tools and instruments for digital education 6

Communication, collaboration, and task management tool - Edmodo6

Communication, collaboration, and task management tool - ClassDojo..... 7

Media production – Prezi..... 7

Media production – Vimeo 8

Storage Tool – WeTransfer.....8

Storage Tool – Pocket..... 8

Tasks management tool- Tasks of MS Teams..... 9

Evaluation and testing tool - Socrative 9

Collaborative tool – Popplet..... 10

Collaborative and media production tool – EDpuzzle.....10

Mapping of skills and competences required in educators 11

General digital skills and competences required:..... 11

Communication tools and instruments such as Edmodo and ClassDojo:..... 11

Collaboration tools and instruments such as Edmodo, Popplet, Clasdojo and EDpuzzle:. 12

Evaluation and testing instruments such as Socrative: 12

Storage tools and instruments such as Pocket and WeTransfer: 12

Media production instruments such as Vimeo and Prezi: 12

Task management tools like tasks of MS Teams: 13

References..... 14



Best practices of using AI, gamification, and data analysis in digital education

Moodle as a tool for Learning Analytics and Gamification

Moodle has been one of the more popular online platforms for data analysis in education in Spain. Specifically, Moodle is a Virtual Learning Environment (VLE) that allows to continue or to completely develop teaching in a virtual learning environment. In this environment it is crucial to know the behaviour of students outside the classic classroom, to be able to successfully manage and guide the learning process of students.

As other similar platforms, Moodle offers a wide range of learning analytics plugins to be able to manage the learning paths of students by their teachers.

The multiple functions offered by Moodle in reference to learning analytics: Logs, Activity Report, Activity completion, Live logs, (Quiz) Statistics Report, (Course) Participation Report, Survey Activity, Course overview, Course completion status, Progress Bar, Events list, Activity results block, Configurable Reports (A list of contributed reports), (Gradebook) Overview, Ad-hoc database queries, Engagement Analytics, Course Dedication, Graph Stats, GISMO a graphical interactive student monitoring.¹

Apart from this useful tool it is important to state that the process to a successful analysis does not involve only the platform, but also the user, in this case the teacher. Moodle will collect all the data and information about the learning activities of the students and show that information in a useful way (reports) for the teacher to be well inform and make decisions. This two first steps might be followed by acting on possible teaching-learning process deviations, act before these deviations take place based on the information gathered, and keep on refining the system so that any possible problem does not occur in the future.² It is necessary to take into account then, that together with the implementation of Moodle, it is necessary that teachers are trained in analytics ad ICTs in general, to create successful education practices or courses.

Regarding gamification, Moodle incorporates multiple useful tools that include customizable insignias or badges, the H5P tool to create gamify activities and visually more attractive content, templates to personalize classic games based on the curricula (Game), a reward system based on recollection of objects (Stash), a tool to install levels and rankings based on qualifications (Level Up; Ladder).³ These five tools can be used to gamify any course and offer a playable and educational experience that results attractive and different to students.

¹ Moodle Documentation, 2021. *Learning Analytics, Moodle Plugins*

² Sánchez Poveda P., 2017 *Qualitative analysis of the use of Moodle and its learning analytics tools by teachers of IES La Melva in Elda*, pp. 29-37.

³ Gutiérrez Fabián, 2021. *5 tools for gamification in Moodle*. Subitus



Gradescope as an evaluation tool using AI

Gradescope is a tool that uses Artificial Intelligence to help teachers and educators grade exams, tasks, and test much faster. Students can upload their tests to the platform and Gradescope would sort and aggregates the different answers for verification. The platform states that the time use for grading can me decrease in a 70 % or more the time spent by teachers.⁴

One of the perks of the platform is that its software provides teachers with a detailed analysis of their students' responses and in what areas or questions they failed, so they can provide individualized tutoring to each student or reteach entire concepts. In this way, Gradescope becomes a useful tool that allows to complement the figure of the educator but does not replace it.

During COVID-19 Turnitin, the company that created Gradescope, offered its services for free to Spanish universities. It was recorded than more than 65% of Spanish universities used Gradescope with satisfactory results.⁵

The platform main functions allow to develop the evaluation completely online or they can be developed on paper and later evaluate by Gradescope. In the completely online version, the platform allows to include a selection of questions that will be qualify automatically (multiple options and short answers) and questions that are manually graded by using Gradescope's default rubric. It also gives the option of submitting answers directly through the Gradescope web interface by students and set time limits for students to complete a test.

Secondly, if the tests are developed in paper the evaluation can be develop in two different ways, by priorly using a template with the questions and later upload a digitalize version of each sheet completed to the platform or by uploading a normal sheet and later the teacher will have to designate with area of the paper corresponds to each question.⁶

In conclusion, with some basic guiding on how to use the platform and create tests and courses, as well as to how explain students the way to upload content, teachers can learn to implement Gradescope and spent less time grading and more time developing other pedagogical content for students.

⁴ Dell Technologies, 2021. *Artificial Intelligence: 4 Real Applications of AI in Education*.

⁵ Elplural, 2020. *Turnitin helps universities adapt to the new Covid-19 pandemic scenario*.

⁶ Turnitin blog, 2020. *Gradescope supports you in your urgent remote assessment needs*.



Linguaskill an examination tool using AI

During the global pandemic being able to continue to develop online exams became a challenge. In this situation innovative e-learning solutions were essential. For the first time, those interested in accrediting their level of English with Cambridge during confinement were able to do so from home, by means of a computer-based test. Exams Andalucía, the largest examination centre in Europe in terms of the number of candidates taking the exam, made possible for anyone to accredit their level of English in 48 hours thanks to the Cambridge Assessment English multi-level test known as Linguaskill.⁷

Linguaskill allows remote computer surveillance of the candidate taking the exam, using Artificial Intelligence techniques that monitor the candidate's gaze and movements. To do this, ID photographs are used to check that the candidate is the one taking the exam, which was possible through a webcam.

Linguaskill will assess the students in Reading and Listening, Writing and Speaking; and it will give the results in a short time, being possible to simply take one of the modules. In Spain the Linguaskill certification was recognised by the Conference of Rectors of Spanish Universities, the Association of Language Centres in Higher Education, and the Regional Government of Andalusia.⁸

SAKAI, a collaborative platform using Data Analytics⁹

Sakai is a popular LMS used internationally and in continuous developing, as it is Open Source. Sakai offers an extended catalogue of tools that cover all the necessities for online formation. In the case of Spain, the platform, popular worldwide between universities, is implemented in universities like Universidad Politécnica de Valencia, Universidad Complutense de Madrid, Universidad Católica San Antonio de Murcia, Universidad de Murcia, Universidad Pública de Navarra.¹⁰

The general functions of the platform include the creation of individual courses and their programs, creating announcements and keeping an agenda or planner of the activities, the possibility of doing tests and surveys, multiple communication channels, multiple content creating tools such as blogs, presentation tools, podcasts and more, and the data analytics tools that we will examine further.

Sakai offers the essential data and statistics of the students' progress. In particular, the functions offer that can be easily understood and used by any educator with basic ICT skills are, getting information about every student activity in the platform, knowing which students participate less or more and we can complement the data analytics with giving tutoring sessions to students, also possible with the platform. The information can also be used as part of the evaluation process.

⁷ Granada Hoy, 2020. EDUCATION. A breakthrough from Granada in artificial intelligence for invigilating virtual exams.

⁸ Luis @ KSE Academy, 2019. *Linguaskill: The new Cambridge exam 2020 Guide*. KSEAcademy

⁹ UVirtual. *Sakai for teachers and tutors*.

¹⁰ Gómez Nicholls J. F., 2013. Interview, *Learning and media: LMS + ePortfolio + collaborative research system*. America learning Media.



Blackboard Learn Platform, data analytics and gamification¹¹

Blackboard Learn is one of the most popular platforms for e-learning in higher education worldwide and in Spain. It offers multiple learning tools for communication, collaboration, analytics and more. Regarding analytics Blackboard provides the possibility of tracking learners using reports, the retention centre, the performance dashboard, and other tools such as attendance, as well as keeping up to date on grading activities.

Regarding the reports, the basic ones offer by Blackboard would include the activity of every user for each area of content, information of the users' activity in each course and group, individual information of each user in a particular course or in general. The retention centre is a tool that will allow teachers to keep special tracking of students that, because of some factor such as participation, grades, or attendance, are at risk.

Another interesting analytics tool offer by the platform is the possibility of aligning activities, test, or tasks with some general goals, related for example to general competencies we want to develop or institutional learning goals. After this, we will be provided with reports on how well the aligning between activities and goals has been implemented and how students have performed, if the goals have been reached or not.

Regarding the gamification elements, the platform has The Achievements tool, to reward students for their achievements such as successfully finishing a task or course level, good results in a test or for their high level of participation. The achievements tool can be adapted for each course and grade different aspects, they can be personalized by the teacher, and there can be three different types: Course Completion, Milestone or Personalized. We can name our personalized achievements, add rules to explain students how to achieve them, and show these rewards visually through badges.

¹¹ Blackboard Learn, eLearning Media. *Following of Statistics*.



Tools and instruments for digital education

In addition to the already set methodology for the desk research, the method used for the collection of digital instruments was, elaborating a prior selection of tools and platforms with good reviews, used in digital education in Spain during the last years. This selection included 19 different items that were reduced to the following 10 based on three criteria: success (the tool/platform was commonly used, and it is considered popular based on positive posts and news published), accessibility (including a user friendly lay out, availability free of charges, and compatibility with multiple devices, i.e., PC, tablet, smartphone) and the offer of innovative and diverse functions.

Communication, collaboration, and task management tool - Edmodo

Edmodo is a social, educational, and free digital network that allows communication between students and teachers in a closed and private environment in the form of microblogging.¹²

One of the advantages of Edmodo in comparison with other similar tools is that students do not need to provide more personal data than their names to participate, the teacher will generate a code through which students can access that online space created.¹³

The functions allow in Edmodo are:

- ✓ *"Create private groups with access limited to teachers, students, and parents*
- ✓ *To have a communication space between the different roles through messages and alerts.*
- ✓ *Share multimedia resources such as files, links, videos, etc.*
- ✓ *Incorporate the contents of our blogs.*
- ✓ *Conduct student surveys.*
- ✓ *Assign tasks to students and manage their grades.*
- ✓ *Manage a class calendar.*
- ✓ *Create communities where to group all teachers and students of the educational centre.*
- ✓ *To give parents access to the groups in which their children are assigned and to and have the possibility to communicate with teachers.*
- ✓ *Award badges to students as prizes for their participation in the group.*
- ✓ *Manage shared files and resources through the library.*
- ✓ *Create subgroups to facilitate the management of work groups.*
- ✓ *Provide a public space to show the group's activity that the teacher deems appropriate.*¹⁴

¹² Videgaray Santiago, 2020. *Digital tools in education*, AoniaLearning.

¹³ Alonso-García S., Morte-Toboso E., Almansa- Núñez S. *Social Media apply to education: EDMODO Media in Education and ITC Magazine*. 4 (2), 2015, E-ISSN: 2254-0059; pp.88-111.

¹⁴ *Social Media apply to education: EDMODO Media in Education and ITC Magazine*, pp 88-111.



Communication, collaboration, and task management tool - ClassDojo¹⁵

ClassDojo is a free app that works both on PC, mobile devices, and most platforms. Its function is to help educators implement methodological strategies based on gamification, cooperative work, flipped learning and project-based learning. It allows monitoring the progress and advances of students in those aspects chosen by the educator and structuring them in levels (class, group, student, etc.).

One of its most notable features is the "little monsters" avatar customizer, which has become popular in the educational world due to the aesthetics of its interface. It also provides resources, videos, and activities of its own that develop awareness, critical thinking, perseverance, and conscientiousness.

The service is available without the need to share phone numbers or contact details, and with "do not disturb" hours. Each class and its students are completely different from any other, ClassDojo allows you to customize and configure the initial environment, agreeing the point system with the students.

In terms of active management, the toolkit allows you to create random groups of students, display instructions for your activities, play background music, set an acoustic timer, a noise meter, display discussion questions and welcome messages, among other options. It also has a "random" function to ask random questions of the day and gives the possibility to create groups for specific tasks.

The platform is user friendly, and no initial training is required to use it properly. Nevertheless, depending on the interaction with the different tools it has and depending on the students and the skills we want to implement, more specific skills are needed to use the tool, which can be gained with experience.

Media production – Prezi

Prezi is an "interesting 2.0 online application to create multimedia presentations, maps or conceptual charts, which are very original, creative and very useful for any user".¹⁶

The tool offers several presentation features that allow you to insert videos, images, and audios. The element that probably distinguishes it from other similar tools are the zoom transitions, which allow you to focus on the topic in an original and attractive way. Prezi is an easy and useful tool, both from the point of view of preparing content to present concepts by the educator, and to offer students a useful presentation tool, which will allow them to improve their ability to synthesise, to improve their ICT skills, and to obtain a useful skill for their future work, that of knowing how to present their ideas in creative and attractive ways.

¹⁵ Flores Paredes J. J., *ClassDojo, A classroom manager for monsters*, INTEF. 42, 2021, ISSN (web) 2695-4176

¹⁶ Aula Virtual, 2013. *Perks of the use of Prezi in the classroom*.



Media production – Vimeo

Vimeo is a video-based social networking site. The site allows digital videos with high quality to be shared and stored, allowing users to comment on each other's pages. Users must be registered to upload videos, create their profile, use avatars, comment, and set up favourites' lists.¹⁷

The site is not specifically for education purposes, but some of its pedagogical uses are: the possibility of sharing videos both publicly and privately (i.e. for a close group of students), create tutorials that allow to present a subject or skills that educators are trying to teach; to share the projects made in vimeo by students and to present them is a creative way that also teaches students skills of video editing, video making and presentation.¹⁸

Storage Tool – WeTransfer

WeTransfer is an online platform in the cloud, designed to allow different types of files to be transferred free of charge to other users. It constitutes a simple way of sharing big documents in an easy and fast way. Users can send files up to 2 GB in the free version, with no need of any instalment in their devices, simply by being register in the platform.

Educators and students can send and receive their tasks, assignments, projects, and essays just by register with their email. Some of it advantages are that the app is simple and intuitive, so both students and educators can beneficiate from the platform even do they do not have an advance level of digital skills.¹⁹

Storage Tool – Pocket

The main function of Pocket is to save information offline that you later can review even if you do not have internet connection. It also allows to sort the information saved, and it can be access by any device.

Teachers and students can both benefit from this platform by organizing materials for the classroom or interesting websites' post, videos, or online articles about a specific subject, that can be visited later without connection to study or work on a project.

Pocket also allows to synchronize your different devices, so you would have the information saved in all of them, what can be useful if students or teachers do not have 24-hour access to the internet, so that they can save the information they are interested on when they do have access

¹⁷ Educativa, *Vimeo*

¹⁸ Proyecto TSP, 2015. *Vimeo, Digital Resources*. Consejería de educación, universidades, cultura y deporte, Gobierno de Canarias.

¹⁹ Aplicaciones de la informática a la educación, WeTransfer. Retrieved from: <https://es.slideshare.net/marcoacostap79/grupo-6-wetransfer>



Tasks management tool- Tasks of MS Teams

The Tasks app provides a seamless task management experience in Microsoft Teams. Its differentiated feature is that Tasks integrates individual tasks with Microsoft To Do technology and team tasks with Planner technology in one place. Users can access Tasks as an application on the left side of Teams and as a tab in a channel within individual teams. My Tasks and Shared Plans in Tasks allow users to view and manage all their individual and team tasks and prioritise their work. Tasks is available in Teams mobile, online, and desktop.

Therefore, Tasks is divided in two categories and each of them is synchronized with To do and Planner, so that if anything is added or modified in one of them it is also modified in Tasks and vice versa. Tasks becomes the ultimately organizer for MS Teams users, allowing to have every task in the same place, a very useful tool for teachers and students to manage different types of tasks, individual and different group tasks.

Evaluation and testing tool - Socrative

Socrative is an application born in 2010 with the aim of including smartphones into pedagogies. The main function of the app is to manage students' participation in classroom activities in real time. It helps to develop different type of exercises such as tests, evaluations, and projects. It can be used as a complement of the classroom to evaluate students and to engage them thanks to the inclusion of the smart devices, or as a way of developing classes remotely, because the app also allows to create lessons.

It is available for free to download in multiple app stores, and on the web www.socrative.com with differentiated access for both, students, and educators, which allows it to adapt to the devices and resources of each person.

While the teacher needs to create an account on Socrative, students join classes, rooms, without having to create one. The teacher creates quizzes, Space Race (quiz with time) or Exit Ticket (quiz with ranking of results) and students respond in real time through their devices. The teacher can follow the results live and review them after, because the app will store them in the form of reports. The questions asked in the application are multiple choice, true or false and short questions.²⁰

Socrative is a simple app, the skills needed by the educators are basic and it is very intuitive, so that you can learn by using it. Apart from the functions described, "with a little creativity and imagination, they can be used to motivate students, improve communication between classmates or encourage a spirit of self-learning. An example: they can be asked about a book they are reading: "Which character from the chapter you read yesterday would you like to have dinner with, explain your answer? Exercises like this initiate a collective discussion in the classroom and encourage students to share their ideas."²¹

²⁰ InspiraTICs, *Socrative, a tool for collaboration in the classroom*.

²¹ Tejada Jenifer, 2021 *What is Socrative and how to start implementing it?* EDUCACIÓN 3.0



Collaborative tool – Popplet

Popplet is an online tool that offers a digital platform to collaboratively create graphics - synchronously or asynchronously - and to organize our ideas, resources, images, etc. It has multiple functions as we can create virtual walls, concept maps, compilation of resources, timelines, etc. with a visually clear and attractive result. The possibility of creating mind maps that integrate different representation systems stands out. In its application to the context of education, this tool helps students learn to think visually, allowing them to capture facts, thoughts and images and create relationships between them.²² It is structured in the form of a desktop in which we can create bubbles, popplets, in which text, strokes, images, maps, videos and more can be introduced.²³

Its use is simple and intuitive and allows collaborative work with students, allowing several users to work on the same project at the same time.

Collaborative and media production tool – EDpuzzle

EDpuzzle is an online platform that allows educators to create, transform and produce any video so that it can become a lesson presentation or tutorial for students. Teachers can choose between creating their own videos or modifying existing ones by editing them, adding audios, etc.

The platform has a lot of different functions to complement the teaching. It allows for educators to check which students have seen an explanatory video. The videos can also include questions or doubts sections at the end, allowing to implement the model of flipped classrooms easily, making the teaching experience collaborative.

EDpuzzle can be used without having to install the platform, by creating a link to send to students, but it is recommended to install it, so that they receive alerts when a task is posted or modified.²⁴ It can also be synchronized with Google Classroom, being able to incorporate the platform through an already created and/or commonly used online classroom.

In general, EDpuzzle is a simple tool that can be adapted to the level of digitalizing of the educator, having the options of creating your own videos or modifying existing ones on the web. The platform counts with video tutorials about how it should be implemented.

²² Arrausi, J.; Ribosa Martínez, J.. «Driving maps: El uso de mapas mentales para orientar el Aprendizaje Basado en Proyectos a través del Design thinking». Gráfica, 2018, Vol. 6, n.º 11, pp. 25 and ss.

²³ Aplicacionesedurojo, 2020 Popplet

²⁴ Vilchez Jimenez B., Edpuzzle...and no more papers “Edpuzzle ... y fuera fichas”. INTEF, Nº43.



Mapping of skills and competences required in educators

General digital skills and competences required:²⁵

- ✓ To actively develop one's own digital pedagogical practice, keep track of new tools and resources for your own continued formation in digital means.
- ✓ To consider your audiences, teaching objective and each course requirements before choosing a digital instrument and planning its implementation, especially when it's the first time you are implementing it.
- ✓ To modify and build on existing openly licensed resources where this is permitted (advance skill). To create or co-create new digital educational resources.
- ✓ To organize digital content and platforms in a comprehensive way for colleagues and learners.
- ✓ To protect sensitive digital content, apply privacy and copyright rules, to understand the use and creation of open licenses and open educational resources and their proper attribution.
- ✓ To use the available information, tutorial and guides when implementing a digital mean.

Communication tools and instruments such as Edmodo and ClassDojo:

- ✓ To use communication instruments to enhance organisational communication with learners and third parties. Implementing a communication strategy that considers rules for its use, appointments, events, tutoring etc.
- ✓ To enable students to use digital platforms as means of enhancing communication with the teacher and other students. To make students participant in improving organizational communication attending to their needs.
- ✓ To use communication platforms to foster students' collaboration and participation.
- ✓ To use digital communication tools to respond promptly to students' questions and doubts.
- ✓ To choose communication strategies and tools considering the specific audience, their needs, and limitations.

²⁵ Redecker, C. European Framework for the Digital Competence of Educators: DigCompEdu. Punie, Y. (ed). EUR 28775 EN. Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73494-6, doi:10.2760/159770, JRC107466



Collaboration tools and instruments such as Edmodo, Popplet, Classdojo and EDpuzzle:

- ✓ To allow students to collaborate during classes using these interactive flipped classroom tools.
- ✓ To create events and other activities to allow to create discussion and for students to collaborate and develop their critical thinking.
- ✓ To put to student's disposal collaborative tool to participate together in group activities or discuss doubts of individual tasks with the teacher and other learners.
- ✓ Create different activities to enhance collaboration through these tools and platform, i.e., create gamified experiences.

Evaluation and testing instruments such as Socrative:

- ✓ To implement a clear criterion for evaluation and testing priorly communicated to students
- ✓ To create more attractive testing exercise through digital tools, including gamification elements like rankings and badges.
- ✓ To evaluate their participation, collaboration and attendance through apps like Socrative, not simply results in numbers. To use analytics tools to keep track of students and act based on those data analyzed.
- ✓ To make students aware of their results and allowed them to know their progress as well.

Storage tools and instruments such as Pocket and WeTransfer:

- ✓ To adjust the digital tools to students' needs and limitations regarding their access to digital resources.
- ✓ To allow them to have access to their work and their peers' work in an innovative, digital and organized way.
- ✓ To allow students and teach them in how to search information on the internet and how to organize it and use it for their own learning and researching.

Media production instruments such as Vimeo and Prezi:

- ✓ To implement these interactive and more attractive ways of presenting information with the aim of engaging students.
- ✓ To teach students to use these instruments as well, to present their own work.



Task management tools like tasks of MS Teams:

- ✓ To get to know the tool and its possibilities before implementing it, making sure that it has the characteristics that better align with your audience and that you can explain its use.
- ✓ To use the tool both for your own courses organization and for students to manage their own individual and collaborative tasks and work.
- ✓ To actively use the tool and update its content, assuring that students will find the platform useful in a daily context.



References

- Alonso-García S., Morte-Toboso E., Almansa- Núñez S. *Social Media apply to education: EDMODO*, Media in Education and ITC Magazine. 4 (2), 2015, E-ISSN: 2254-0059; pp.88-111. Available at:
<https://dialnet.unirioja.es/servlet/articulo?codigo=5192042> (Accessed 02-09-2021)
- Aplicacionesedurojo, 2020 Popplet. Available at:
<http://aplicacionesedurojo.blogspot.com/p/popplet.html>
- Arrausi, J.; Ribosa Martínez, J.. Driving maps: The use of mental maps to guide LBP through Design Thinking “Driving maps: El uso de mapas mentales para orientar el Aprendizaje Basado en Proyectos a través del Design thinking”. *Grafica*, 2018, Vol. 6, n.º 11, pp. 25-31. Available at: <https://raco.cat/index.php/Grafica/article/view/332526> (Accessed: 06/9/021).
- Aula Virtual, 2013. *Perks of the use of Prezi in the classroom*. Available at: <http://aula.virtual.ucv.cl/wordpress/ventajas-del-uso-de-prezi-en-las-aulas/> (Accessed 02-09-2021)
- BlackBoard Learn, eLearning Media. *Following of Statistics*. Available at:
<https://sites.google.com/elearningmedia.es/blackboard-learn/a%C3%B1adiendo-contenido-al-curso/estado-de-revisi%C3%B3n-y-seguimiento-de-estad%C3%ADsticas/seguimiento-de-estad%C3%ADsticas>. (Accessed 25/08/2021)
- Dell Technologies, 2021. *Artificial Intelligence: 4 Real Applications of AI in Education* “4 Aplicaciones Reales de la Inteligencia Artificial en la Educación”. Available at: elltechnologies.com/es-es/blog/4-maneras-inteligencia-artificial-revolucionando-educacion/ (Accessed: 25/08/2021)
- Educativa, Vimeo. Available at: <https://www.educativa.com/blog-articulos/vimeo/> (Accessed 02-09- 2021)
- Elplural, 2020. *Turnitin helps universities adapt to the new Covid-19 pandemic scenario*. Available at: <https://www.elplural.com/economia/> (Accessed: 25/08/2021)
- Flores Paredes J. J., *ClassDojo, A classroom manager for monsters*, INTEF. 42, 2021, ISSN (web) 2695- 4176.
- Granada Hoy, 2020. EDUCATION. A breakthrough from Granada in artificial intelligence for invigilating virtual exams. Available at: https://www.granadahoy.com/granada/avance-Granada-inteligencia-artificial-vigilar-examenes-virtuales_0_1452755168.html (Accessed 25/08/2021)
- Gómez Nicholls J. F., 2013. Interview, *Learning and media: LMS + ePortfolio + collaborative research system*. America Learning Media. Available at: americalearningmedia.com/edicion-018/209-entrevistas/3140-lms-eportfolio-sistema-de-investigacion-colaborativa (Accessed 25/08/2021)



- Gutiérrez Fabián 2021, *5 tools for gamification in Moodle*. Subitus. Gamification, Best practices in Moodle. Available at: <https://www.subitus.com/herramientas-plugins-gamificacion-en-moodle/> (Accessed: 25/08/2021)
- InspiraTICs, *Socrative, a tool for collaboration in the classroom*. Available at: <https://inspiratic.org/es/recursos-educativos/socrative-una-herramienta-de-participacion-en-el-aula/> (Accessed 07-09-2021)
- Luis @ KSE Academy, 2019. *Linguaskill: The new Cambridge exam 2020 Guide*. Available at: <https://kseacademy.com/cambridge/linguaskill/> (Accessed 25/08/2021)
- Moodle Documentation, 2021. *Learning Analytics, Moodle Plugins*. Available at: https://docs.moodle.org/29/en/Learning_analytics (Accessed: 25/08/2021)
- Proyecto TSP, 2015. *Vimeo, Digital Resources*. Consejería de educación, universidades, cultura y deporte, Gobierno de Canarias. Available at: <https://www3.gobiernodecanarias.org/medusa/ecoescuela/recursosdigitales/2015/09/29/herramienta-vimeo/> (Accessed 02-09-2021)
- Redecker, C. *European Framework for the Digital Competence of Educators: DigCompEdu*. Punie, Y. (ed). EUR 28775 EN. Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73494-6, doi:10.2760/159770, JRC107466
- Sánchez Poveda P., 2017 *Qualitative analysis of the use of Moodle and its learning analytics tools by teachers of IES La Melva in Elda*. "Análisis de Moodle y sus herramientas de analítica del aprendizaje por parte de los docentes del IES La Melva de Elda" Thesis for master's degree in online communications and education, specialty e-learning. UNED, pp. 29-37.
- Tejada Jenifer, 2021 *What is Socrative and how to start implementing it?* EDUCACIÓN 3.0 Available at: <https://www.educaciontrespuntocero.com/recursos/que-es-socrative/> (Accessed 07-09-2021)
- Turnitin blog, 2020. *Gradescope supports you in your urgent remote assessment needs*. Available at: <https://www.turnitin.com/es/blog/gradescope-te-apoya-evaluacion-remota> (Accessed 25/08/2021) *UVirtual. Sakai for teachers and tutors*. Available at: https://www.javeriana.edu.co/ova/DEMOS_SK/SAKAI/SAKAI.html (Accessed 25/08/2021)
- Videgaray Santiago, 2020. *Digital tools in education*, AoniaLearning. Available at: <https://aonialearning.com/herramientas/herramientas-digitales-en-el-aula/> (Accessed 02-09-2021)
- Vilchez Jimenez B., *Edpuzzle...and no more papers "Edpuzzle ... y fuera fichas"*. INTEF, N°43. DOI (format pdf) 10.4438/2695-4176_OTEpdf43_2020_847-19-134-3