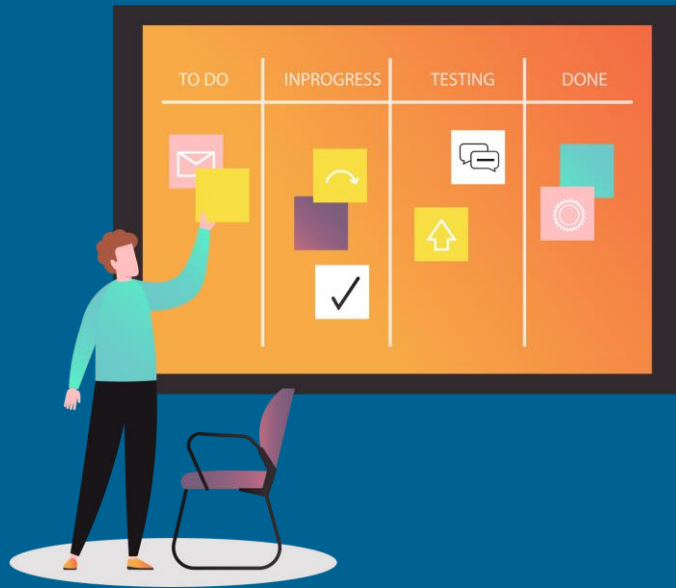


INTRODUCTION TO ACTIVE ENGAGEMENT OF STUDENTS

Miriam Šipošová, EPMA
Zuzana Krejčová, EPMA





"Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, apply it to their daily lives. They must make what they learn part of themselves."

Arthur W. Chickering and Zelda F. Gamson, "Seven Principles for Good Practice," AAHE Bulletin 39: 3-7, March 1987

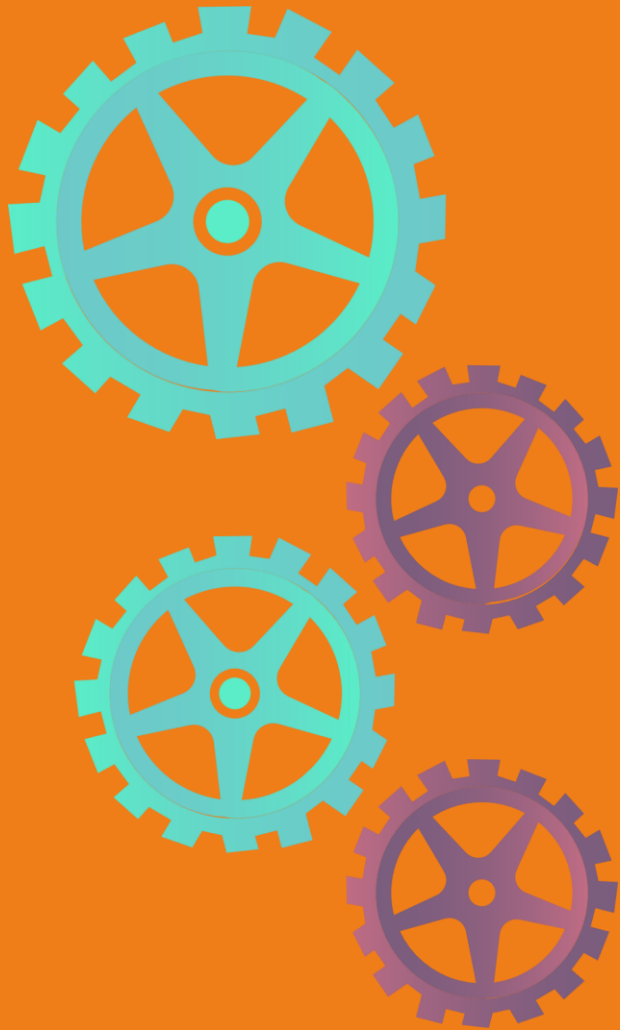
„Actively engaging learner“ according to the DigCompEdu framework



To use digital technologies to foster learners' active and creative engagement with a subject matter.

To use digital technologies within pedagogic strategies that foster learners' transversal skills, deep thinking and creative expression.

To open learning to new, real-world contexts, which involve learners themselves in hands-on activities, scientific investigation or complex problem solving, or in other ways increase learners' active involvement in complex subject matters.

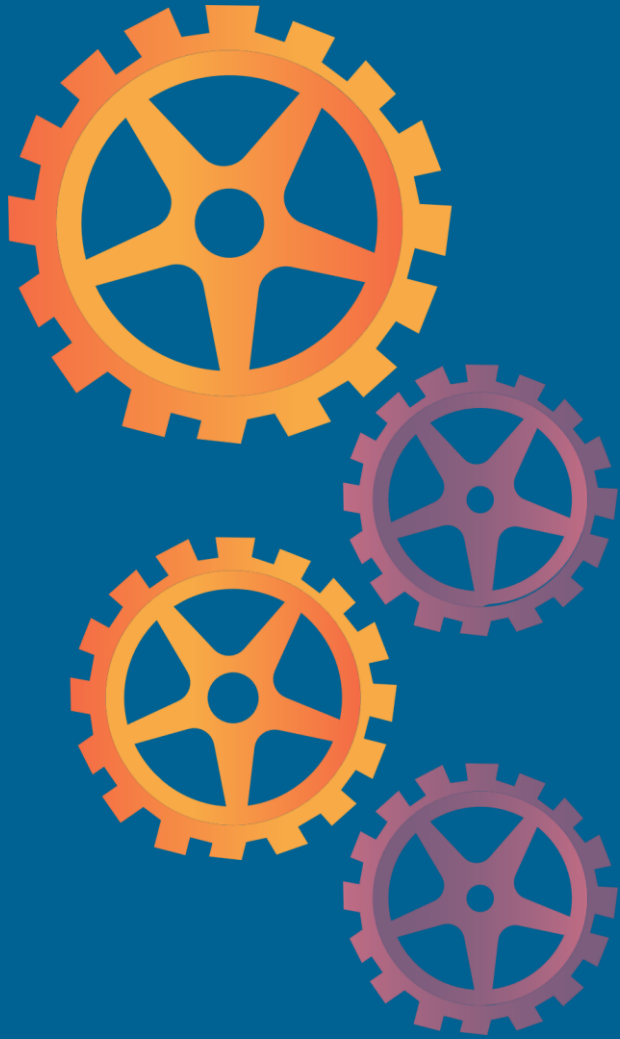


Why students need to be actively engaged?

Active learning is an instructional approach that *"involves students in doing things and thinking about the things they are doing"*

- *Bonwell & Eison, 1991, p.2*

Active learning is not just a physical interaction with content, but rather a deep mental interaction with content. If you think of a topic you wanted to learn about, you probably didn't create a game to learn about it - you were actively engaged from the beginning simply out of curiosity or a sense of wonder. So we can tell that active learning consists of **intrinsic motivation**.

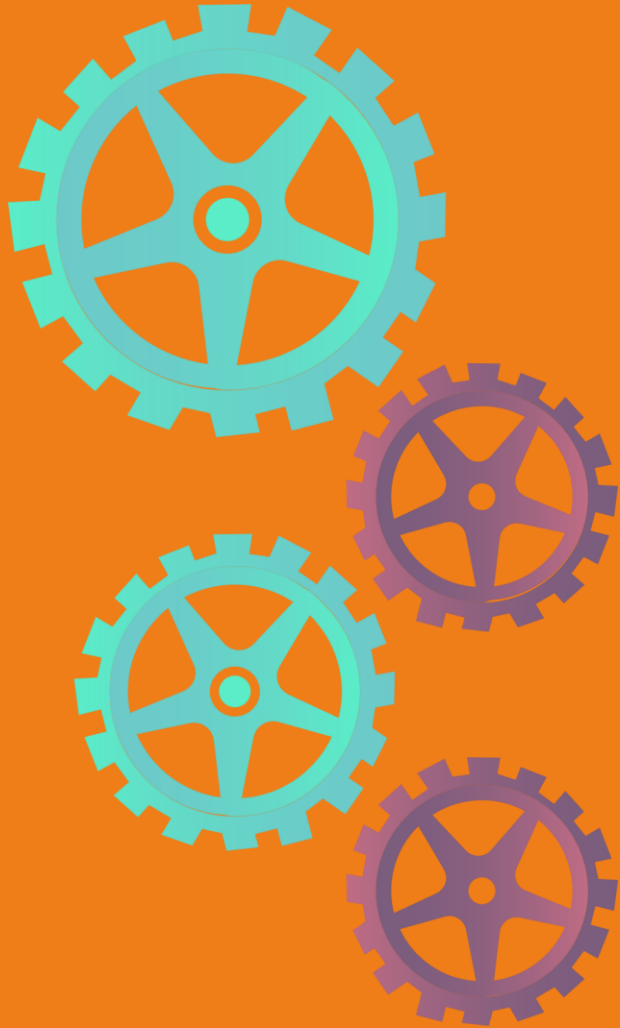




Evidence-based theory

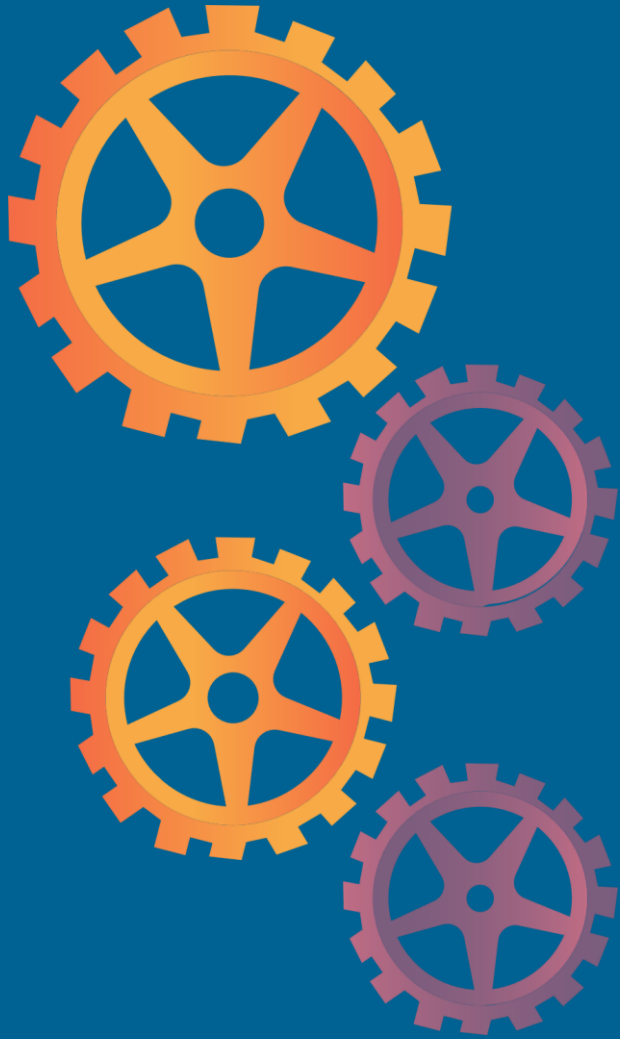
Here are some examples that the active learning theory is evidence-based:

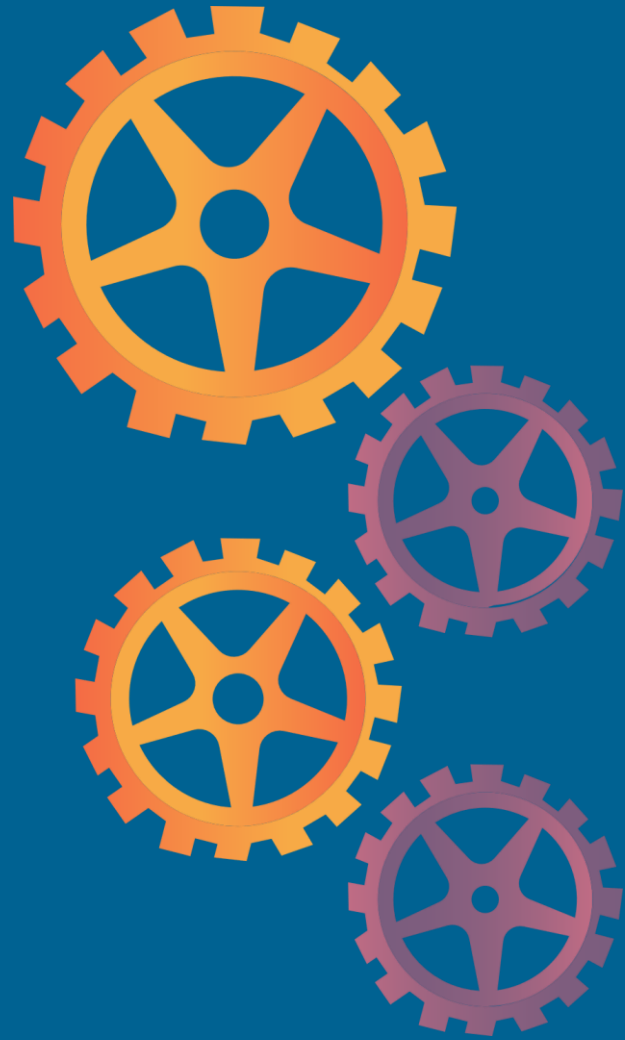
- This [research](#) (*D. Mello, C. A. Less, 2013*) studied the effectiveness of active learning techniques, when compared to traditional lecture model. The sample consisted of 817 student. The result showed that that 55% of those students who engaged in traditional learning achieved a passing grade when post-tested, while a corresponding 85% of active learners received a passing grade when post-tested.”
- In 1991, Tschumi examined active learning ([M. Felder, R. Brent, 1996](#)). An instructor taught computer science course three times, once with the students working individually and twice using group work, with common examinations in the first two classes. In the first class, only 36% of the students earned grades of C or better, while in the classes taught cooperatively, 58% and 65% of the students did so. Both of these example studies show that students with active learning approach have better results. There are many more researches that proves the same.





Evidence-based theory





Types of the engagement



Cognitive



Emotional



Behavioural



Social



Physical



Cultural



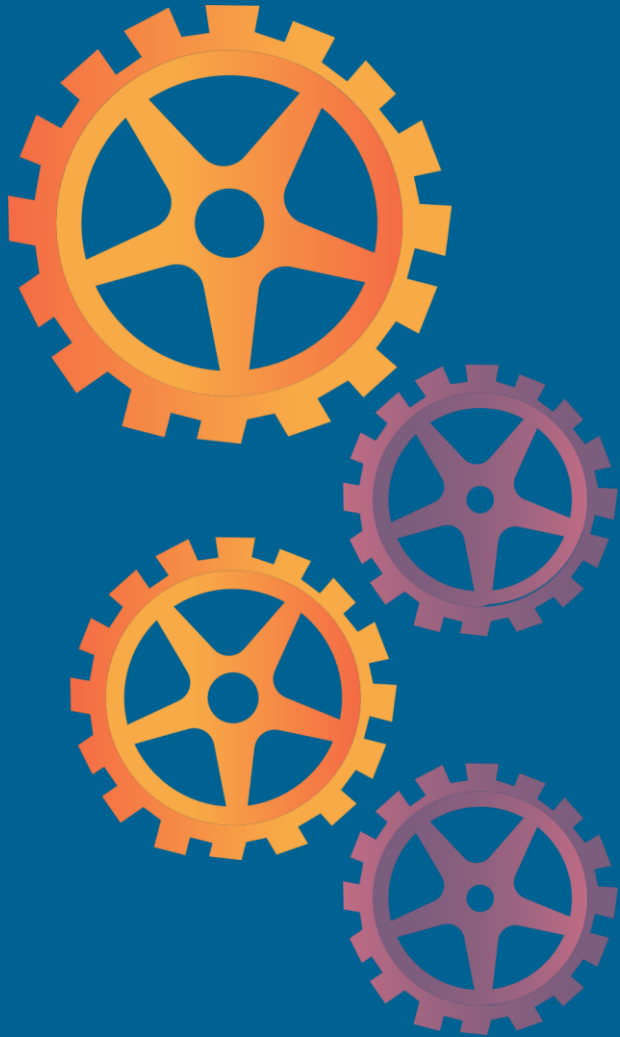
Cognitive Engagement

Cognitive engagement of students means, that a student is curious and interested about the topic. A teacher can raise students cognitive engagement with attractive presentation of the topic or with interesting assignments.



Emotional Engagement

Emotions in school are important even if they are not talked about as much. There are rare examples when a student with negative emotions towards a topic is also motivated. Almost every time, students needs to have positive feeling about the topic in order to be motivated and interested in it.





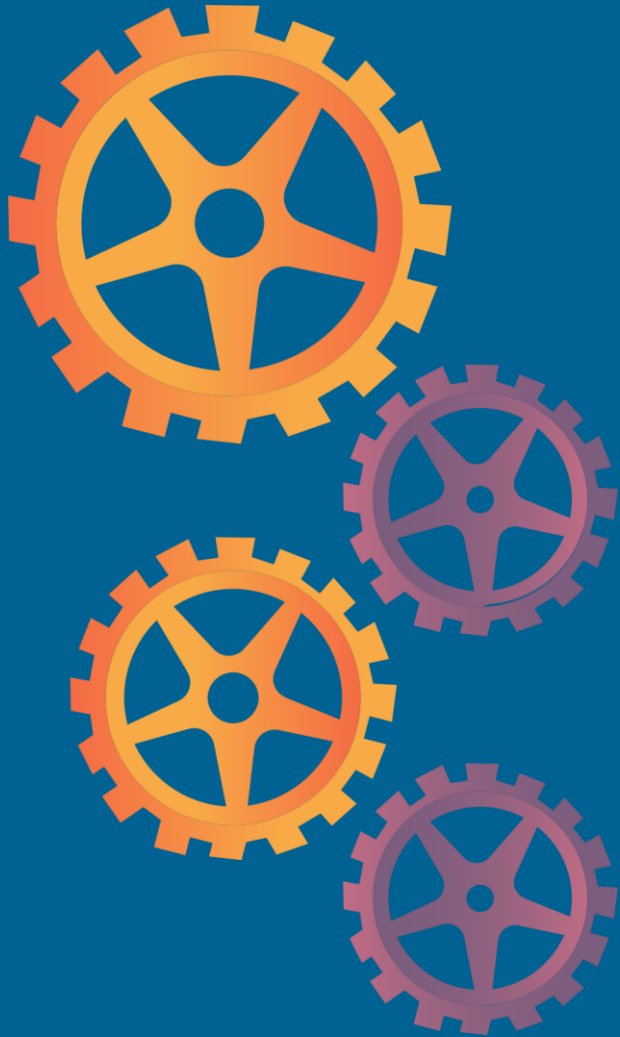
Behavioural Engagement

Behavioural engagement is an effort which a student puts into particular task. It means the ability to follow instructions and completing the task. To successfully complete lessons, students also need behavioural engagement, not just cognitive or emotional. All three interact with each other.



Social Engagement

This one is about interactions with other students or with a teacher. The magic of student social interaction is that when an unmotivated student sees others engaging, he or she can get drawn in by the group and become motivated.





Physical Engagement

Physical engagement is about kinetic activity. Which means it is related to exercise, stretching, or other training-related movements. Some of us has experienced that the knowledge that we have written down by hand is better for us to learn/remember.

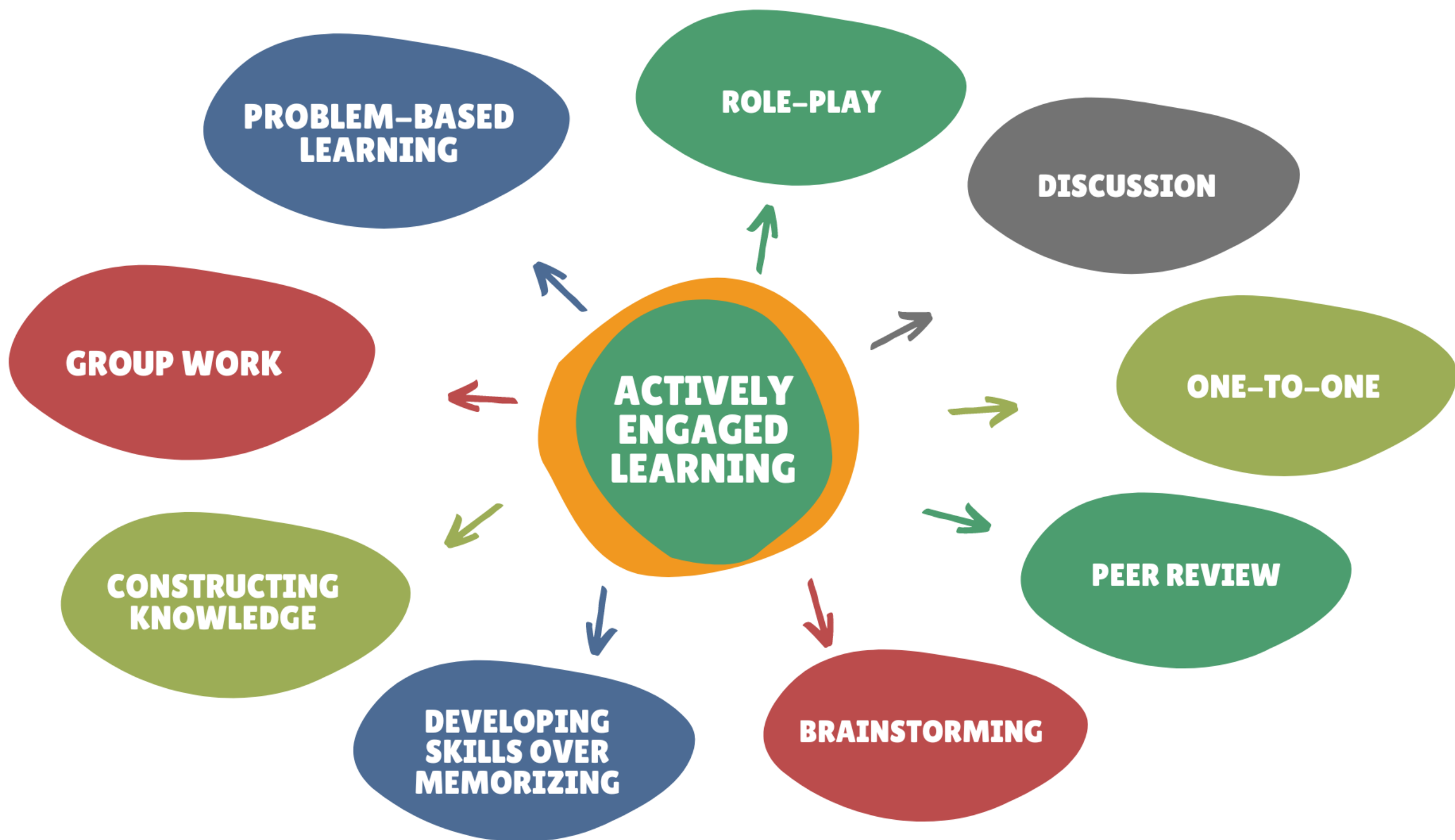


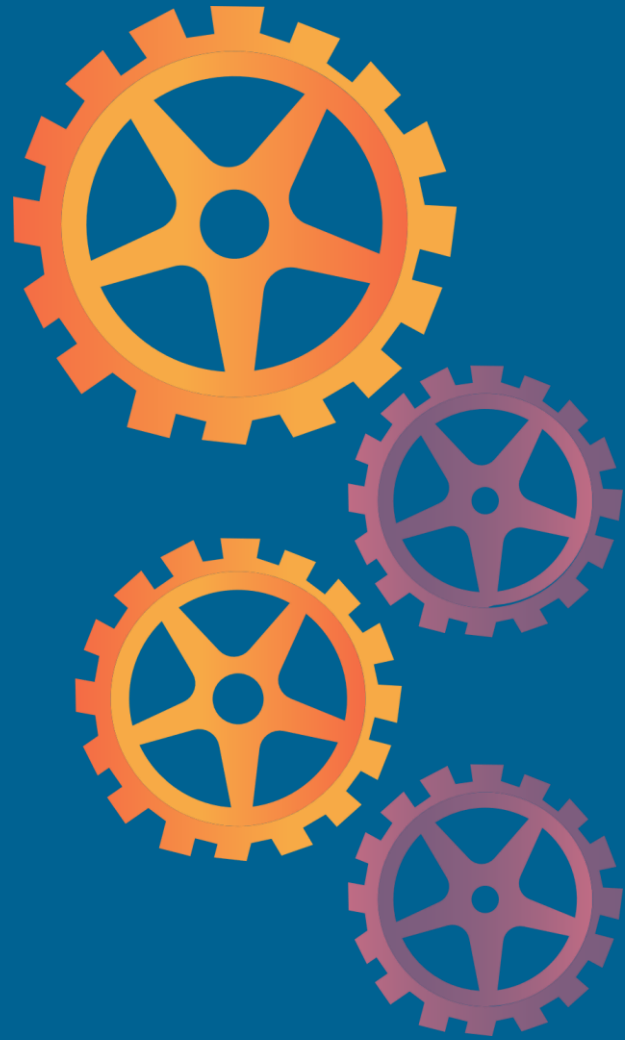
Cultural Engagement

Cultural engagement refers to learning and development culture in the school. The way of teaching should encourage communication, constructive debate and feedback, and promote collaboration between students.

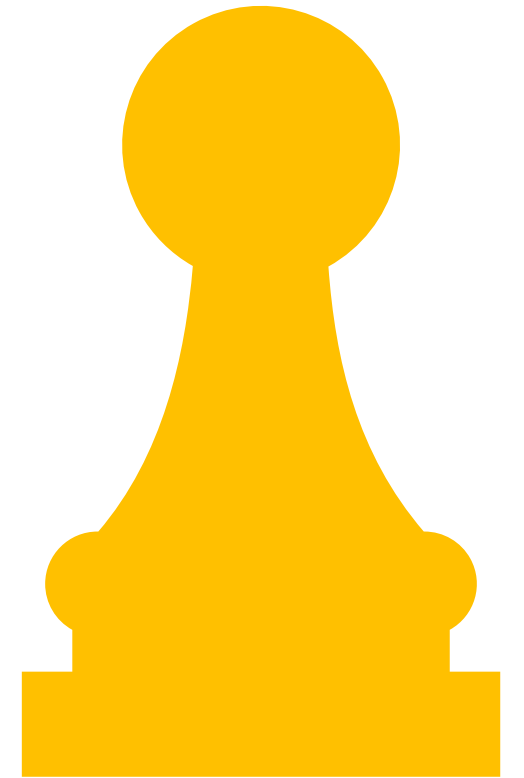


And how can we achieve active learning in our classrooms?



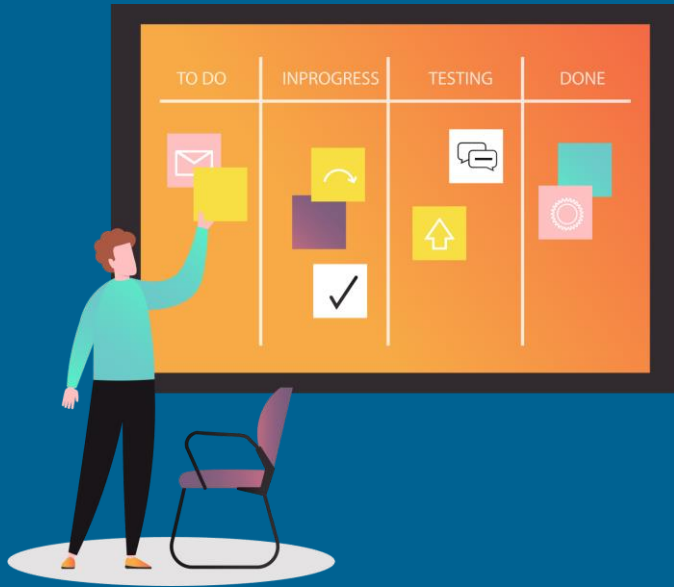


Gamification





What is Gamification



The term gamification was first used in 2002 by developer Nick Pelling. The term referred to the principle of using game elements in non-game environment. Of course, gamification was here before 2002 and was used mainly in marketing strategies. Nowadays, gamification is used in various fields.

Gamification in education is primarily used during courses and training seminars, to **motivate and engage participants** more in the topic and to activate them in sub-tasks. Gamification elements also allow us to more easily link the outcomes and follow-ups after the course/training **to the participants'/students' reality.**

Gamification has system of follow-ups, levels, rewards and penalties and has natural ability to maintain students' attention.



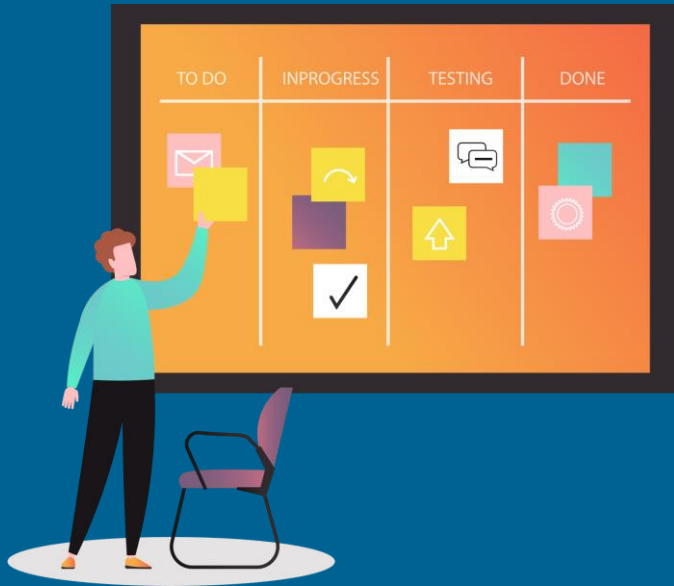
Why to use Gamification

Gamification is closely linked with **motivation** because it has the ability to increase student motivation.

T. W. Malone, American psychologist conducted a [study](#) about motivation ([SkillUp Game](#), 2021). He defined two key types of motivation - intrinsic and extrinsic. He also found out that when students are motivated to learn, they spend more time with it, are more likely to try to find solutions to problems, and are more likely to use the knowledge they have gained in the future.

Here are some of the advantages of gamification:


- Makes learning fun and interactive
- Offers real-time feedback
- Enhances learning experience
- Increase motivation



Gamification Elements

- Gamification design consists of game elements that are used as required. There are many game elements, but we mention just the most common.
- In most games, we can find three basic game elements – **points, rankings and badges**. These are known, easy-to-use elements, which, however, cannot be always used in every situation.

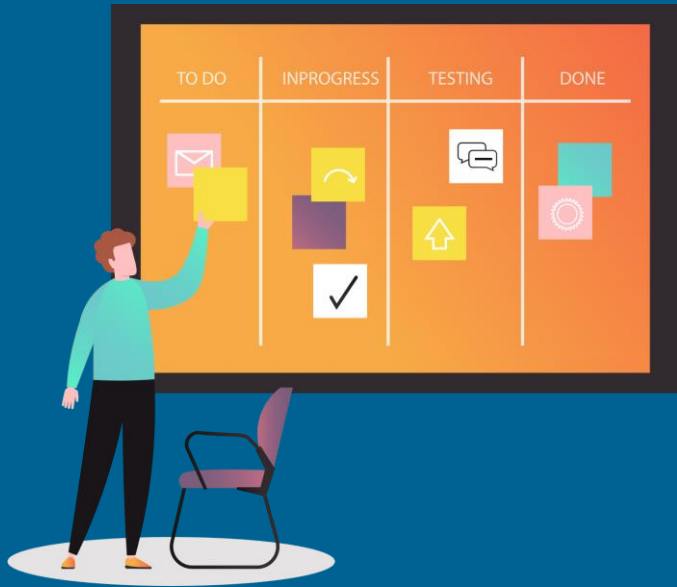
Periodic Table of Gamification Elements



1 Rr Random Rewards										2 Fr Fixed Reward	3 Td Time Dependent
4 Ob On-boarding	5 Si Signposting	6 La Loss Aversion	7 I Investment					8 Pf Progress / Feedback	9 T Theme	10 N Narrative	11 C Curiosity
12 Tp Time Pressure	13 S Scarcity	14 St Strategy	15 F Flow	16 Co Consequences	17 Gt Guilds / Teams	18 Sn Social Network	19 Ss Social Status	20 Sd Social Discovery	21 Sp Social Pressure	22 Cm Competition	
23 Ch Challenges	24 Ce Certificates	25 L Learning	26 Q Quests	27 Lp Levels / Progression	28 Bb Boss Battles	29 E Exploration	30 Bc Branching Choices	31 Ee Easter Eggs	32 U Unlockables	33 Ct Creativity Tools	
34 Cu Customisation	35 Ap Altruistic Purpose	36 Cg Care Taking	37 A Access	38 Cn Collection	39 Gs Gifting / Sharing	40 Ks Knowledge Share	41 P Points	42 Pr Prizes	43 Le Leaderboards	44 B Badges	
		45 Ve Virtual Economy	46 Lo Lottery	47 Ip Innovation Platform	48 V Voting	49 Dt Development Tools	50 A Anonymity	51 Lt Light Touch	52 An Anarchy		

Reward Schedule	General	Socialiser	Achiever	Free Spirit	Philanthropist	Player	Disruptor
-----------------	---------	------------	----------	-------------	----------------	--------	-----------

Gamification Elements



Points collecting is the simplest motivation. We can compare it to collecting money, collecting likes on FB, books, stamps,... which is a big motivation for many of us. The points can also determine a win or loss or serve as external declaration of the player's progress in the game.



Rankings shows a comparison of some status in the game. It can be comparison of players/Teams or comparison of previous and current status of a player/team.



Badges are similar to points, also named as special version of points are a visual representation of completing a particular task.

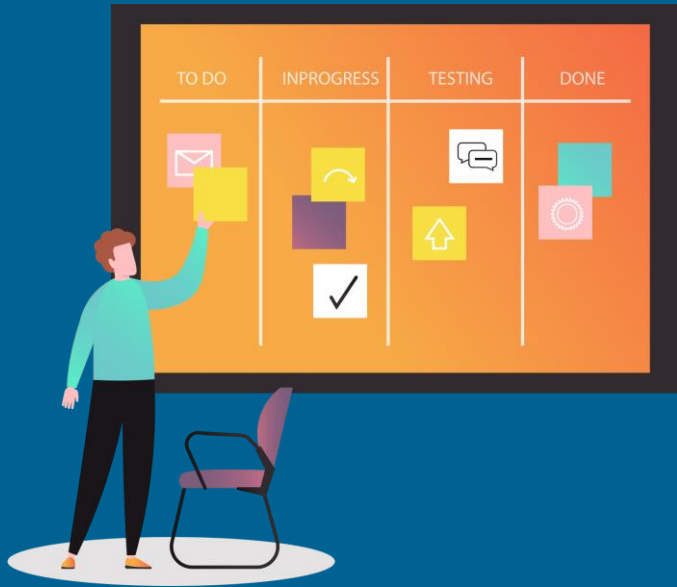


Progression (levelling) shows the player's progress through the game and also adapts the difficulty and content according the level.



Quests/tasks are prepared challenges that a player is supposed to overcome. This is the element that moves the story of the game forward. After a completion a player receives a reward.

Gamification Elements



Set collecting, similar to badges, show what the players in the game have accomplished. These are designed especially for very competitive players.



Teams – group of players that work together to achieve the same goal. This game element is focused on social cooperation between players.



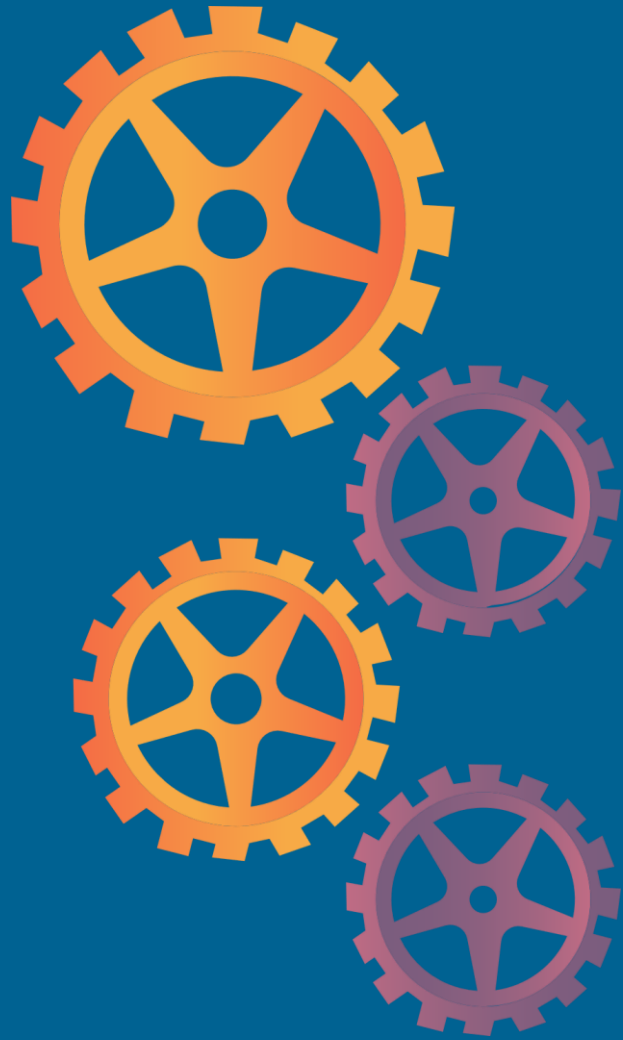
Battle with the boss is also focused on social part. The game is designed in such a way that one player cannot complete it solo. The point is to cooperate with other players in order to overcome the challenge/obstacle.



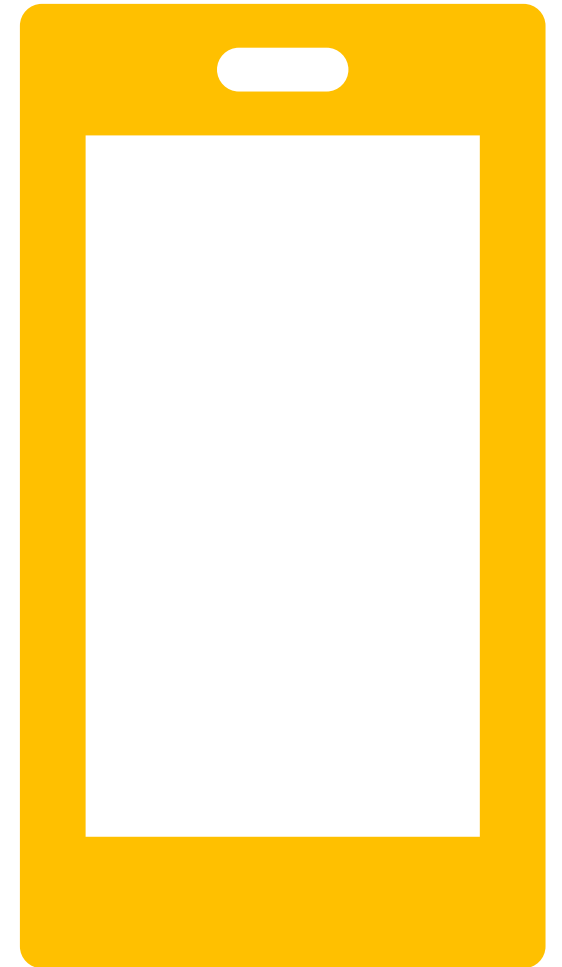
Mysterious treasure, usually bonus, is hidden part of the game, that everybody knows about, but do not know what is inside. It is unavailable for players until they reach some level, amount of points or a key.

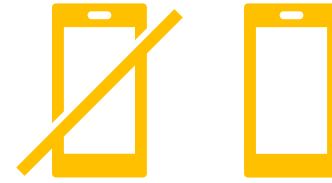
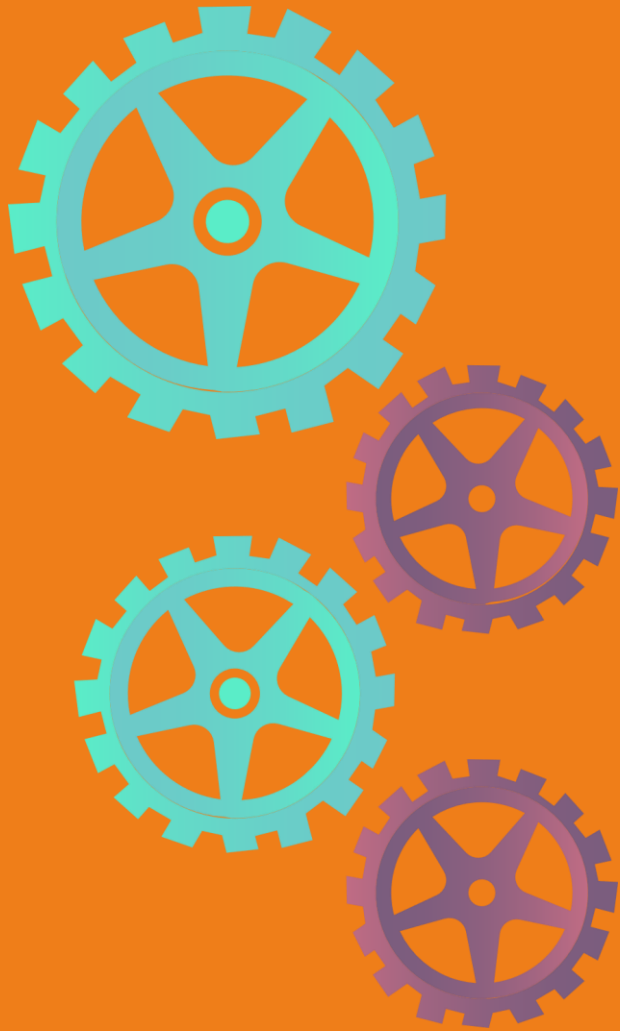


Story is the essential part of a game that puts players in special environment. It affects the mood and visuals of the game. Story has a special feature to draw people into the game.



Online Tools





Phones, iPads, computers.. they all distract students during classes. Do not we all say that rather than think how to use phones as an advantage?

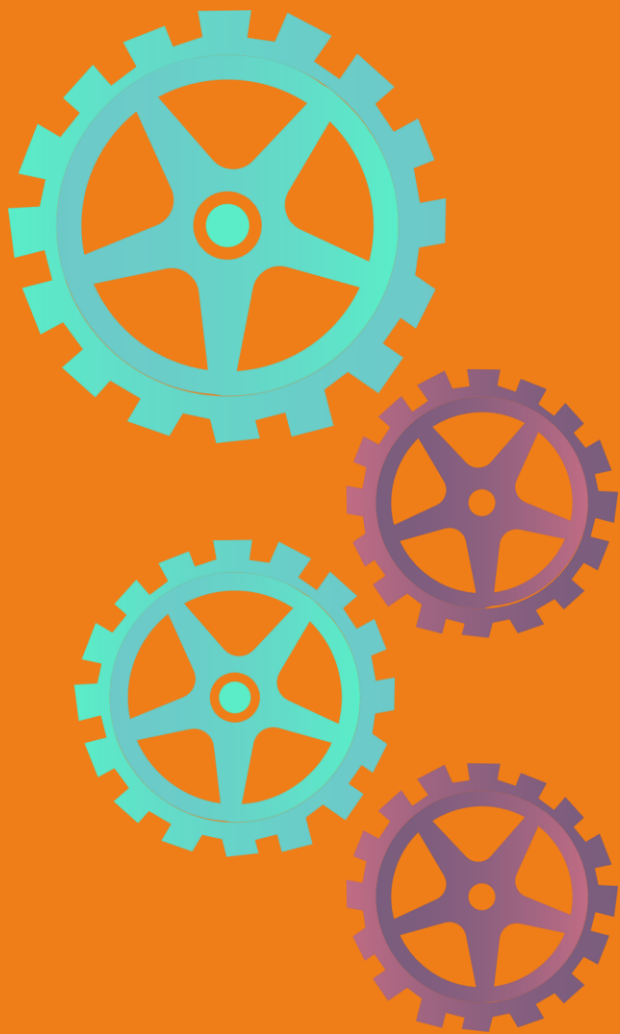
In this digital era, digital tools are a must and it would be contra productive to try to stop students from using it. When they grow up, they will use them anyway. So, lets make phones and computers tools that engage students, increase motivation and encourage active learning.

We have already talked enough about online engagement tools in previous modules, so in this module we mention just a few.



Online tools examples

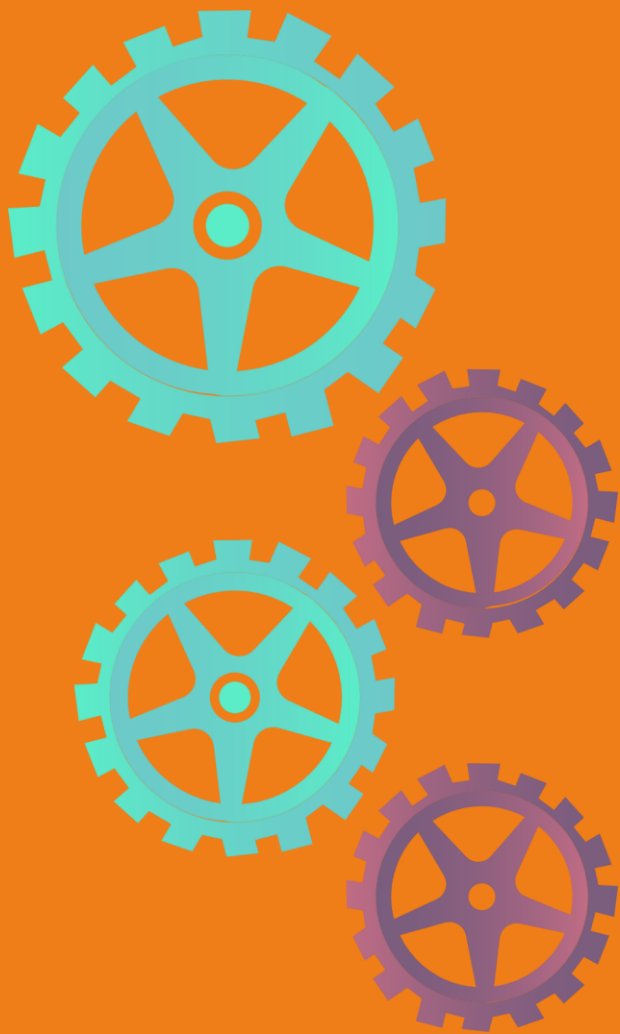
- Miro whiteboard & mind map
- Jamboard whiteboard & mind map
- MURAL whiteboard & mind map
- Canva whiteboard & mind map
- Mentimeter quizzes & polls
- Slido quizzes & polls
- Kahoot! quizzes & polls
- Breakout Rooms GoogleMeet, Zoom, Microsoft Teams





Whiteboard & Mind Map

- **Miro** – digital **whiteboard** that enables online collaboration with partners. The software allows you to create notes and designs, move things around, and communicate through embedded video calls or online chats. It offers series of pre-built templates that can inspire or serve as a starting place for the team project, canvas, images and enables agile workflow. Here is a [video guide](#) for beginners.
- **Jamboard** - Jamboard is an app provided by Google. It is a **digital whiteboard** that enables real time visual collaboration up to 50 people. On Jamboard you can write, draw, search Google and insert images or web pages, add sticky notes, organize them thematically or mark something up. There is also an option to add text boxes, images, and shapes. It is a great tool to use to engage every student at once. Here is the user [video guide](#).
- **Mural** – **visual collaboration**, used for organizing ideas in lists, flowcharts, frameworks, or drawings. In practice you can use it for brainstorming, workshops, engaging clients, for strategy and planning or design research. Here is short [video](#) introduction.
- **Canva** – a **graphic design** platform, used to create social media graphics, presentations, posters, documents, videos and other visual content. Here you can find the link to [video guide](#).

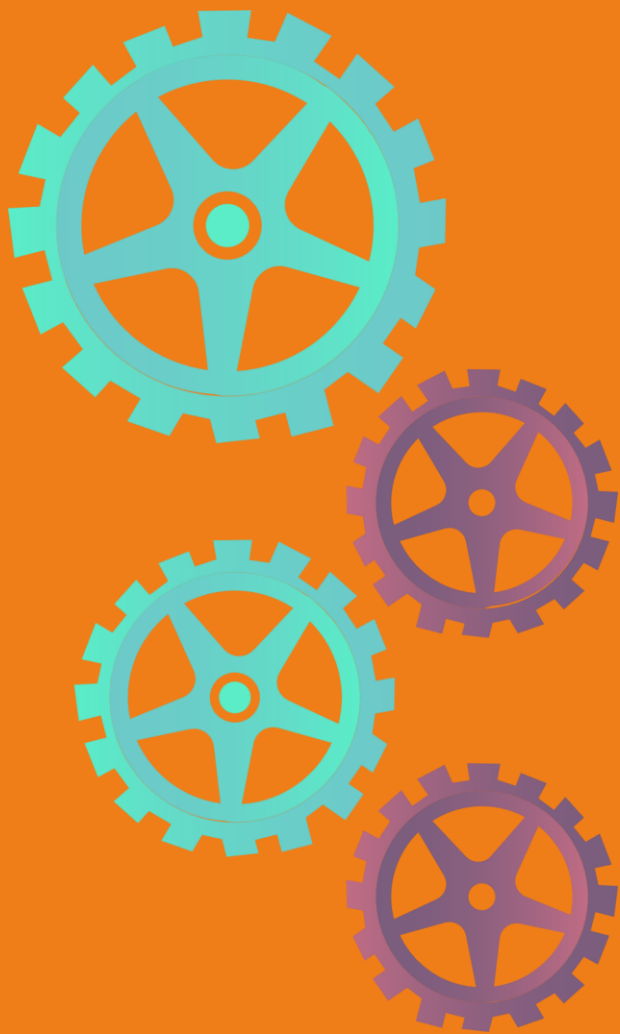




Quizz & Poll

Mentimeter – is an interactive presentation software that uses **quizzes, polls and word clouds** in order to engage the audience - students. It is built to use both, online education as well as in the real classroom. The difference between slide presentation is that Mentimeter allows the teacher to engage students in real time with polls or word clouds. This tool is accessible through any device or browser and the work with it is very intuitive and dedicated apps makes the use easier. If you have PPT presentation and you would like to use Mentimeter poll or word cloud, you can easily integrate it into the presentation.

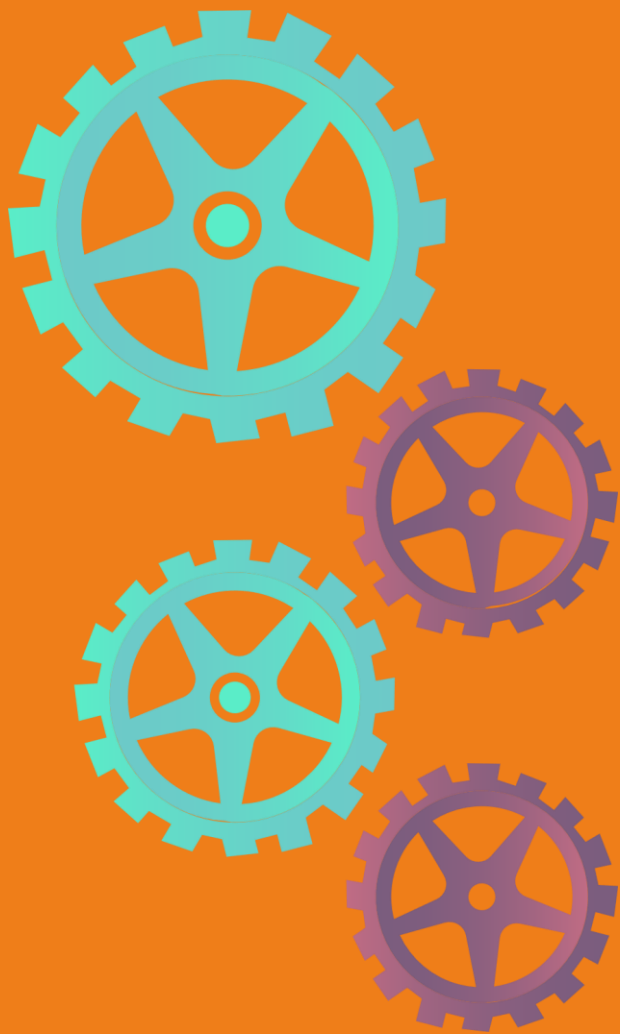
- If you create a quiz, a poll or word cloud your audience uses their smartphones to connect to the presentation by a simple code where they can answer questions. The Mentimeter presentation visualize their responses in real-time and creates a fun and interactive experience in class.
- Mentimeter is a great tool for brainstorming or voting in classrooms, whether online or offline. However, the software focuses more on presentation, polls and word clouds than on quizzes.
- Here is the link to user [video](#) guide.





Quizz & Poll

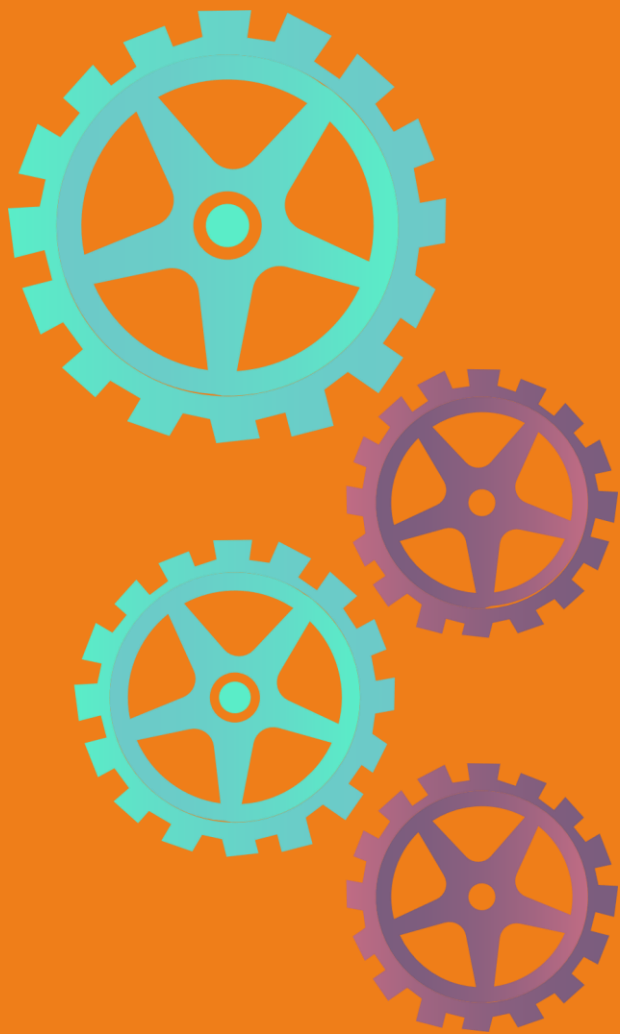
- **Slido** - is a **Q&A and polling platform** for live, remote or hybrid meetings, events, classes, and webinars. Event planners can set up a Slido event in less than a minute while all the participants need to join the conversation is a simple event code or link. This tool for audience engagement allows the event organisers to find top audience questions, maximize the Q&A time by letting people vote up their favourite questions, engage participants with live polls and quizzes, collect instant feedback with surveys or brainstorm ideas with upvotes about selected topic. Here is the link to user [video](#) guide.
- **Kahoot!** – is a digital learning platform that uses **quiz-style games** to help students learn by making the information engaging in a fun way. Kahoot basic game offers question and multiple-choice answer that can be complemented with images or videos. It gives points for every correct answer and keeps time scores – the fastest gets maximum points. Based on players' points, Kahoot makes player rankings. This tool keeps everyone involved because of the game and the effort to win and has a learning potential – for example you can use Kahoot to summarize a lesson. Here you can find an [introduction video](#) and video showing how to use [Kahoot for teachers](#).





Breakout Rooms

- Breakout rooms are **sessions split off the main meeting** managed by the moderator. They allow participants to meet in smaller groups with their own audio and video and can be used during the main session for collaboration, discussion or any other purpose that serves a user. However, they cannot be recorded. The moderator can also end breakout rooms and participants have 30 seconds to finish their discussion before they are automatically moved back to the main room. Participants in breakout rooms have also the option to return to the main room.
- Breakout rooms guide for [Google Meet](#), [Zoom](#), and [Microsoft Teams](#). There are also **video guides** for [Google Meet](#), [Zoom](#), and [Microsoft Teams](#).



Resources

The Glossary of Education Reform, on-line source available here: <https://www.edglossary.org/student-engagement/>

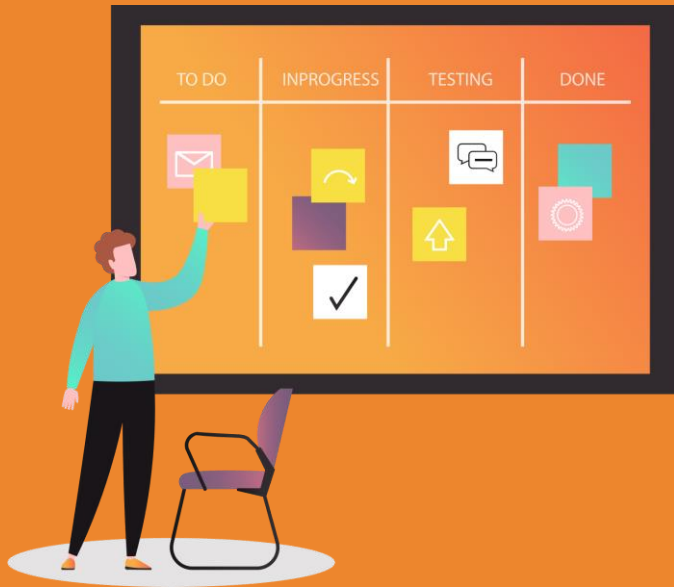
European Framework for the Digital Competence of Educators: DigCompEdu" by the European Commission's Joint Research Centre, EUR 28775 EN, ISBN 978-92-79-73494-6, doi:10.2760/159770, JRC107466, <http://europa.eu/!gt63ch>, also available here: https://joint-research-centre.ec.europa.eu/digcompedu/digcompedu-framework_en

5 Best Online Whiteboards for Real-Time Collaboration Know More about Online Whiteboards for Real-Time Collaboration. On-line article available here: https://www.edrawsoft.com/article/5-best-online-whiteboards.html?gclid=CjwKCAiAh9qdBhAOEiwAvxlok-OXDDEVMC0FH0iAtJu7nFOmCO63D_mZczRChoCBSnwhCQdupUdWKB0CZ6oQAvD_BwE

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Resources

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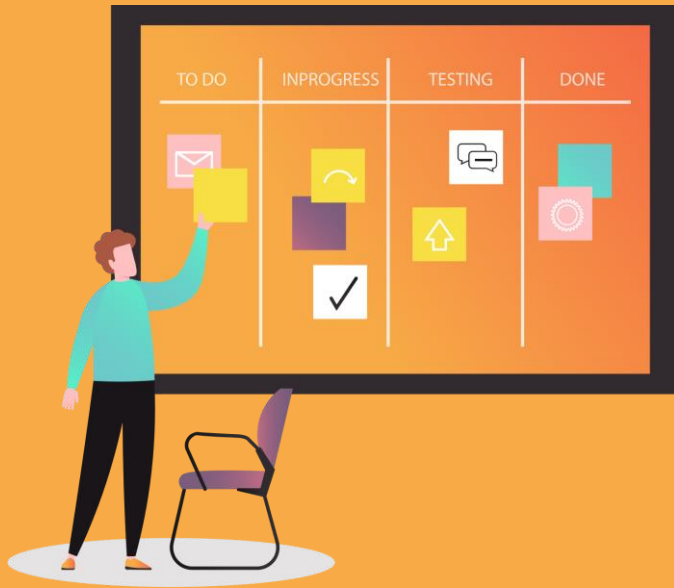
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Steward, K., 2022. What are the Advantages and Disadvantages of Gamification? Online article. Available on: <https://echo360.com/what-are-the-advantages-and-disadvantages-of-gamification/>



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[Agile2learn.eu](https://agile2learn.eu)