

## **Advanced tools in The EFL classroom: Friend or foe for novice teachers**

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### **Abstract**

The delivery of education has been fundamentally altered by the advent of e-learning, which has led to a rise in interest in the implementation of gamification to boost student participation. It has been demonstrated that incorporating gamification into e-learning can boost students' motivation, involvement, and learning results, ultimately leading to a more enriched and immersive learning experience for the student. The purpose of this research was to investigate whether or not incorporating technology and gaming into an EFL classroom would be beneficial. The results of this research lend credence to the idea that gamification can substantially influence the level of participation shown by students and highlight the significance of adopting this tactic in online education environments. According to the findings of this study, gamification has the potential to successfully respond to the specific preferences of learners, which could result in improved language learning outcomes. In general, the findings of the study point to the possibility of gamification as a viable method that has the ability to improve both the quality and efficacy of e-learning in higher education. The findings contribute to the current body of literature on gamification in higher education e-learning and offer recommendations for increasing the effectiveness of gamification in catering to the choices and preferences of students participating in ICT-based English language instruction. In conclusion, the findings of this study suggest that gamification should be implemented into language classrooms in order to improve students' overall learning experiences.

**Keywords:** *E-Learning, gamification, learner engagement, MOOC system, Al Akhawayn University, autonomous learning, gamification in ESL*

## INTRODUCTION

The emergence of Massive Open Online Course (MOOC) has made education more accessible to students, but low success rates suggest issues with course advancement and student engagement. This is especially challenging in digital teaching and learning, where face-to-face interaction is limited. To address this, gamification of e-learning has been recommended. Online learning, according to Hu and Li (2017), involves using an online platform that contains various learning resources. As online learning continues to grow, scholars and researchers have shifted their focus to student engagement. While Hu and Li (2017) suggest various teaching strategies to ensure student engagement, Bidari (2021) argues that collaborative and meaningful engagement techniques can boost student engagement. Bolliger and Martin (2018) found that students prefer learner-learner engagement techniques, while Matias and Wolf (2013) discovered that utilizing mobile technologies can boost student engagement. However, the concept of student engagement remains contentious, and it is viewed as a metric of accountability for students' involvement in learning or a variable in educational research to understand student behavior. As pointed out by Katrina and Meyer (2014), online communication cannot replace face-to-face interactions in the classroom.

Gamification is the process of incorporating game concepts into applications that are not games (Flatla et al., 2011). Theoretically, gamification might be applied to any task, activity, procedure, or circumstance. By using game-like tactics like scoreboards and personalized instant feedback, gamification aims to boost user engagement by giving users a sense of ownership and purpose when performing tasks (Flatla et al., 2011; Deterding, 2019).

According to Pavlus (2010), gamification is used in a variety of contexts, most notably in business and marketing, but we also want to demonstrate how crucial and valuable it is in the educational setting. We hope to increase motivation by introducing game aspects into work activities, but we must pay close attention to integrating tasks and exercises within the game design (Von, 2008; Van Roy et al., 2018). Through the use of gamification in e-learning, we want to promote more effective and interesting learning habits. People interact with computers like people, particularly when gaming (Fogg, 2002). Students need motivation and problem-solving skills to change or initiate a particular behavior. Participating in a social game and interacting with other players are other components of gamification. When people experience social presence, they naturally respond in social ways, such as with feelings like empathy or rage, or by obeying social conventions like taking turns (Pandey, 2019). Learning game development demands a substantial time

and financial commitment. Gamification may increase the attraction of material and engage consumers in a simple but effective way.

## **METHODOLOGY**

### **Research Site and Participant Selection**

To better understand how online learning systems and features are being used, we chose a random sample of Al Akhawayn University participants for our research project. (Statistical Analysis) To comprehend and acquire data regarding the percentage of users using the online learning system and the rate of users interested in using the system with the gamification features, 42 students were chosen and polled based on the System Usability Scale. 42 students were present, with 57.1% of men and 42.9% of women. As a result, the thoughts and findings we have obtained from our poll are gender neutral. In order to have a variety of perspectives on our research, we considered students from several departments at Al Akhawayn University.

According to a random sampling survey, online learning portals are used by newbies, occasional users, and frequent users. Our survey revealed that 76.2% of respondents had attended online courses, while only 23.8% had never learned online. For the above question, it was reported that 25 percent of the sample visited the learning website every day. While 56.3 percent of the participants completed the course.

### **Hypothesis**

One of the key hypotheses we sought to investigate in this study was the utilization of a gamification system to enhance users' learning experiences at Al Akhawayn University.

### **Research Question**

We focused primarily on the following overarching research question:

Has Al Akhawayn University's MOOC platform been made user-friendly to incorporate gamification in the learning process?

### **Classifying Active Learners**

We designed our questions to comprehend and identify the use of online learning practice among students and the impact of day-to-day gamification elements on them.

1. Based on their online learning journey, 2. Based on their online learning experience with the addition of gamification aspects

We asked fixed format multiple choice questions based on our respondents' preferences to better understand their trip. The majority of the questions were “How likely” questions with indicators ranging from 0 to 5 as shown in Appendix A and Appendix B.

### **Survey**

Based on the random survey, we identified frequent learners based on:

1. How often do learners complete the course? 2. How often do learners visit the learning platform?

## **RESULTS AND DISCUSSION**

Gamification is the process of introducing game concepts, aspects, and ideas into non-game situations in order to increase learner engagement (Bibas. 2020). Gamification can be used in a variety of contexts. Gamification is a popular workplace tool for employee training, recruitment, evaluation, and organizational productivity. Other applications include physical exercise, voting participation, and customer loyalty programs (Pandey, 2018).

“Gamification approaches attempt to capitalize on people’s innate needs for socialization, learning, mastery, rivalry, achievement, prestige, self-expression, altruism, or closure.” Gamification tactics may include rewarding players who complete desired activities or engaging players through competition. Points, achievement badges or levels, filling a progress bar, or giving the user with virtual currency are all examples of reward rewards. Making prizes for completing tasks visible to other players or offering leaderboards motivates gamers to compete even more."

The author of the article “Learning Apps That Use Gamification: Examples and Features Overview” published by Golovnya (2021) generalized the gaming components.

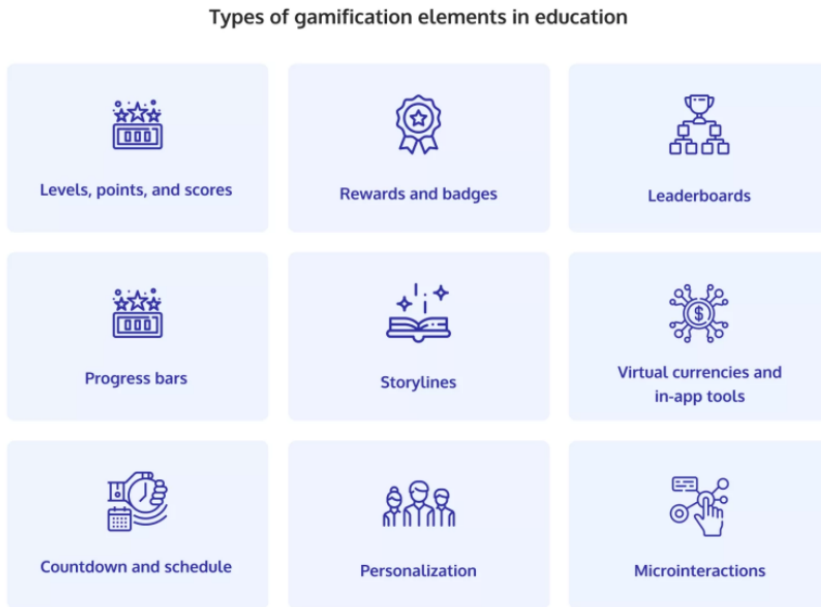


Fig. Types of gamification in education

When game elements are incorporated into curriculum delivery, learning becomes more enjoyable. Games are extremely popular among Generation G. Competition, cooperation, levels, characters, and challenges, according to Galessi (2018), combine to ignite the learner’s interest and excitement for the subjects.

#### A. Gamification analysis of Al Akhawayn University’s MOOC

We recognized a few elements of our system after investigating the gamification process and features as well as analyzing our MOOC system, which are:

1. Experience Points: Users are assigned points based on their success and activity in the course.
2. Rewards/Milestones: Users are rewarded based on their experience points, which are improved to the following levels, as well as unlocking features.
3. Leaderboards: Users are aware of their current state based on experience point rankings and can compare their levels [Level 1-10] with other students.
4. Progress Bars: Users can view their progress to understand their current status and plan their next steps accordingly. When the user continues to progress by actively participating in the course, the module on our MOOC system will be unlocked.
5. Countdown and Schedules: Moodle plugins automatically predict the course’s finish date, allowing learners and users to pace their study and plan their learning path accordingly. On our MOOC system, each module has a schedule,

which means that after completing one week, only the next week is unlocked. This will prevent users from finishing all courses at once.

These five elements (similar to game elements): The specific features used in the MOOC system heavily favor those that let students participate in the system. The system's gamification is the current point of contention. Let's break this question down into two parts so that you can understand it better.

1. Does our system use any gamification?

Yes, the four gamification elements that were mentioned earlier have been implemented.

Have we truly gamified our system?

Due to the large range of features that gamification systems can use to enhance the learner's experience, there is room for a few game elements to be introduced.

Practical Implications:

We would like to suggest two additions for our system while looking into gamification elements, weighing them against realities, and keeping our system's objective in mind.

Countdown and Timetable Elements: Including a countdown and a schedule in our system makes finishing tasks on time more appealing and educates us to be organized with time-track. You can use the Countdown and Schedules capabilities as follows:

The Octalysis Framework for Gamification & Behavioral Design, Core 7: Unpredictability and Curiosity, states that these fundamental ideas will be represented by Countdown and Schedules (Shehnaz, 2021). They will exhort the student to proceed with inquiry.

If the system tracks their progress on the learning website, 53.1% of students, according to our survey, will definitely use it.

When using MOOC learning platforms, personalization features will help users feel safe, secure, and at ease. You can utilize the following customization elements:

The Octalysis Framework for Gamification and Behavioral Design, Basic 4: Ownership and Possession states that personalization will be used to reflect these basic values because it will promote system ownership (Shehnaz, 2021).

Our poll indicates that if the system provides personalization features, 50% of learners will utilize it without a doubt.

Inadequate gamification due to missing plugins

Indication of Priority: Advanced Notification plugins are easy to create, manage, and present to users. Using Advanced Notification plugins, users can display alarms that resemble DEFCON. DEFCON alerts are level-based alerts with various alarm messages that are displayed to users (Potgieter, 2022).

Readiness condition	Exercise term	Description	Readiness
DEFCON 1	COCKED PISTOL	Nuclear war is imminent or has already begun	Maximum readiness. Immediate response.
DEFCON 2	FAST PACE	Next step to nuclear war	Armed forces ready to deploy and engage in less than six hours
DEFCON 3	ROUND HOUSE	Increase in force readiness above that required for normal readiness	Air Force ready to mobilize in 15 minutes
DEFCON 4	DOUBLE TAKE	Increased intelligence watch and strengthened security measures	Above normal readiness
DEFCON 5	FADE OUT	Lowest state of readiness	Normal readiness

*Fig: DEFCON Alerts developed by US Military*

These plugins' bootstrap ensures easy range of customizations. According to Potgieter (2022), teachers can utilize Advanced Notification plugins to inform users of various updates and due dates, welcome users to our website, and alert users for a variety of actions.

According to our poll, 25% of respondents agreed to utilize the system provided it had features based on their interests and convenience, and 50% of participants highly agreed.

Advanced Notification Plugins have some characteristics that set them apart from other plugins (Potgieter, 2022):

Advanced users are able to utilize basic HTML tags.

Customizable messages and titles

Filter and multi-lingual support

Multiple notification kinds (Bootstrap-based styles)

Icons based on text (optional setting)

Dismissible/Non-Dismissible

Customizable notification display date range

Show the user a notification a predetermined number of times.

Global/site-wide or instance-based alerts

Users can create and manage their instance-based notifications, which are by default deactivated, and include users like instructors.

Turn on/off individual or all notifications (Site-wide and instance-based)

Edit, Delete, and Restore Notifications

The choice of auto-deleting notifications after the end-date

The capability of permanently erasing alerts that have been marked as deleted for more than 45 days.

The option to automatically delete user records for notifications that have been ignored or seen but are no longer active.

AJAX is utilized to enhance user experience and streamline procedures; live preview is available while creating or editing notifications; the application implements Privacy API; and it is simple to use yet thoroughly documented (GDPR Compliance)

The Advanced Notification Plugin adheres to the following principles when compared to Ben Schneiderman's eight guidelines for interaction design (Wong, 2022).

1. Provide Informative Feedback – Users can receive several alert types with informative feedback based on their behavior. By doing this, users of the interface will be able to see where they are and what is happening.
2. Create a dialogue that leads to resolution - Users can receive feedback on their deeds. This enables them to understand where their efforts have taken them and aids them in locating the exit to the activity's conclusion.
3. Handling errors - Because users can associate various alarm messages with their actions, they will make fewer mistakes because they will have more notes on their activities.
4. Consistency - This plugin offers consistent features since every time a user explores the interface, they will see comparable messages for the same actions.

According to Chou (2022), the Octalysis Framework for Gamification & Behavioral Design identifies Core Drive 3: Empowerment of Creativity and Feedback and Core Drive 7: Unpredictability and Curiosity as represented by a personalization gaming element with an advanced notification plugin. This approach enables users to express their creativity and receive feedback on their results while arousing their curiosity through warning messages about the consequences of their actions.

One example of how Core Drives 3 and 7 can be supported is through instant feedback in the form of SMS alerts and unlocked milestones, delivered in various languages and at different times. Another way is through the Oracle impact, real-time control, and curiosity provided by the feedback system. Students can vote, rate activities, and share their opinions through the emoji-based Point of the View reaction system, enhancing social networking and



gamification in the classroom. The system also shows how many people responded and what kind of response was given, graphically indicating the difficulty of color track activities (Fombaron, 2021).

The Advanced Notification Plugin is unique in that it allows for difficulty tracks to be customized for each module in a variety of colors, and teachers can easily access reaction details, customize emojis and avatars, and write unique sentences for each reaction. Students can add different reactions to each quiz module to convey their point of view, supporting Core Drive 4: Ownership and Possession and Core Drive 6: Scarcity and Impression. The emotionally driven nature of these Core Drives and Core Drive 7: Competence and Impression contributes to users' investment in the system and their drive to perform better (Shehnaz, 2021). Our research found that 34.4% of participants would use the system if they could engage with teachers, and 43.8% of participants strongly agreed with this statement.

### **Octalysis Framework for Behavioral Science and Gamification**

Our analysis revealed that our MOOC system needs to incorporate gamification and personalization features. In order to comprehend the significance and viability of the plugins we came across while doing research, we compared them to the Octalysis Framework for Gamification and Behavioral Science.

In order to understand how to build and design for motivation within a specific setting and turn activities into meaningful and rewarding experiences, the Octalysis Framework is a human-centric gamification design framework (Shehnaz, 2021).

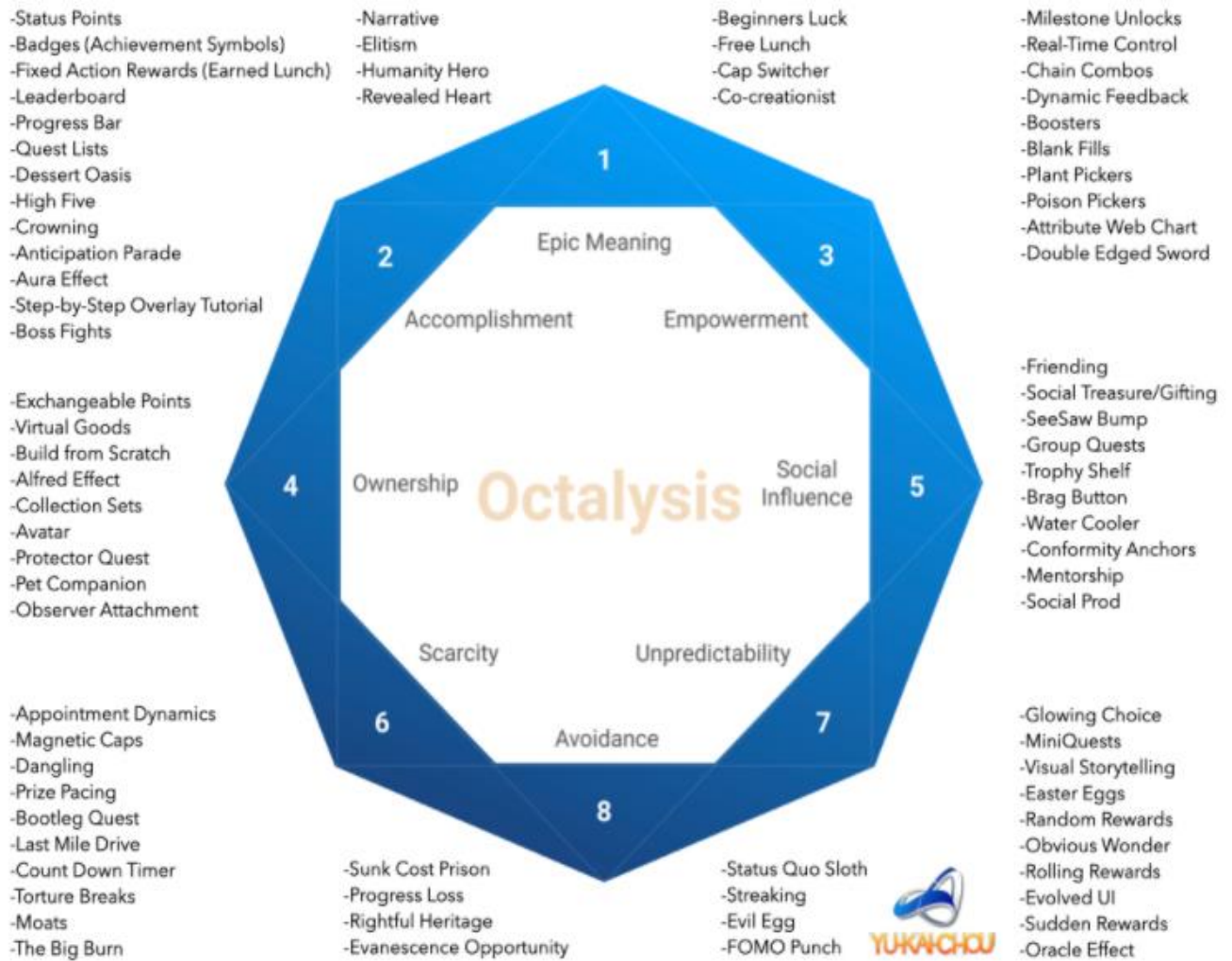


Fig: Octalysis framework for gamification and behavioral science (Chou, 2021)

Incorporating gamification into language learning through the Octalysis Framework for Gamification and Behavioral Science is a powerful tool for enhancing the learning experience of ESL learners. The 8 Core Drives of the framework are designed to motivate and engage learners in various activities, promoting their creativity, feedback, and sense of ownership. Empowerment of creativity and feedback encourages language learners to solve problems and test out alternate solutions, enabling them to express their creativity and receive feedback on their performance.

In addition, a sense of ownership and possession motivates learners to take charge of their learning process and to enhance and grow it, similar to how gamers want to strengthen and grow their games. Customizing profiles and avatars

provide learners with a sense of pride and accomplishment. This personalization aspect is fully supported by the Octalysis Framework, making the system more engaging for learners.

Scarcity and impression also play an essential role in gamification. The desire for something scarce or unattainable creates a sense of urgency that can encourage learners to take action. Providing learners with a deadline for completing a task or challenge can encourage them to ponder on it all day, knowing that they will not be able to receive it right now. Facebook originally used this aspect, and it can motivate language learners to take action and engage in their learning.

Finally, unpredictability and curiosity can be powerful motivators in gamification, especially for language learners seeking new and exciting ways to learn. Providing learners with uncertainty about what will happen next can encourage them to engage more actively in the learning process, keeping their brains active and considering new ideas and possibilities.

By addressing each drive of the Octalysis Framework by incorporating appropriate plugins, our gamified language learning system will touch every element to be a fully gamified system. This will enable us to provide ESL learners a personalized and engaging learning experience, promoting their creativity, feedback, and ownership of the learning process. It will also help to make the learning environment more fun and exciting, enhancing the overall learning outcomes for language learners.

## **CONCLUSIONS**

In conclusion, it is highly recommended to implement the Octalysis framework and the two suggested plugins to improve the gamification and personalization of e-learning platforms. By providing real-time alert messages, avatar customization, and personalized content recommendations, learners can have a more engaging and enjoyable learning experience. This approach can particularly benefit language learners by providing a fun and interactive approach to language learning through technology. Hence, it helped language learners develop a more enjoyable learning experience with technology usage, making this approach highly recommended to enhance the effectiveness of e-learning platforms..

## **ACKNOWLEDGMENT**

We would like to thank all the participants in this current research study.

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## **Appendix A**

### **Indicator Scale**

0- Never, 1- Once a while, 2- Sometimes, 3- 50-50, 4- Frequently, 5- Always.

We asked our responders the following questions about their online learning journey:

*Which online learning platform do you use primarily for learning?*

*How likely do you complete the course that you are enrolled with?*

*How often do you visit the online education platforms when enrolled in the course?*

*How likely are you to enjoy the learning experience from the course you are enrolled in?*

*How likely are you to interact with other learners from the course you are enrolled with?*

*How do you find the platform's existing features where your course is listed?*

*How likely are you to interact with the course instructor from that course you are enrolled with?*

## **Appendix B**

### **Indicator Scale**

1-Strongly Disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly Agree.

*I will use the online learning platform if it assigns me specific points based on my learning activity?*

*I will use the online learning platform if it has certain levels that I need to pass to unlock the module that I want to study ahead?*

*I will use the online learning platform if it rewards me based on my progress on the course I am enrolled with?*

*I will use the online learning platform if it has personalization features based on my interest and my convenience.*

*I will use the online learning platform if it tracks my progress and gives me personalized feedback?*

*I will use the online learning platform if I can interact with other students and instructors? (also, be able to do group work)*

*I will use the online learning platform if it is easy to use with all the features included?*

*I will not use the online learning platform if I need the support of technical members from using the system?*

*I will not use the online learning platform if it has more procedures for me to start the course?*

*I will use the online learning platform if I feel confident in using it?*