



# The impact of self-development competitiveness-oriented tasks on Spanish learners' motivation in foreign language teaching

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**ABSTRACT:** The drastic shift from predominately face-to-face traditional classes to virtual or hybrid teaching introduced after the COVID-19 pandemic urges us to challenge our teaching practice and the materials to keep or enhance students' incentives because their motivation is a powerful force for incremental learning. On the other hand, recent educational trends appear to encourage competition avoidance. However, theoretically speaking, meaningfully gamified self-improvement-oriented competitive learning materials have the possibility to be significantly useful materials to activate students' instinct motivation. Based on this assumption, this study aims to explore the potential of online exercises using Moodle, which incorporates the theories of meaningful gamification and self-improvement competitiveness, to motivate the students, support better performance, and serve as a source of learning enjoyment. Using the data collected in a Spanish university, both quantitative and qualitative analyses were undertaken. Our findings reveal that the online exercises helped students to achieve satisfactory performance outcomes. In addition, they apparently contributed to the alternation of motivation from the superficial extinct incentive to the genuine instinct one, which is the key factor for steady and sustainable language learning.

**Keywords:** foreign language teaching; competitiveness; motivational strategies; meaningful gamification; information and communication technologies

## **El impacto de las tareas de autodesarrollo orientadas a la competitividad en la motivación de los estudiantes españoles en la enseñanza de lenguas extranjeras**

**RESUMEN:** El cambio drástico de las clases tradicionales predominantemente presenciales a la enseñanza virtual o híbrida, introducido tras la pandemia del COVID-19, nos insta a cuestionar nuestra práctica docente y los materiales para mantener o mejorar los incentivos de los estudiantes, ya que su motivación es una fuerza poderosa para el aprendizaje incremental. Por otra parte, las tendencias educativas recientes parecen fomentar la evitación de la competencia por edad. Sin embargo, desde un punto de vista teórico, los materiales de aprendizaje competitivo orientados a la superación personal y significativamente gamificados tienen la posibilidad de ser materiales significativamente útiles para activar la motivación instintiva de los estudiantes. Partiendo de este supuesto, este estudio pretende explorar el potencial de los ejercicios en línea con Moodle, que incorporan las teorías de la gamificación significativa y la competitividad orientada a la superación personal, para motivar a los estudiantes, favorecer un mejor rendimiento y servir como fuente de disfrute en el aprendizaje. A partir de los datos recogidos en una universidad española, se realizaron análisis cuantitativos y cualitativos. Nuestros resultados revelan que los ejercicios en línea ayudaron a los

estudiantes a obtener resultados satisfactorios. Además, aparentemente contribuyeron a la alternancia de la motivación desde el incentivo superficial extinto hasta el genuino instinto, que es el factor clave para un aprendizaje de idiomas constante y sostenible.

**Palabras clave:** enseñanza de lenguas extranjeras; competitividad; estrategias de motivación; gamificación significativa; tecnologías de la información y la comunicación.

## 1. INTRODUCTION

The experience of the COVID-19 pandemic and the resultant quick change in the academic environment from mainly face-to-face teaching to online-based or hybrid classes present us both with positive yet demanding aspects as well as difficult tasks. For one, the usefulness and immense possibilities offered by information and communication technologies (ICT) have enabled us to maintain classes despite the mobility restrictions imposed. We are now more conscious about the necessity of ICT for sustainable education in the 21st century. On the other hand, it is undeniable that online education cannot entirely substitute the role of the traditional classroom. One of the hardships observed among students and professors is the control of study pace and encouragement, that is, to keep up with the assignments and to provide appropriate feedback to maintain motivation (Mendoza et al., 2023; Abdolreza-pour et al., 2023). In fact, motivation is essential to any educational process to activate and maintain learning behavior (Papi & Hiver, 2020; Al-Hoorie, 2017; Palmer, 2005). If students have sufficient motivation, they stay engaged with their class and care about their learning progress (Linnenbrink-Garcia et al., 2016) no matter in what forms classes are given. Yet, classroom learning deeply relates to the interaction among human beings, whereas a remote environment moves its emphasis toward self-paced and student-material interactions (Graham, 2004). Hence, now it is imperative to think about the elaboration of attractive online materials and appropriate teaching strategies for foreign language classes (Kirkpatrick et al., 2024).

## 2. LITERATURE REVIEW

### 2.1. Motivation

Motivation is something that support individuals to move towards certain activities or tasks (Pintrich, 2003). Therefore, motivation has an influential power to achieve a goal (Abdolreza-pour et al., 2023; Papi & Hiver, 2020; Bipp & Van Dam, 2014; Atkinson & Reitman, 1956). Research on motivation varies depending on the approaches. A notable study among motivation literature is the achievement goal approach, which frames goals in two ways: mastery goals and performance goals (Elliot, 1999). A mastery-goal-oriented person seeks personal improvement and task mastery, whereas the performance goal orientation is characterized by the demonstration of competence when compared with others (Elliot, 1999). In addition, there is an avoidance motivation that is caused by the fear of a negative outcome, therefore it prevents people from demonstrating their low performance (Elliot, 1999). Another influential approach is the self-determination theory, which involves needs and social-cognitive constructs (Pintrich, 2003). This theory treats two types of motivation: autonomous motivation and controlled motivation. Autonomous motivation appears when

people find value(s) in the participation activity and identify themselves with it; therefore, it may include intrinsic motivation as well as some aspects of extrinsic motivation. On the other side, controlled motivation is affected by the external regulation such as reward or punishment and by the personalized controlling factors like fear of shame, ego-involvement, and so forth (Deci & Ryan, 2009). Deci and Ryan also identify three essential needs of human beings in all cultures: competence, autonomy and relatedness, which should be considered as influential factors that affect autonomous and controlled motivation (2009). Based on the studies of Atkinson (1964) and McClelland (1961), the need approach model developed by Covington (1998) enables the inclusion of the affective aspects such as the need for success and the fear of failure into the motivational studies (Pintrich, 2003). Motivation engages with the dilemma between the expectation to maximize satisfaction for one and minimization of painful failure experience (Winer, 1985, p. 275). For this reason, the need approach puts the emphasis on the importance of a healthy balance between the struggle for success and avoidance of failure (Covington, 1985).

As far as foreign language learning and teaching is concerned, motivation is the driving force that serves as, first of all, the incentive to start to be involved in the new language world, and second, it keeps pushing forward the learning process that sometimes turn out to be tedious or painful (Al-Hoorie, 2017; Dörnyei, 2005). Motivation is the base for the construction of knowledge, and teachers should promote positive motivation as much as possible. In fact, whether students maintain their initial interest depends on the strategy's teachers use (Mendoza et al., 2023; Omar et al., 2005) and teachers' positive presence determines students' success (Pishghadam et al., 2021). If we focus on the source of motivation, there are two types: intrinsic motivation and extrinsic motivation. Intrinsic motivation comes from the core of students; they are their desire, joy and curiosity to learn and improve. Meanwhile, extrinsic motivation are external factors such as grades, rewards, marks and competitions (Tucker, 2020). Some researchers of motivation do not recommend the aggressive use of extrinsic motivations since it reduces students' intrinsic motivation level, provokes comparisons among classmates, raises the pressure and anxiety of pupils and shrinks their sense of autonomy (Deci & Ryan, 2009; Tucker, 2020), while others praise positively the extrinsic motivations that some language learning materials offer (Cagiltay et al., 2015; Cruz et al., 2017).

Palmer (2005, p. 1864) offers some motivational teaching strategies such as:

- Setting of moderate-level tasks to challenge students as well as letting them experience regular success.
- Use of new experiences to encourage students' curiosity.
- Avoidance of competitive situations by letting students work individually or collaboratively.
- Provision of feedback and use of private and not public rewards to recognize the effort and progress.

Palmer maintains the need for confrontation avoidance, or in other words, competition among students, although he recommends the use of rewards as long as they do not provoke social comparisons. Similarly, Linnenbrik-Garcia and her colleagues (2016, pp. 233-234) offer

useful instructional strategies to stimulate students' learning processes which are inspiring for this study. They are:

- Importance of giving students well-explained instruction.
- Use of challenging tasks and supportive feedback.
- Value a students' autonomy by allowing them to make decisions and direction selection.
- Realization of attractive activities that ease students' active involvement.
- Priority of learning and understanding instead of performance, competition or comparison among them.

Finally, some of beneficial Dörnyei's (2001, p. 76) motivational strategies are:

- To break learning monotony,
- To create interesting tasks,
- To increase students' participation opportunities.

He gives some additional ideas for the creation of activities, which should be interesting, new, fascinating, exotic, fantasy and personalized.

## 2.2. Meaningful Gamification

While these motivational strategies are indispensable, the change of an educational environment requires adoption of these designs to the current situation. The introduction of ICT tools into motivation studies is an urgent research theme for the modern classroom (Pintrich, 2003). Games and videogames have been paid much attention by the educational institutions because of their educational and motivational potentialities (Yamani, 2021; Borja et al., 2017). Moreover, not only the videogames, but also game-based learning, or in other words, a gamified learning environment, demonstrate the facility to attract and motivate students for their learning (Marvel, 2017; Tsai, 2017). As a matter of fact, maintaining the motivation of students in face-to-face classrooms is already a challenging task, current remote learning settings leave the teachers' responsibility further exposed to keep the class on the right track because it requires more students to self-discipline (Ucar & Kumtepe, 2020). This is the very reason why it is absolutely necessary to make the best of the power of game-like materials available online to get rid of online teaching difficulties.

Along with the research progress on the use of video games and games in classrooms, studies on gamification in relation to motivation have been progressing. It is assumed that the games and simulations in general contribute to motivating students to be involved in the learning activities (Cao et al., 2022; Çakmak, 2017; Deterding et al., 2011; Tan & Hewet, 2016). In an academic sense, gamification means the use of game design elements in non-game contexts (Deterding et al., 2011), and typical examples of game elements are points, badges, levels, challenges, and so forth (Tan & Hewet, 2016). A step forward in this research field is the studies on meaningful gamification. Meaningful gamification applies the game mechanism to supply extrinsic motivation but expects to help students to discover and enjoy

a deeper connection with the gamified-material's background themes rather than the more obvious but less important superficial rewards (Tan & Hewet, 2016; Nicholson, 2013). Within this framework, external rewards are no longer relevant because they are taken over by the intrinsic motivation represented by desire, joy and enjoyment of learning. Consequently, levels, points, badges, and leaderboards turn out to be a secondary matter (Tan, 2018). Borrowing from the theory of self-determination motivation theory, meaningful gamification seeks to satisfy three needs, they are: need for autonomy, relatedness and competence. That is to say, competition, which is frequently considered an extrinsic motivation, is possible to be transferred to intrinsic motivation if one can find the delight of learning from it and lose the sense of competition against rivals.

### 2.3. Competitiveness

It is true that for some persons, competition is a source of motivation, whereas for others, it is not necessarily true (Murray, 2019). Murray claims that competition serves positively in specific situations such as among high-achieving students, in some cultures, in some study disciplines and by modifying the dynamics of competition from the individuals versus individual models to the groups versus the groups collaboration one (Murray, 2019). Thus, competition is not necessarily a negative element but it is a matter of how to implement competition. Bipp and van Dam affirm that the desire to peruse something is intensively related to both self-improvement and competition with others (Bipp & Van Dam, 2014). Together with this assumption, studies on the relationship between competitiveness and motivation within the educational environment have been advancing little by little (Baumann & Harvey, 2018), and there are actually some findings that affirm the contribution of competitiveness to better learning (Moke et al., 2018).

The term "competitiveness" is used for its varied meanings in diverse contexts. At the micro level, competitiveness is examined as one of the capacities each individual has (Smither, & Houston, 1992), as a type of personality trait or environment (Moke et al., 2018), or as a part of cultural influence (Baumann & Harvey, 2018; Houston et al., 2005; Fülöp, 2009). There are numerous influential factors like interpersonal relations, emotional management (Moke et al., 2018), gender (Houston et al., 2005), intensity, the number of competitors, and the magnitude of rewards (Fülöp & Orosz, 2015). As such, competitiveness is a very complex concept that has been present in human history for a long time. In fact, the discussion about good or bad competitiveness has always been treated as an ever-lasting theme; Adam Smith praised the potentiality of competitiveness for its role in improved motivation and better performance, whereas Thomas Hobbs disliked competition due to its inherent danger for demotivation (Murayama & Elliot, 2012). In our modern era, as we have already examined in the previous sections, researchers of motivation tend to be very careful about the use of competitions or any forms of comparisons, especially in the classroom (Deci & Ryan, 2009; Tucker, 2020). It is probably safe to say that this is a remarkable trend in the educational field, since competitiveness has been allocated opposite of a cooperative methodology (Fülöp & Orosz, 2015; Orosz et al.). Especially, in education and psychology studies, competitiveness is often connected to a negative image of a dark force, which destroys friendly personal relationships, therefore, it should be kept away from

children and teenagers (Fülöp, 2009). This is what Fülöp names as a Beauty and Beast Paradigm (Fülöp, 2009; Fülöp & Orosz, 2015).

Still, recent studies try to show the positive side of competitiveness, particularly when competitiveness is characterized by self-improvement. As a matter of fact, competition does not happen only in interpersonal settings, but also within an individual alone. Conceptually speaking, there are three conditions where competitiveness appears: individual differences (personal characteristic), situational differences (perceived situation) and interactions between individual differences and situational factors competition (characteristics of the actual situation) (Murayama & Elliot, 2012; Brown et al., 1998). The focus in all three settings can be reduced to two levels: interpersonal and intrapersonal relations (Murayama & Elliot, 2015). Furthermore, competitiveness can be categorized into five groups considering the objective, function and orientation of the competitiveness. The first is called superiority competitiveness (Moke et al., 2018), constructive competitiveness (Fülöp & Orosz, 2015), or enjoyment of competition (Houston et al., 2005), which sets the defeat of rivals as a principal goal. The second is mastery competitiveness (Moke et al., 2018) or personal development competitiveness (Fülöp & Orosz, 2015; Orosz et al., 2018; Thornton et al., 2011) that put its emphasis on the intrapersonal competition stimulated by self-improvement, or in case of existence of others, compete with others but not against them (Thornton et al., 2011). The third and less appreciated one is the so-called hyper-competitiveness (Orosz et al., 2018; Thornton et al., 2011) or destructive competitiveness (Fülöp & Orosz, 2015), which is characterized by extreme, excessive, hostile, and aggressive competitiveness, making people want to win by any means. The fourth one is competition avoidance (Fülöp & Orosz, 2015; Orosz et al., 2018), which is the passive orientation towards competitiveness. Finally, lack of interest in competition (Orosz et al., 2018) represents those who have no interest at all in any time of competition with anyone, even with him/herself.

Currently, there are some empirical studies about competitiveness in relation with distinct factors, situations, levels and orientations. For instance, Huston's work shows the gender difference at university education, discovering that male students are more competitive than females in general (Houston et al., 2005). Young women tend to prefer cooperation over competition although there is a significant difference among same sex groups (Vantieghem & Van Houtte, 2018). Ito-Morales & Morales-Cabezas (2021) reveal the self-development-oriented competitiveness and stress caused by the competitive environment among university students. New focus paid to competitiveness in videogame surroundings, which some studies confirm the gender difference, specifically boys are favor to challenging, complex, interpersonal interaction and competitive games while girls like narrative games and they express their dislike towards competitiveness, violence and 3D digital games (Borja et al., 2017; Tsai, 2017). Hölling et al. (2020) explore the relation between the personal trait competitiveness and enjoyment of competitive gamified systems.

The concept of mastery competitiveness (Moke et al., 2018) or personal development competitiveness (Fülöp & Orosz, 2015; Orosz et al., 2018; Thornton et al., 2011) has a lot to do with mastery-goal-orientated motivation, because, in essence, both peruse personal improvement. Some literature on motivation and competitiveness advises avoidance of the use of competition that can provoke comparisons and competition among students. Yet the use of mastery-goal-oriented competitiveness can turn out to be beneficial for better learning

as long as competition with others is not employed. In addition, if meaningful gamified elements are added to the material, rewards attained by winning competition should be altered from the source of extrinsic incentive to intrinsic motivation. On top of that, the possibility of pacing progress as each student likes to contribute to the rise of autonomous motivation, thus, students will be motivated enough to keep up with their studies.

### **3. THE STUDY**

#### **3.1. Research questions**

Considering these previous studies, and the essential role of teachers to offer students an effective and efficient learning experience (Petrovic-Dziedz, 2019), this study aims to create a task that involves the positive parts of motivational strategies, meaningful gamification, and competitiveness, to offer a better learning environment for the student of foreign language study and to contribute to a sustainable learning environment despite the current online learning setting. Therefore, our research questions (RQ) are:

- RQ1: By using self-improvement oriented competitive learning materials, are students able to maintain their learning motivation and have it reflected as a performance outcome?
- RQ2: By emphasizing mastery-goal-oriented-competitiveness and meaningful gamification, are students able to change extrinsic incentive (marks) into intrinsic motivation (the joy of learning)?

In order to examine the research questions stated above, we design a quantitative analysis as well as some qualitative studies. Data for the quantitative research were collected from the task records and the results of three exams. Materials for the qualitative analysis were gathered from the survey answers from open-ended questions in which several students participated voluntarily, and from some semi-structural online interviews.

#### **3.2. Design**

This experiment was carried out in two Japanese as a foreign language courses at a university in Spain. It may be convenient to point out some particular circumstances of Japanese as a foreign language that the Spanish context faces. Thanks to the worldwide boom of manga and anime (Okuda & Okuda, 2017), young university students arrive in class with enthusiasm to learn Japanese, implying that their initial motivation is relatively high. Yet, for most Westerners, Japanese is one of the toughest languages to learn (U. S. Department of State, 2021) and this is especially true for the Spanish speaking students (Shinozaki & Nozaki, 2020). A kind of frustration caused by the apparently slow improvement of linguistic skills when compared with that of other languages (such as English, French, or Italian for the case of Spanish learners) is common among students of Japanese (Larson, 2006). In addition, it even comes to external motivation, there are very few to list, as the opportunities to use Japanese are extremely limited outside the classroom. The Japanese language is not

recognized as much as other languages such as English and French in the Spanish setting, and job opportunities related to Japan are still limited. Facing this reality, there are no other ways but to hold on to their initial instinct motivation and keep or even expand it.

As far as the university where this study is realized is concerned, the Japanese language is one of the various minor languages that are offered to diverse Bachelor's degrees. Since it is quite common to the classes of less commonly taught languages, insufficient teaching hours and limitation of materials could be observed in the Japanese classroom at this university. Despite these difficulties, the growth in the number of students enrolled in the three-leveled Japanese language course is stable. Against the plan, due to the pandemic, this year's classes were first carried out by a half physically in-class tuition and a half-online manner for the first three weeks. However, as the sanitary situation got worse, they were later converted to be online only until the end of the term. In spite of the obstacles, the teacher transmitted virtual live lectures for the days corresponding to the in-class days. From the beginning of the courses, following the instruction given by the university, the teacher divided students into two sub-groups to facilitate the face-to-face lectures, and prepared to share videos and complementary materials through the university Moodle system for the realization of flipped-classroom scenarios. The duration of the courses was 4 months, and the lecture frequency was twice a week, two hours a day. Still, the control of study pace to complete the online assignments was left totally to each student in order to encourage their autonomy needs.

### 3.3. Data

The data for the quantitative analysis for both RQ 1 and RQ 2 were collected through the university Moodle among 66 (male 28.8%, female 71.2%) out of 75 students from two Japanese courses, who enrolled and completed all required assignments for continuous evaluation. As variables for statistic operations, we used one of the online exercise tasks. Students were expected to do 10-15 exercises for each lesson available in Moodle. They were mixture of different types of questions (multiple choice, fill the space, word order, etc.) to review the contents of lessons. The teacher prepared the data bank of 20-30 questions for every lesson, and the Moodle system selected 10-15 questions out of the data bank randomly. Every time students accessed the Moodle exercises, they could encounter new combinations of questions, to promote significant learning instead of simply memorizing. By finishing the exercise assignments, the score as well as correct answers and explanations were given by the system to facilitate a better understanding. There was no limitation to access these until the end of the term. The records were considered for the final evaluation, yet, in order to promote the conversion of an apparently extrinsic incentive (score) to an intrinsic motivation, the final score for evaluation were calculated, first by the mean of the highest scores of all lessons, then by adding the bonus points adjusted by the total count of tries and duration development. Aiming not to generate a competitive environment in the class but rather foster the sense of self-improvement inspired by the theories of motivation and competitiveness, scores were closed publicly and only each student, and the teacher were able to see them. The teacher frequently updated the adjusted scores to keep progress visible for each student. On the first day of the course, the teacher explained the system of online exercises in Moodle and the main purpose of this assignment (the principle of

self-improvement competitiveness and the transformation of motivation from extrinsic to intrinsic), and it was emphasized repeatedly during the whole course. As for the dependent variable, which is the performance outcome and the maintenance of motivation, we used the scores of three controlling exams, the final marks of the courses, and the class engagement observed by the attendance. All controlling exams were done through Moodle.

To explore RQ1 and RQ 2 deeply, we bring about the quantitative research explained above, as well as the qualitative analysis, using the data collected from open-ended questions and interviews. Considering the fact that university students are tired of too many surveys and questionnaires nowadays, which cause low answer rates (Baumann & Harvey, 2018, p. 19), this study tries to not depend too much on the forced survey-based data. Therefore, students were asked to only fill in the open-ended questions voluntarily where they could freely express their evaluations on the online exercises and on other content of the courses descriptively. A total of 30 students completed the forms. In addition, a few students who offered the possibility of voluntary interviews were contacted to express their impression of the exercises in more depth.

## 4. RESULTS

### 4.1. Quantitative analyses for RQ 1

First, we examine RQ 1. In order to do so, we studied several descriptive analysis, correlations between different variables and a regression analysis. Despite of teacher's effort to give the detailed instruction following the advice of Linnenbrik-Garcia et al. (2016), it took some time for students to get used to the routine of autonomous learning through Moodle exercises. This process of initial confusion to the establishment of a good habit of using exercises is well reflected in the Table 1.

**Table 1.** *Summary of exercises*

	Period 1	Period 2	Period 3
Average of number of tries	10.7	11.6	8.9
Average of maximum scores	8.1	8.6	8.6
Valid samples	57	52	59

*Note.* Periods 1, 2 and 3 are marked by the realization of three controlling exams.

At the beginning, students were motivated by the new style of exercises, thus many students accessed Moodle to do the tasks as it can be observed from the average number of tries and valid samples. However, they were still not sure how to accomplish the tasks and the practice was not understood enough yet, therefore, they were still struggling for better scores. Still, for the second period, those who acquired good skills and the habit of doing exercises started to enjoy the tasks as can be observed from the increase in tries and maximum scores, while those who could not get on the right track started to drop off, which was reflected by the decline of sample numbers. Finally, during the third period, the number of participants increased. This was assumed to be consequential of the success of

the motivation supplied by this exercise system. The long holidays during the third period probably contributed to it, too. Moreover, the formation of good and skillful practice can be seen by the maintenance of maximum scores with fewer tries needed. From the point of view of the teacher, the exercises consisted of moderate-level questions that enabled students to experience appropriate challenges. A small but constant series of successes sustained by the instant feedback were easily identifiable. Individual rewards (scores) as recommended by Palmer (2005), sustained this result.

Next, we examine whether the benefit of exercise implementation actually contributes to the development of performance. Table 2 shows the correlations between exercises and results of mid-term exams in each period.

**Table 2.** *Correlations between exercise try and controlling exam scores*

	Period 1	Period 2	Period 3
Pearson's <i>r</i>	-0.089	-0.230	-0.347**
Sig. (bilateral)	0.475	0.063	0.004

Note. N=66. \*\*p < .01.

From Table 2, we could observe that only period 3 experienced the significant correlation between the number of exercises tried and the exam scores, yet, in the negative direction, without a meaningful coefficient, no correlation between exercise participation and the exam scores could be determined. However, when the course levels are taken into consideration, the higher the level is, the more significant the correlations are as demonstrated by Table 3 and Table 4. It indicates that while these types of exercises may not be compelling for lower-level classes, they are definitely more beneficial in advanced-level classes.

**Table 3.** *Correlations between exercises try and controlling exam scores (advanced course)*

	Period 1	Period 2	Period 3
Pearson's <i>r</i>	0.725**	-0.284	0.613**
Sig. (bilateral)	0.001	0.253	0.007

Note. N=18. \*\*p < .01.

**Table 4.** *Correlations between exercises try and controlling exam scores (intermediate course)*

	Period 1	Period 2	Period 3
Pearson's <i>r</i>	-0.103	-0.214	-0.421**
Sig. (bilateral)	0.486	0.144	0.003

Note. N=48. \*\*p < .01.

Now we want to check the effectiveness of this experiment at the broad level. Hence, to evaluate the significance of the exercise tasks in general, in relation to the final performance outcome, we observe the correlation between the sum of tries during all three periods and the final evaluation scores, which include the marks of other assignments such as in-class participation, portfolio, and oral activities.

**Table 5.** *Correlations between total exercises tries and final evaluation scores*

	Advanced	Intermediate	Total
Pearson's <i>r</i>	0.688**	0.617**	0.574**
Sig. (bilateral)	0.002	0.000	0.00
N	18	48	66

Note. \*\**p* < .01.

It turns out to be significant in both courses as well as at the aggregate level with relatively high correlation ( $r= 0.688, 0.617$  and  $0,574$  respectively). That is to say, the validity of this online material design is confirmed statistically.

Furthermore, in order to examine the explanation power of this model, we realized the lineal regression analysis and the results are shown in Table 6.

**Table 6.** *Results of linear regression for the final evaluation score*

	Advanced	Intermediate	Total
(Independent variable)	0.688**	0.617**	0.574**
Total exercises tried	(0.009)	(0.021)	(0.013)
F	14.370	28.284	31.435
Adjust R <sup>2</sup>	0.440	0.367	0.319
Std. Error	1.0217	2.1046	1.9969
N	18	48	66

Note. The values shown are standardized beta coefficients, with standard errors in parenthesis, significance is denoted by \*\**p* < .01.

The significant regression equation was found (for the group of advanced course  $F= 14.370, p<.002, R^2=0.440$ , for the intermediate  $F= 28.284, p<.000, R^2=0,367$  and both courses together  $F= 31.435, p<.000, R^2=0.319$ ). Therefore, we can affirm that those who were highly motivated by the Moodle exercise task and who therefore tried them more frequently finished their courses with higher marks in final evaluations than those who were not as motivated. Furthermore, awareness of the Moodle exercises statistically demonstrates the potentially significant explanation power to forecast success in the Japanese language courses.

#### 4.2. Quantitative analyses for RQ 2

Secondly, we consider RQ 2 about the motivational transformation from the extrinsic to the intrinsic incentive. Nevertheless, the truth is that it is quite difficult to measure this shift quantitatively since the turning point moments occur disparately for each person and for each material element, thus it would be extremely ambitious to measure by means of a quantitative method alone. Accordingly, our variables are not expressed completely enough to observe the changes. Hence, we first use the quantitative method to approach the matter as much as possible. Then we also adapt the qualitative data to complement and deepen the question.

In order to determine the effect of online exercises on the class engagement and genuine joy of learning, we use the class participation estimated by the class attendance. The results are below in Table 7 and once again, they appeared to be correlated significantly.

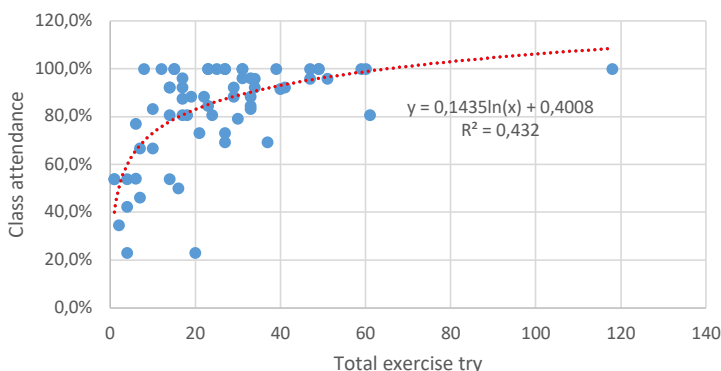
**Table 7.** *Correlations between total exercises tries and class attendance*

	Advanced	Intermediate	Total
Pearson's r	0.569*	0.587**	0.537**
Sig. (bilateral)	0.014	0.000	0.000
N	18	48	66

Note. \*\*p < 0.01, \*p < 0.05

For three categories (advanced course, intermediate course and total of those two), correlation coefficients are considerable at the significant level (r=0.569, 0.587 and 0.537 respectively). Statistically speaking, the participation in the Moodle exercises task encourage the motivation required to engage in the Japanese courses, and it may imply that the simple extinct incentives represented by the exercise scores are transformed into the joy and desire to participate in the class, in other words, transformed into instinct motivation.

As there is a limit of a total number of classes (26 for intermediate and 24 for advanced course) the attendance variable is converted to a percentage scale which has an upper limit of 100%. To be able to consider the nature of maximum attendance, it is rather convenient to use a scattergram to see the correlation visually (Figure 1). From both Table 7 and Figure 1, we can observe quite a significant correlation between exercise participation and class engagement. Given the fact that class engagement requires a considerable voluntary involvement and the desire to learn, it can be said that our assumption of the conversion of apparently extrinsic but meaningfully gamified online materials into one of the sources of intrinsic motivation, is proved.



**Figure 1.** *Scattergram of correlations between total exercises tried and class attendance (%)*

### 4.3. Qualitative analyses

Finally, to support these arguments, we add some qualitative observations gathered by the open-ended question answers and interviews.

Considerable number of students (practically all 30 students who participated voluntarily) expressed their satisfaction towards the online exercises in Moodle, especially when they positively evaluated the fact that it was not the score itself but also when the number of tries

and their time improvement was taken into consideration. Therefore, it motivated them to keep studying. Yet, these are the opinions expressed by the voluntary participants, therefore we must take into consideration that they may be biased and lean towards a positive view.

Regarding interviews, a male student said, “after hearing the teacher’s explanation relating to the purpose of this exercise, I decided to challenge myself and set the goal to score 10 for 10 times continuously in each lesson”. In fact, his records showed that he achieved this goal in virtually all lessons and his class performance ended up with an excellent result. Yet, the fact that is even more significant is that he was highly motivated to improve his learning as he said that “this course has been my favorite study and I want to keep studying Japanese until I get a job related to this language”. Although we could not interview all students, exercise try records clearly show the goals set by each individual. For instance, we observe that one kept challenging until he/she got the full score or over 9. Others made efforts to do the reviews on a regular base like once or twice a week. Another made the best use of exercises to be ready for the controlling exams. And another seemed to simply enjoy doing it when he/she had enough time to do so. In any case, it is undeniable that the system of autonomy promotion worked well in these cases, as the materials were left in the hands of students and they were the ones to decide how, how often and for what purpose to use them. A wise usage of the online exercises contributed to many of students achieving the satisfactory performance targets and to maintain their motivation.

Moreover, several students from both levels asked the teacher to keep the exercises available even after the course ended to leave the possibility of repeating an exercise to review the contents and confirm their knowledge. A female student answered, “I will try doing the exercise again after the final evaluation because although I am very satisfied with the final mark, I am still not happy with the progress I made”. This statement precisely demonstrates her use of this material for her self-improvement purpose. After all, getting a good final evaluation is not the ultimate goal for the learner of foreign languages, but self-confidence and self-satisfaction is the strongest support for steady learning development. Hence, such opinion is a positive sign that this task design contributed to the maintenance or enhancement of students’ motivation from the extrinsic incentive to the intrinsic one.

## 5. DISCUSSION

Overall, from both the quantitative and qualitative analysis, our two research questions were able to be explored sufficiently. Furthermore, our working hypotheses on the effectiveness of online Moodle exercise tasks for the maintenance of motivation, improvement of performance and the change of motivational types is proved. In this section, we expand our discussion for the advancement of this teaching material design for the future.

First of all, although there are positive effects of competition in general (Cao et al. 2022; Moke et al., 2018; Murray, 2019; Nebel et al., 2016), online-based exercise materials are adequate to promote self-improvement-oriented competitive motivation (Fülöp & Orosz, 2015; Moke et al., 2018; Orosz et al., 2018; Thornton et al., 2011) without exposing students to the demotivate competitions or peer comparisons (Linnenbrink-Garcia et al., 2016; Palmer, 2005). In our study, unless they comment privately, students have no way of knowing the scores and exercise progress of their classmates. This environment helps learners to feel

comfortable and enjoy the task accomplishments, which hopefully fosters their intrinsic motivation, as Tucker (2020) and Deci & Ryan (2009) recommend. The use of competition is not necessary a demotivating component for language education, because the essence lays not at the competition itself but at the manner of its use. Self-improvement-oriented competitiveness is a healthy competition and a source of improvement motivation (Moke et al., 2018; Fülöp & Orosz, 2015; Orosz et al., 2018; Thornton et al., 2011). Thanks to supporting ICT development, students and teachers are able to enjoy the benefit of such motivational competitiveness through materials like the one explored in this study. On the other hand, it is evident that to keep records of the numbers of tries and time progress of students updated and reflected in the feedback commentary is hard and burdensome work for the instructors. Still, the individualized learning assessment is probably the future of sustainable education in the 21st century, where less student enrolments are expected in every stage of education, including university.

Secondly, the capability of meaningfully gamified materials (Tan, 2018; Tan & Hewet, 2016; Nicholson, 2013) is proved in this analysis. Moreover, it discloses the power to scrutinize genuine intrinsic motivation. In view of the learners' profiles, despite the danger of generalization (Bennett et al., 2008; Margaryan et al., 2011; Selwyn, 2009; Watson, 2013) our students are mostly those of the digital native generations (Bennett et al., 2008; Prensky, 2001a; Prensky, 2001b). Game-like components for teaching strategies surely contribute to the awakening, maintenance and expansion of motivation, and there is no reasons not to take the best from this development. After all, the central issue of foreign language teaching is to assure the stable and efficient learning development of students and the types of materials and strategies used is a secondary concern. Meaningful gamification is a relatively new approach, and it offers us an ample margin to explore. More theoretical and empirical research will be appreciated to improve the concept of meaningful gamification.

Thirdly, despite the success of the implementation of this model, it appears to be clear that the students need ample time to get used to the new style of assignments. It is absolutely true when it involves the introduction of unfamiliar tools such as the university Moodle system, although being a novel instrument it may awaken their curiosity (Palmer, 2005; Linnenbrink-Garcia et al., 2016; Dörnyei, 2001), until they can perceive the benefit of it. Though sufficient written and oral instructions for the online exercises was given repeatedly following the suggestion of Linnenbrink-Garcia et al. (2016), obviously the experience of doing the exercises is the best way to understand the function, system and meaning of the task. That is to say, the instructors should be patient for a reasonable period to observe the progress of the task. It is essential to take care of the participant's impression and any technical problems they encounter so that they feel secure and motivated by the personalized support provided.

Finally, as far as the setting of this experiment in Japanese as a foreign language course is concerned, the significance of this type of task is more remarkable at the higher-level class. A possible explanation would be that, at the lower-level language classes, there are quite a few students with previous education in the language, generally acquired outside of the classroom (studying by oneself, taking private classes, etc.), who have a margin of knowledge and consequently feel they have no need to depend on the supplemental materials such as online exercises. However, it is typically observed that when

the language course level progresses, the knowledge gap between students with previous language experience and those who do not shrinks. Accordingly, the usefulness of such material appears to be more notable, as was the case for this study. In fact, the analysis reveals the significance of this online material in both the intermediate and advanced courses, notably with higher coefficients for the advanced level. In this sense, it is also important for the instructors to be conscious to examine the effectiveness of the teaching material strategies, considering the level and demands of their students. In addition, it may be able to assert that the design of this type of task, in which students are expected to be engaged in the learning process autonomously and constantly, is potentially most beneficial for the higher-level courses.

## 6. CONCLUSION

This study examined the effectiveness of the online exercises available in Moodle and were inspired by the theories of motivation, meaningful gamification, and competitive-ness, to motivate the students of foreign language courses. Our findings confirmed the usefulness of the self-improvement-oriented task for the development of performance outcomes and for better students' class engagement, motivated by the pure joy of learning.

Regarding the implication of this research to other foreign language teaching as well as other study disciplines, the findings obtained from this study act to contribute to the progression of motivational strategies and the creation of ITC-based materials. Despite the particularities of teaching Japanese as a foreign language, the design and results of the experiment are transferable to other settings.

Still, it cannot be denied that this research faces some limitations, which need to be overcome, such as the small sample size, the short duration of the experiment, improvement and variety of variables, among others. Taking these difficulties into consideration, research in this orientation will be valuable and encouraged to deepen the understanding of the relationship among motivation, competitiveness and meaningfully gamified materials.

Foreign language learning environment in post pandemic era has been changing quickly. Although the remarkable advancement of ICT tools permits us to carry on with virtual or hybrid university classes, the dynamics and the relationship between students and teachers are certainly shifting to the student-material interaction to some degree. It is an undoubted fact that one of new responsibilities of instructors is the creation of motivational online materials, personalized monitoring to support the autonomous and sustainable learning and motivation enhancement. By doing so, we will be able to overcome the confronting difficulties without sacrificing the steady learning of our students.

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