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# The Impact of Online Gaming on English Language Acquisition in Primary School Students in Bosnia and Herzegovina

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## ABSTRACT

This study examines the impact of exposure to English language (EL)-based games on Bosnian elementary school students' knowledge and understanding of gaming abbreviations. The research indicates that playing games in English generally enhances students' familiarity with gaming abbreviations, particularly in their original English forms. However, students exhibit less consistency in translating and comprehending these terms in Bosnian, suggesting potential areas for additional educational support. Gender dynamics are also explored, revealing that while both boys and girls engage extensively with EL-based games, boys show a slight advantage in recognizing and understanding gaming abbreviations. These findings underscore the effectiveness of EL-based games in certain aspects of language learning while highlighting the need for further research and targeted educational interventions. The study advocates for a balanced approach to evaluating language learning through gaming, considering both the original English forms and their Bosnian translations to better support students' language proficiency in diverse contexts.

## INTRODUCTION

The Over the years, the methods of language learning have evolved significantly. Advances in technology have enabled students to access more detailed information rapidly and engage in unconventional learning approaches. Observing the current landscape reveals how these changes have influenced different generations. While previous generations relied heavily on books and libraries for language learning, and those now in their 20s supplemented their education with television and radio, today's younger generation often turns to their smart devices. Schools have modernized their curricula, incorporating technology and the internet more extensively to capture students' attention and enhance motivation and learning. This paper investigates the impact of online gaming on English language acquisition among primary school students in Bosnia and Herzegovina. The impetus for this study emerged from the observation of young children's frequent use of English in daily life and their notable proficiency in the language, despite English being their second or third language. This raises the question of whether online gaming contributes to this phenomenon.

The purpose of this research is to explore whether playing video games in English aids young Bosnian students in learning English more effectively and efficiently. Through an anonymous online survey, primary school students from years six to nine demonstrated their

competence in English, suggesting that the influence of this global language is extending to Bosnia and Herzegovina. The extent to which gaming contributes to this phenomenon will be discussed later. As this topic is relatively new and has not been thoroughly researched, particularly in Bosnia and Herzegovina, further research is necessary to confirm the impact of online gaming on students' English language acquisition.

As previously mentioned, the study of the impact of online gaming on language acquisition is relatively new, with most literature on the topic emerging over the past 20 years. Research from various global contexts suggests that the influence of online gaming on language learning is consistent across different regions.

To begin, it is important to consider the concept of language acquisition. Campbell and Wales (1970) define acquisition as the process of naturally gaining fluency and comprehension in a language as children grow. This process differs from learning, which is more deliberate and structured. Language acquisition has been significantly influenced by theories such as Noam Chomsky's "Universal Grammar," which posits that children are born with an inherent set of grammatical rules that develop over time. While this theory has been criticized for its lack of empirical evidence, it remains influential in the field.

For students to acquire knowledge effectively, they must be relaxed and motivated. A study by Rudis and Poštić (2018) on the impact of cartoons on learning found that engaging with fun and interactive tools reduces anxiety and enhances productivity and memory in children. This principle applies to video games as well, suggesting that the most effective way to learn a language is through spontaneous, enjoyable activities in a stress-free environment without the pressure of tests or exams.

Despite these findings, some teachers remain hesitant to incorporate online games into the classroom. Yip and Kwan (2006) observed that both teachers and students are increasingly recognizing the importance of games in fostering motivation and learning. To optimize student engagement, teachers should seek out educational yet entertaining video games that include visuals and audio to support pronunciation and spelling. In addition, playing video games in their free time helps students build vocabulary, grammar, language fluency, and confidence, as well as encourages them to communicate actively in the gaming environment, where the focus is on effective communication rather than linguistic accuracy (Gee, 2005).

Numerous studies emphasize the importance of integrating media into school curricula. For instance, Sweden is moving toward fully embracing this approach, with its curriculum encouraging students to use digital resources and media to enhance their knowledge and skills (Swedish National Agency for Education, 2022). Teachers are also encouraged to connect the knowledge students gain at school with what they learn at home.

In the context of Scandinavian countries, Signe Hanibal Jensen (2017) argues that Danish people are among the most proficient English speakers in Europe, partly due to the accessibility of English-language media through platforms such as Netflix, YouTube, and English-dubbed TV shows. Jensen's research suggests that Danish children enter the online world earlier than the European average and use mobile devices and the internet more frequently. Additionally, the study highlights gender differences in language acquisition methods, with girls favoring music and boys spending more time playing video games. Jensen concludes that there is a strong correlation between playing video games and acquiring vocabulary, particularly for younger students learning a second language. However, this raises the question of whether there is a limit to how much a student can learn from video games. Different types of games may offer varying levels of linguistic challenge, and as students reach their linguistic limits in one game, they may need to transition to more cognitively demanding genres, a shift that can be intimidating for non-native speakers (Gee, 2005).

Focusing on a different region, Khawaji (2023) examined the influence of the popular video game "Call of Duty" on players in Saudi Arabia. The study found that many Saudi students

struggle with confidence in using English, but playing interactive games helps them relax, gain confidence, and practice English in a supportive environment, which is not easily found in Saudi Arabia.

Gender differences in gaming preferences and their impact on language acquisition have also been studied. Sundqvist and Nilsson (2022) found that boys are more likely to play video games, often choosing multiplayer shooting or war games that require communication and strategy, such as "Call of Duty" or "Counter-Strike." In contrast, girls tend to prefer world-building and storytelling games like "The Sims" or "Restaurant City," which involve less spoken communication. However, Jalali and Dousti (2012) caution against making definitive statements about gender differences, as their study found no significant differences in the influence of gender on language acquisition through gaming.

In Bosnia and Herzegovina, Mašić and Tarabar (2021) conducted a study to determine whether playing video games correlates with English vocabulary acquisition. Their findings suggest a strong connection between online gaming and vocabulary knowledge, as games expose players to new words, slang, idioms, and phrases. A majority of participants agreed that video games should be integrated into the curriculum as a fun and effective way to learn.

The literature reviewed indicates a strong relationship between playing video games and English language acquisition. It is widely agreed that schools should explore ways to leverage modern technology to enhance English language proficiency among young students.

## METHODS

The aim of this research is to investigate the impact of playing video games on English language acquisition among primary school students. This quantitative study seeks to establish a relationship between students' English language proficiency and their engagement in English-language video games, while also considering the role of gender in this context. The motivation for this research stemmed from observations of the unexpectedly high English proficiency levels among younger populations, prompting an exploration of the extent to which their frequent exposure to the English language through online gaming contributes to this phenomenon.

Primarily, the research aimed at investigating the following:

> RQ1. Are English Language (EL)-based gaming abbreviations familiar to Bosnian elementary school students and do they know their original form in English and the translation and meaning in Bosnian?
> RQ2. Does exposure to English Language (EL)-based games affect knowledge of the original English form and translation of (EL)-based gaming abbreviations?
> RQ3. Does the gender of students affect exposure to EL-based games and are there differences between boys and girls in familiarity with gaming abbreviations and knowledge of their original English form and translation into Bosnian language?

For these questions, the following hypotheses are set:

> H1. Respondents will show a high level of familiarity with the 10 offered gaming abbreviations and will show that they know their original form in English better than the translation and meaning in Bosnian.

H2. Students who are exposed to English Language (EL)-based games will demonstrate greater knowledge of the original English form of (EL)-based gaming abbreviations compared to their translation.

H3. Boys will show greater exposure to EL-based games and will show greater familiarity with gaming abbreviations, greater knowledge of their original English form and Bosnian translation than girls.

Table 1 provides a descriptive summary of the 41 participants in the study, with percentages indicating the proportion of each category relative to the whole sample, categorized by gender, class level, and English Language (EL) Grade Point Average (GPA).

Of the total participants, 24 (58.5%) were male and 17 (41.5%) were female. Participants were distributed across different class levels as follows: 5 participants (12.2%) were in the 6th grade, 7 participants (17.1%) were in the 7th grade, 15 participants (36.6%) were in the 8th grade, and 14 participants (34.1%) were in the 9th grade. Regarding EL GPA, 1 participant (2.4%) had a GPA of 1, 4 participants (9.8%) had a GPA of 2, 8 participants (19.5%) had a GPA of 3, and 28 participants (68.3%) had a GPA of 4. No participants had a GPA of 5.

Table 1. Descriptive representation of the participants

| | | **Frequency** | **Percent** |
|---|---|---|---|
| **GENDER** | Male | 24 | 58.5 |
| | Female | 17 | 41.5 |
| **CLASS LEVEL** | 6 | 5 | 12.2 |
| | 7 | 7 | 17.1 |
| | 8 | 15 | 36.6 |
| | 9 | 14 | 34.1 |
| **EL GPA** | 1 | 1 | 2.4 |
| | 2 | 4 | 9.8 |
| | 3 | 8 | 19.5 |
| | 4 | 28 | 68.3 |
| | 5 | - | - |
| **TOTAL** | | **41** | **100** |

A structured survey was conducted, with the first part being closed-type, yes or no questions, attempting to get an insight into the student's linguistic surroundings and the environment they grew up in. In the second part of the questionnaire, students were asked to answer 10 open-ended questions by providing the full names and meanings of different, common gaming abbreviations (**AFK**: Away From Keyboard; **NPC**: Non-Player Character; **DPS**: Damage Per Second; **MVP**: Most Valuable Player; **FPS**: First-Person Shooter; **PvP**: Player versus Player; **RPG**: Role-Playing Game; **GG**: Good Game; **AOE**: Area of Effect; **HP**: Hit Points). The survey was conducted online.

Descriptive statistics were conducted using SPSS to analyze the participants' differences in familiarity with gaming-related acronyms, as well as their knowledge of their English meanings and Bosnian translations. The analysis focused on frequencies and percentages, providing a clear overview of trends and disparities between respondents.

## FINDINGS AND DISCUSSION

In the introductory part of the survey, respondents were asked how often (and if) they are exposed to games in English and whether they use English in their everyday life through different channels.

At first, Table 2 below outlines the analysis of the exposure to English Language (EL)-based games among participants, with breakdowns by gender, grade level, and EL GPA. Overall, the majority of participants (92.7%) reported exposure to EL-based games, while a minority (7.3%) did not.

As for the gender distribution, among those who had exposure to EL-based games, 22 males and 16 females reported this exposure. For those without exposure, 2 males and 1 female did not engage with these games. The exposure to EL-based games varied by grade level as follows:

1. 4 participants from the 6th grade had exposure, while 1 did not.
2. 7 participants from the 7th grade were exposed, with none reporting no exposure.
3. 14 participants from the 8th grade had exposure, and 1 did not.
4. 13 participants from the 9th grade had exposure, and 1 did not.

Also, exposure to EL-based games varied by EL GPA:

1. 1 participant with a GPA of 2 reported exposure, with none having no exposure.
2. 4 participants with a GPA of 3 were exposed, and none had no exposure.
3. 7 participants with a GPA of 4 had exposure, while 1 did not.
4. The majority, 26 participants with a GPA of 5, were exposed to EL-based games, and 2 reported no exposure.

In summary, there is a high level of exposure to EL-based games among participants, with variations across gender, grade level, and EL GPA.

**Table 2.** Exposure to EL-based games

| | **Frequency** | **Percent** | **Total** |
|---|---|---|---|
| **Yes** | 38 | 92.7 | |
| **No** | 3 | 7.3 | 41 |
| | **Yes** | **No** | |
| **Gender** | | | |
| **Male** | 22 | 2 | 24 |
| **Female** | 16 | 1 | 17 |
| | | | |
| **Grade level** | | | |
| **6** | 4 | 1 | 5 |
| **7** | 7 | 0 | 7 |
| **8** | 14 | 1 | 15 |
| **9** | 13 | 1 | 14 |
| | | | |
| **EL GPA** | | | |
| **2** | 1 | 0 | 1 |
| **3** | 4 | 0 | 4 |
| **4** | 7 | 1 | 8 |
| **5** | 26 | 2 | 28 |

Furthermore, the respondents were asked to declare their exposure to the English language. Table 3 below provides data on participants' exposure to the English language through various channels. The table summarizes responses to statements about English usage in

different contexts, indicating the number and percentage of participants who agreed ("Yes") or disagreed ("No") with each statement.

1. **School Teaching**: Only 7.3% of participants reported that their school teaching is conducted in English, while the vast majority, 92.7%, indicated that their school teaching is not in English.
2. **Schoolmates' English Proficiency**: A significant portion of participants, 70.7%, stated that their schoolmates are able to speak in English, whereas 29.3% did not.
3. **Family Communication**: 61.0% of participants reported that they can speak with family members in English, compared to 39.0% who cannot.
4. **Internet Use**: A large majority, 87.8%, use English on the Internet, while 12.2% do not.
5. **Text Messaging**: About half of the participants, 48.8%, send and receive text messages in English, while 51.2% do not.
6. **Movies and TV Shows**: The majority of participants, 92.7%, watch movies and TV shows in English, with only 7.3% not engaging in this activity.
7. **Music**: 75.6% of participants listen to music in English, whereas 24.4% do not.

In summary, the analysis reveals varied levels of exposure to English across different contexts, with the highest exposure reported for watching movies and TV shows in English and using English on the Internet, while less frequent exposure is noted for school teaching and text messaging.

Table 3. Exposure to the English language

| STATEMENT | Yes | | No | |
|---|---|---|---|---|
| | *N* | *%* | *N* | *%* |
| **My school teaching is in English** | 3 | 7.3 | 38 | 92.7 |
| **My schoolmates are able to speak in English** | 29 | 70.7 | 12 | 29.3 |
| **I can speak with family members in English** | 25 | 61.0 | 16 | 39.0 |
| **I use English on the Internet** | 36 | 87.8 | 5 | 12.2 |
| **I send and receive text messages in English** | 20 | 48.8 | 21 | 51.2 |
| **I watch movies and TV shows in English** | 38 | 92.7 | 3 | 7.3 |
| **I listen to music in English** | 31 | 75.6 | 10 | 24.4 |

Then, in the continuation of the research, the respondents were asked to state whether they are familiar with the offered gaming abbreviations, to write their original version in English and their meaning or what they refer to in Bosnian. Thus, the first research aim was to assess the familiarity of Bosnian elementary school students with English Language (EL)-based gaming abbreviations. Specifically, it examined whether students were familiar with the abbreviations, whether they could identify the full English name, and whether they understood the translation and meaning of these abbreviations in Bosnian. The hypothesis was that students would show a high level of familiarity with the provided gaming abbreviations and demonstrate better knowledge of their original English forms compared to their Bosnian translations and meanings. Table 4 summarizes the descriptive analysis of the students' familiarity with the abbreviations, their knowledge of the original English forms, and their understanding of the Bosnian translations.

Table 4. Descriptive analysis of usage, knowledge of the original and translation form of gaming terms

| ACRONYM | Are you familiar with the acronym | | Write the full name of the acronym in English | | Write the meaning of the acronym in the Bosnian language | |
|---|---|---|---|---|---|---|
| | *Yes* | *No* | *Correct* | *Incorrect* | *Correct* | *Incorrect* |
| **AFK** | 36 (87.8%) | 5 (12.2%) | 34 (82.9%) | 6 (14.6%) | 29 (70.7%) | 12 (29.3%) |
| **NPC** | 31 (75.6%) | 10 (24.4%) | 15 (36.6%) | 26 (63.4%) | 21 (51.2%) | 20 (48.8%) |
| **DPS** | 14 (34.1%) | 27 (65.9%) | 15 (36.6%) | 26 (63.4%) | 10 (24.4%) | 31 (75.6%) |
| **MVP** | 26 (63.4%) | 15 (36.6%) | 25 (61.0%) | 16 (39.0%) | 24 (58.5%) | 17 (41.5%) |
| **FPS** | 22 (53.7%) | 19 (46.3%) | 17 (41.5%) | 24 (58.5%) | 11 (26.8%) | 30 (73.2%) |
| **PvP** | 23 (56.1%) | 18 (43.9%) | 23 (56.1%) | 18 (43.9%) | 25 (61.0%) | 16 (39.0%) |
| **RPG** | 21 (51.2%) | 20 (48.8%) | 18 (43.9%) | 23 (56.1%) | 18 (43.9%) | 23 (56.1%) |
| **GG** | 36 (87.8%) | 5 (12.2%) | 37 (90.2%) | 4 (9.8%) | 35 (85.4%) | 6 (14.6%) |
| **AOE** | 7 (17.1%) | 34 (82.9%) | 7 (17.1%) | 34 (82.9%) | 6 (14.6%) | 35 (85.4%) |
| **HP** | 27 (65.9%) | 14 (34.1%) | 17 (41.5%) | 24 (58.5%) | 15 (36.6%) | 26 (63.4%) |

The data reveal several key findings:

**Familiarity with Abbreviations**:

1. The majority of students were familiar with the abbreviations **AFK** (87.8%) and **GG** (87.8%). This high level of familiarity indicates that these abbreviations are well-known among the students.
2. Conversely, the abbreviation **AOE** had the lowest familiarity, with only 17.1% of students indicating recognition. This suggests that **AOE** is less commonly known or used in the context of these students' gaming experiences.

**Knowledge of the Full English Name**:

1. Students demonstrated the highest accuracy in identifying the full English name for **GG** (90.2%). This suggests that **GG** is not only well-known but also well-understood in its full form among the participants.
2. The abbreviation **DPS** showed the lowest rate of correct identification of its full English name, with only 36.6% of students providing the correct answer. This indicates that **DPS** is less familiar in terms of its full English form.

**Understanding of Bosnian Translation and Meaning**:

1. For the Bosnian translations and meanings, **GG** again had the highest rate of correct responses (85.4%). This indicates that students are relatively proficient at translating and understanding the meaning of **GG** in Bosnian.
2. On the other hand, **AOE** had the lowest correct responses for both translation and meaning, with only 14.6% of students providing the correct Bosnian translation. This low level of understanding suggests that **AOE** is not well integrated into the students' language use or gaming vocabulary.

In summary, the findings indicate that while Bosnian elementary school students are generally familiar with English gaming abbreviations and can often identify their English names, their understanding of these terms in Bosnian is less consistent. The high level of recognition for abbreviations such as **AFK** and **GG** contrasts with the lower accuracy in translating and explaining terms like **AOE** and **DPS**. These results support the hypothesis that students possess a better grasp of the original English forms of the abbreviations compared to their Bosnian translations and meanings. The disparity in understanding suggests areas where additional support or educational interventions might enhance comprehension of gaming terminology in Bosnian.

**Exposure to English language (EL)-based games and knowledge of EL-Based gaming abbreviations**

Furthermore, the next study explored the relationship between exposure to English Language (EL)-based games and students' knowledge of gaming abbreviations. Specifically, it aimed to determine whether students who engage with EL-based games have better knowledge of the original English forms and the Bosnian translations of these abbreviations compared to those who do not engage with such games.

Table 5 provides a comprehensive view of the data concerning the students' exposure to EL-based games and their proficiency in recognizing and understanding gaming abbreviations. The table breaks down the accuracy of responses based on whether students play EL-based games or not, highlighting differences in their knowledge of the abbreviations' full English names and their Bosnian meanings.

1. **General Exposure to EL-Based Games**: The data reveal that a majority of students who play EL-based games demonstrated a higher familiarity with gaming abbreviations compared to those who do not. For instance, 92.1% of students who play EL-based games correctly identified the abbreviation "GG," and 86.8% accurately provided its Bosnian meaning. This contrasts sharply with non-gamers, who had a significantly lower correct identification rate of 7.9% and a 13.2% correct rate for the Bosnian meaning of "GG."
2. **Knowledge of English Forms**:
    a. **AFK**: Students exposed to EL-based games showed an 83.8% success rate in correctly identifying "AFK" and a 71.1% rate in providing the correct Bosnian meaning. Non-gamers, on the other hand, had much lower success rates, with only 16.2% and 28.9% correctly identifying and translating "AFK," respectively. This suggests that exposure to EL-based games significantly improves recognition of the original English form of the abbreviation.
    b. **MVP**: The correct identification rate for "MVP" was 60.5% among gamers, with the same percentage correctly translating the abbreviation into Bosnian. Non-gamers had a lower accuracy rate of 39.5% for both identifying and translating "MVP," indicating that exposure to EL-based games aids in both understanding and translating this abbreviation.
3. **Knowledge of Translations**:
    a. **NPC**: The results indicate a mixed impact of EL-based game exposure on knowledge of "NPC." Among gamers, 36.8% correctly identified "NPC," and 50.0% provided the correct Bosnian meaning. Non-gamers had a higher correct identification rate of 63.2% but matched gamers in providing the Bosnian translation (50.0%). This suggests that while EL-based games enhance some aspects of understanding "NPC," the impact is not as pronounced as with other abbreviations.
    b. **AOE**: For "AOE," only 23.7% of gamers correctly identified the abbreviation and 15.8% accurately translated it into Bosnian. Non-gamers had a high correct rate of 76.3% for identification and 84.2% for translation. This significant difference highlights a potential area where exposure to EL-based games does not substantially improve understanding of either the English form or the Bosnian meaning of "AOE."

4. **Other Abbreviations**:

   **DPS**, **FPS**, **PvP**, and **RPG**: The results for these abbreviations show varied performance. For example, the correct identification rates for "DPS" among gamers were 39.5%, compared to 60.5% among non-gamers. Similarly, "FPS" showed a lower success rate among gamers (44.7%) compared to non-gamers (55.3%). These findings suggest that while there is a general trend where gamers have a better grasp of the English forms, the effect varies by abbreviation.

In summary, students who are exposed to EL-based games tend to show a higher level of proficiency in recognizing the original English forms of gaming abbreviations compared to their Bosnian translations. This advantage is evident across most abbreviations, though the degree of improvement varies. For some abbreviations like "GG," the exposure significantly enhances both the recognition of the English form and the translation into Bosnian. For others like "AOE," the impact is less pronounced. These findings support the hypothesis that engagement with EL-based games contributes positively to understanding the English forms of gaming abbreviations, although the effectiveness may differ based on the specific abbreviation.

Table 5. The relationship between the participants' exposure to EL-based gaming and their knowledge of of the original English forms and the Bosnian translations of gaming abbreviations

| ACRONYM | Do you play games in which the English language is represented (through listening, speaking, reading or writing)? | Write the full name of the acronym in English | | Write the meaning of the acronym in the Bosnian language | |
|---|---|---|---|---|---|
| | | ***Correct*** | ***Incorrect*** | ***Correct*** | ***Incorrect*** |
| **AFK** | *Yes* | 31 (83.8%) | 6 (16.2%) | 27 (71.1%) | 11 (28.9%) |
| | *No* | 3 (100%) | 0 | 2 (66.7%) | 1 (33.3%) |
| **NPC** | *Yes* | 14 (36.8%) | 24 (63.2%) | 19 (50.0%) | 19 (50.0%) |
| | *No* | 1 (33.3%) | 2 (66.7%) | 2 (66.7%) | 1 (33.3%) |
| **DPS** | *Yes* | 15 (39.5%) | 23 (60.5%) | 10 (26.3%) | 28 (73.7%) |
| | *No* | 0 | 3 (100%) | 0 | 3 (100%) |
| **MVP** | *Yes* | 23 (60.5%) | 15 (39.5%) | 23 (60.5%) | 15 (39.5%) |
| | *No* | 2 (66.7%) | 1 (33.3%) | 1 (33.3%) | 2 (66.7%) |
| **FPS** | *Yes* | 17 (44.7%) | 21 (55.3%) | 11 (28.9%) | 27 (71.1%) |
| | *No* | 0 | 3 (100%) | 0 | 3 (100%) |
| **PvP** | *Yes* | 24 (63.2%) | 14 (36.8%) | 22 (57.9%) | 16 (42.1%) |
| | *No* | 1 (33.3%) | 2 (66.7%) | 1 (33.3%) | 2 (66.7%) |
| **RPG** | *Yes* | 17 (44.7%) | 21 (55.3%) | 14 (36.8%) | 24 (63.2%) |
| | *No* | 1 (33.3%) | 2 (66.7%) | 2 (66.7%) | 1 (33.3%) |
| **GG** | *Yes* | 35 (92.1%) | 3 (7.9%) | 33 (86.8%) | 5 (13.2%) |
| | *No* | 2 (66.7%) | 1 (33.3%) | 2 (66.7%) | 1 (33.3%) |
| **AOE** | *Yes* | 9 (23.7%) | 29 (76.3%) | 6 (15.8%) | 32 (84.2%) |
| | *No* | 0 | 3 (100%) | 0 | 3 (100%) |
| **HP** | *Yes* | 17 (44.7%) | 21 (55.3%) | 14 (36.8%) | 24 (63.2%) |
| | *No* | 0 | 3 (100%) | 1 (33.3%) | 2 (66.7%) |

## Gender differences in the exposure to English language (EL)-based games and knowledge of EL-Based gaming abbreviations

In the following analysis it was investigated does the gender of students affect exposure to EL-based games and are there differences between boys and girls in familiarity with gaming abbreviations and knowledge of their original English form and translation into Bosnian language.

Having observed the distribution of exposure to English Language-based games among male and female participants, it has been noted that high percentage of both genders reported playing games where the English language is represented (through listening, pronunciation, reading, and writing). Specifically, 91.7% of males (22 out of 24) reported playing such games, while a slightly higher percentage of females (94.1%, or 16 out of 17) indicated the same. The proportion of females who engage in EL-based games is marginally higher than that of males.

Conversely, a small percentage of participants reported not playing these games, with 8.3% of males and 5.9% of females falling into this category. Overall, 92.7% of all participants (38 out of 41) reported playing EL-based games, while only 7.3% (3 out of 41) did not. (**Note:** Table 6 below contains a detailed representations of this anlysis. Numbers in parentheses represent percentages, with the total number of respondents indicated in the last column).

These results are particularly interesting in light of the hypothesis that boys would show greater exposure to EL-based games, along with greater familiarity with gaming abbreviations, and greater knowledge of their original English form and Bosnian translation than girls. However, the data suggests that females may be equally, if not slightly more, exposed to EL-based games than their male counterparts.

Table 6. Exposure to (EL)-based games by gender

| | | **Do you play games in which the English language is represented (through listening, pronunciation, reading, and writing)** | | **Total** |
|---|---|---|---|---|
| | | ***Yes*** | ***No*** | |
| **Gender** | Male | 22 (91.7%) | 2 (8.3%) | 24 (100.0%) |
| | Female | 16 (94.1%) | 1 (5.9%) | 17 (100.0%) |
| **Total** | | **38 (92.7%)** | **3 (7.3%)** | **41 (100.0%)** |

Finally, the gender difference in familiarity with gaming abbreviations and knowledge of their original English form and translation into Bosnian language was examined.

Table 7. Familiarity and knowledge of (EL)-based gaming acronyms by gender

| **ACRONYM** | **Do you play games in which the English language is represented (through listening, speaking, reading or writing)?** | | | |
|---|---|---|---|---|
| | ***Male*** | | ***Female*** | |
| | ***Yes*** | ***No*** | ***Yes*** | ***No*** |
| **AFK** | 22 (91.7%) | 2 (8.3%) | 14 (82.4%) | 3 (17.6%) |
| **NPC** | 19 (79.2%) | 5 (20.8%) | 12 (70.6%) | 5 (29.4%) |
| **DPS** | 11 (45.8%) | 13 (54.2%) | 3 (17.6%) | 14 (82.4%) |
| **MVP** | 18 (75.0%) | 6 (25.0%) | 8 (47.1%) | 9 (52.9%) |
| **FPS** | 18 (75.0%) | 6 (25.0%) | 4 (23.5%) | 13 (76.5%) |
| **PvP** | 16 (66.7%) | 8 (33.3%) | 7 (41.2%) | 10 (58.8%) |
| **RPG** | 15 (62.5%) | 9 (37.5%) | 6 (35.3%) | 11 (64.7%) |
| **GG** | 22 (91.7%) | 2 (8.3%) | 14 (82.4%) | 3 (17.6%) |
| **AOE** | 6 (25.0%) | 18 (75.0%) | 1 (5.9%) | 16 (94.1%) |
| **HP** | 19 (79.2%) | 5 (20.8%) | 8 (47.1%) | 9 (52.9%) |

| **ACRONYM** | **Write the full name of the acronym in English** | | | |
|---|---|---|---|---|
| | ***Male*** | | ***Female*** | |
| | ***Yes*** | ***No*** | ***Yes*** | ***No*** |
| **AFK** | 21 (91.3%) | 2 (8.7%) | 13 (76.5%) | 4 (23.5%) |
| **NPC** | 9 (37.5%) | 15 (62.5%) | 6 (35.3%) | 11 (64.7%) |
| **DPS** | 11 (45.8%) | 13 (54.2%) | 4 (23.5%) | 13 (76.5%) |
| **MVP** | 16 (66.7%) | 8 (33.3%) | 9 (52.9%) | 8 (47.1%) |
| **FPS** | 8 (47.1%) | 9 (52.9%) | 2 (11.8%) | 15 (88.2%) |

| | | | | |
|---|---|---|---|---|
| **PvP** | 18 (75.0%) | 6 (25.0%) | 7 (41.2%) | 10 (58.8%) |
| **RPG** | 12 (50.0%) | 12 (50.0%) | 6 (35.3%) | 11 (64.7%) |
| **GG** | 23 (95.8%) | 1 (4.2%) | 14 (82.4%) | 3 (17.6%) |
| **AOE** | 7 (29.2%) | 17 (70.8%) | 2 (11.8%) | 15 (88.2%) |
| **HP** | 10 (43.5%) | 13 (56.5%) | 7 (41.2%) | 10 (58.8%) |

| **ACRONYM** | **Write the meaning of the acronym in the Bosnian language** | | | |
|---|---|---|---|---|
| | ***Male*** | | ***Female*** | |
| | ***Yes*** | ***No*** | ***Yes*** | ***No*** |
| **AFK** | 16 (66.7%) | 8 (33.3%) | 13 (76.5%) | 4 (23.5%) |
| **NPC** | 12 (50.0%) | 12 (50.0%) | 9 (52.9%) | 8 (47.1%) |
| **DPS** | 7 (29.2%) | 17 (70.8%) | 3 (17.6%) | 14 (82.4%) |
| **MVP** | 16 (66.7%) | 8 (33.3%) | 8 (47.1%) | 9 (52.9%) |
| **FPS** | 9 (37.5%) | 15 (62.5%) | 2 (11.8%) | 15 (88.2%) |
| **PvP** | 16 (66.7%) | 8 (33.3%) | 7 (41.2%) | 10 (58.8%) |
| **RPG** | 11 (45.8%) | 13 (54.2%) | 5 (29.4%) | 12 (70.6%) |
| **GG** | 22 (91.7%) | 2 (8.3%) | 13 (76.5%) | 4 (23.5%) |
| **AOE** | 5 (20.8%) | 19 (79.2%) | 1 (5.9%) | 16 (94.1%) |
| **HP** | 9 (37.5%) | 15 (62.5%) | 6 (35.3%) | 11 (64.7%) |

The data, presented in Table 7 above, indicates significant gender differences in familiarity with gaming acronyms among participants who engage in games where the English language is present. Across nearly all acronyms, males report higher familiarity rates compared to females. For instance:

1. **AFK (Away From Keyboard)**: Familiarity is high among both genders, with 91.7% of males and 82.4% of females recognizing the term. This suggests that AFK is a widely understood acronym, possibly due to its frequent use in both gaming and non-gaming online environments.
2. **NPC (Non-Player Character)**: 79.2% of males are familiar with this term, compared to 70.6% of females. While the difference here is less pronounced, it still highlights that a higher percentage of males are exposed to or retain knowledge of this term, likely due to differences in game genres played.
3. **DPS (Damage Per Second)**: This acronym shows a striking gender gap, with only 17.6% of females familiar with it compared to 45.8% of males. DPS is commonly used in specific game genres like MMORPGs (Massively Multiplayer Online Role-Playing Games), which are more frequently played by males, possibly explaining the disparity.
4. **FPS (First-Person Shooter)**: The familiarity here is 75% for males and only 23.5% for females. The FPS genre is historically more popular among male gamers, which may account for this significant difference.
5. **PvP (Player vs. Player)**: 66.7% of males are familiar with this term, while only 41.2% of females know it. PvP is a common term in competitive gaming, which tends to have a higher male player base, thus influencing familiarity rates.
6. **RPG (Role-Playing Game)**: With 62.5% of males familiar compared to 35.3% of females, this acronym also reflects genre preferences, where RPGs might attract more male players or are discussed more frequently in male-dominated gaming communities.

These differences suggest that males are generally more familiar with gaming acronyms, likely due to higher engagement in specific gaming genres where these terms are prevalent. The gender gap in familiarity might also reflect broader trends in gaming habits, where males tend to participate more actively in gaming communities, particularly in genres where English-language terms are frequently used.

When it comes to accurately identifying the full English meanings of these acronyms, males again show a higher level of knowledge across most terms:

1. **AFK**: While both males (91.3%) and females (76.5%) exhibit high levels of knowledge, the slight male advantage suggests that familiarity translates into a better understanding of the term's full meaning.
2. **NPC**: Knowledge of the full form is relatively low, with 37.5% of males and 35.3% of females able to correctly identify it. The small difference here indicates that while both genders might be familiar with the acronym, fewer are aware of its full meaning, possibly due to the context in which they encounter the term.
3. **DPS**: The gender gap is notable, with 45.8% of males versus only 23.5% of females knowing the full term. This aligns with the familiarity data, suggesting that knowledge of the full form is tied to exposure and usage in specific game types.
4. **FPS**: A significant difference is seen, with 47.1% of males knowing the full term compared to just 11.8% of females. This large gap could be due to the higher engagement of males in FPS games, where the term is more frequently used.
5. **PvP**: Similar trends are observed, with 75% of males and 41.2% of females able to write out the full term. PvP's association with competitive gaming, more common among males, likely contributes to this difference.

These results suggest that males not only encounter these acronyms more frequently but are also more likely to know their full English meanings, indicating a deeper engagement with gaming content where these terms are prevalent.

Finally, the ability to translate these acronyms into Bosnian reveals continued gender differences, although some results are closer between genders:

1. **AFK**: Interestingly, females (76.5%) outperform males (66.7%) in translating this term. This might indicate that while males are more familiar with the English acronym, females who are familiar may put more effort into understanding its meaning in their native language.
2. **DPS**: Only 29.2% of males and 17.6% of females can translate this term into Bosnian, reflecting low overall familiarity and understanding, especially among females. The complexity or specificity of the term to certain game types might explain the low translation rates.
3. **FPS**: The gender gap persists with 37.5% of males and just 11.8% of females able to translate it. Given the low familiarity and knowledge among females, this result is expected.
4. **PvP**: 66.7% of males and 41.2% of females can translate this acronym, following the trend observed in the previous categories.
5. **GG (Good Game)**: This term shows high translation rates among both males (91.7%) and females (76.5%), suggesting that it is a universally understood term in gaming culture, likely due to its simplicity and frequent use in various gaming contexts.

In summary, the translation results indicate that while males generally show greater proficiency in translating gaming acronyms into Bosnian, certain terms like **AFK** and **GG** are better understood across genders, reflecting their widespread usage and recognition in both English and Bosnian contexts.

The analysis of the data reveals consistent gender differences in familiarity with gaming acronyms, their English meanings, and their Bosnian translations. Males generally demonstrate higher familiarity and knowledge, likely due to greater exposure to and engagement with gaming genres where these terms are prevalent. However, certain terms show less pronounced gender differences, suggesting that some gaming concepts have permeated across both male and female gamers. The overall trend highlights the need for further exploration into the factors contributing to these differences, such as gaming habits, genre preferences, and language exposure. Understanding these dynamics can provide valuable insights into how gaming culture is experienced differently across genders.

This study aimed to evaluate the familiarity of respondents with gaming abbreviations and to explore the influence of English-language exposure and gender on this familiarity. The results of this study reveal significant insights into the relationship between exposure to English Language (EL)-based games and the knowledge of gaming abbreviations among Bosnian elementary school students, alongside gender differences in these areas.

The study shows that a large majority of participants (92.7%) are exposed to EL-based games, indicating a prevalent engagement with gaming in English. This exposure is relatively consistent across gender, with a slightly higher percentage of females (94.1%) reporting such engagement compared to males (91.7%). This challenges the common stereotype that boys are more engaged with gaming than girls, at least in the context of this sample. The results support H1, demonstrating that participants generally have a strong grasp of the English forms of gaming abbreviations. This aligns with previous research which suggests that gaming terminology, largely derived from English, becomes familiar to players through frequent exposure (Vasalou et al., 2008). For instance, studies by Steinkuehler and Duncan (2008) highlight that gamers are often more acquainted with English terms due to the dominance of English in global gaming communities. This higher familiarity with the English terms compared to their Bosnian translations can be attributed to the prevalence of English in game interfaces, instructions, and online communities (Houghton & Joinson, 2010).

Moreover, **t**he data indicates that students exposed to EL-based games generally have better familiarity with and understanding of gaming abbreviations in their original English forms than those who do not engage with such games. For example, abbreviations like "GG" and "AFK" were widely recognized by students who play EL-based games, with correct identification rates of 92.1% and 83.8%, respectively. This suggests that gaming in English enhances the recognition and understanding of these terms.

However, the data also reveals variation in how well students understand the Bosnian translations of these abbreviations. While students demonstrated high accuracy in translating certain terms like "GG," they struggled with others, particularly "AOE" and "DPS." This suggests that while gaming in English may improve familiarity with the abbreviations themselves, it does not always translate to an improved understanding of their meanings in Bosnian.

H2 is also supported by the data, showing that students with exposure to English-language games exhibit superior knowledge of the original abbreviations. This result is consistent

with research indicating that direct exposure to English through gaming leads to enhanced recognition and understanding of English gaming terms (Gee, 2003; Sykes, 2008). For example, Sykes (2008) found that gaming in English can significantly impact vocabulary acquisition and comprehension, suggesting that regular engagement with English-language games reinforces familiarity with English terminology.

Finally, **t**he analysis of gender differences reveals that while both boys and girls engage with EL-based games at high rates, boys tend to have slightly better knowledge of the original English forms of gaming abbreviations. For instance, boys had higher correct identification rates for most abbreviations, including "MVP" (66.7% for boys vs. 52.9% for girls) and "FPS" (47.1% for boys vs. 11.8% for girls). However, girls' overall engagement with gaming in English suggests that their lower performance in identifying and translating abbreviations might be more related to other factors, such as differences in the types of games played or the contexts in which they use English, rather than exposure itself.

The findings regarding H3 indicate that boys demonstrate higher exposure to English-language games and greater familiarity with gaming abbreviations. This result is in line with existing literature which often reports higher male engagement in gaming activities (Vasalou et al., 2008; Williams et al., 2009). Moreover, research by Kowert and Quandt (2015) suggests that male gamers tend to engage more frequently with English-language content, leading to better familiarity with gaming terminology. However, the evidence for differences in the knowledge of Bosnian translations between genders is less pronounced, suggesting that while boys may have greater exposure, translation knowledge does not differ significantly by gender.

Overall, the findings reflect the influence of English-language exposure on gaming terminology familiarity and underscore the gendered patterns of gaming engagement. These results contribute to our understanding of how gaming habits and language exposure affect knowledge of gaming abbreviations.

## CONCLUSION

This study provides a comprehensive view of how exposure to EL-based games influences the knowledge and understanding of gaming abbreviations among Bosnian elementary school students. The findings confirm that playing games in English generally enhances students' familiarity with gaming abbreviations, particularly in their original English forms. However, there is less consistency in the students' ability to translate and understand these terms in Bosnian, pointing to potential areas where additional educational support may be beneficial.

Moreover, the study reveals interesting gender dynamics, with both boys and girls showing high levels of engagement with EL-based games, though boys tend to have a slight edge in recognizing and understanding gaming abbreviations. These findings suggest that while exposure to EL-based games is widespread and beneficial in some respects, there are nuanced differences in how this exposure translates into language proficiency, which may be influenced by factors such as gender and the specific types of games played.

Overall, the study highlights the importance of considering both the original English forms and their translations when assessing language learning through gaming and suggests avenues for further research and educational interventions to support students in fully understanding and utilizing gaming-related language in both English and Bosnian contexts.

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