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Shaping the Bilingualism of Game-Addicted Players

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In today's world, many people who spend more and more time in front of their computer and treat it as something more than a popular pass-time activity are often referred to being game addicted. At the same time, however, many of them, because of being exposed to different forms of dialogic English may be observed to excel the language and react to quite many situations they are exposed to both during the play and out of it. This study is meant to show how gaming addicts shape their bilingualism. Due to our research, it was found that such people who are truly addicted to games often reach a higher level of English much faster when contrasted to average L2 users. The research was based on the surveys filled by 54 carefully selected Internet respondents that fit the definition of a game addicted person (APA, 2022) and a standardized CEFR test they were requested to complete; the same test was also requested to be completed by the people who attend standardized blended L2 classes and who play similar games sporadically for pleasure. Consequently, a correlation between addicted and non-addicted people, and their CEFR test results was carried out. What followed was an analysis of the research results and the their detailed description.

Keywords: bilingualism, game-addicted players, computer-based education, language acquisition vs language attrition, language shaping, learning effectiveness

INTRODUCTION

When reviewing many works devoted to various aspects of second language education, one can easily notice that the majority of them are those that discuss the processes of second language acquisition over those that either try to analyse possible causes of its temporary loss or deal with ways of maintaining it after compulsory school learning, or even discuss some forms of his post-school development. It seems that issues related to the analysis of the processes of gradual loss of a second language remain one of the most urgent aspects in the overall picture of the L2 educational market and require at least as intensive research as those focusing on the methods of acquiring it. The

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situation partly results because of a fuzzy definition of the notion of bilingualism; Hamers & Blanc, (2000), for example, tend to define it as the existence of two languages which are controlled in a native-like way. This approach is disagreed by Yule (2006), who points out that one of the languages will always be the dominant one, and that the accuracy of language mastery and fluency also do not have to be perfectly aligned to speak of a person's bilingualism. Lipińska (2003), in turn, presents her position by claiming that there is a difference between being a bilingual person and speaking another language that we have learned to some extent and then allow it to slowly fade away, mainly due to the permanent inability to use it. in practice. Yoshitomi (1992, p. 295) calls such a situation "the minor image of acquisition" and Hansen & Reetz-Kurashige (1999) even form the regression hypothesis, claiming that the terms learnt last will be forgotten first and that productive skills tend to be more susceptible to attrition than receptive skills.

This is mostly why one of the objectives of this research was to carry out an investigation concerning a discovery of possible ways that may help one retain (or even possibly develop) the level of one's L2 proficiency one has been able to come to when attending one's obligatory school L2 education. Another objective was to find out whether such a help might be obtained in one's massive involvement in video-games playing, especially this that requires continuous verbal contact with the players' game partners.

Literature Review

Generally, this article offers a closer look at the language learning processes that take place within the group of adolescents addicted to games. It was assumed that all the processes connected with learning through games can have a significant positive impact on all learning outcomes. The research signalling the positive influence of games on various learning activities in the group of game lovers has got a large and long literature. Le Pelley *et al.* (2016) for example, analyse possible forms of co-functioning of attention and associative learning in humans, recognizing, among others, that well-planned and intended application of various interactive games may help develop various aspects of dialogic communication; continual application of similar expressions, required to appropriately sketch specific game-appearing situations, may positively influence associative learning processes in the gamers. In some other analytic description, Wessels (1994) not only notices the positive influence of games on the learner's motivation, but also observes faster and more uniform level of involvement of such language learners. Khatibi & Cowie (2013) analyze the processes interactive games may influence language learning. Lewis & Bedson (2014), while discussing many pro and con of games (language games included), remark that any games, when played with understanding, require mental (i.e. cognitive) involvement of the learners, what - in turn - means the introduction and further meaningful application of both the information discovered as a result of participating in a game and its subsequent consequent application, what naturally results in its initial acquisition and further behavioristic habit formation. They also agree with Doff (1990), when they write that all games own their individual dramatic structure which has to be detected by the learners, appropriately studied (so as not to make any mistakes later on) and re-applied

in an errorless way and that any such re-application can be assisted with either the commentaries ascribed to the situations spotted there or with one's own commentaries produced *ad hoc* by the game participants. A similar approach can be found in the researches by Stojkovic, & Jerotijevic (2011) and Colby & Colby (2008); the first pair of researchers observe various phases of integrative games-induced EFL education processes where they recognize EFL games as the ones aimed at mastering one (or more than one) language skills enumerating all the games found by them into listening games, speaking games, reading games, spelling games, discussion (debate) games etc., adding at the very end of this list that all games (computer games included) which require the use of language can be distributed into any of the sub-categories specified by them above. Colby & Colby (2008), on the other hand, analyse the ways that help integrating computer games into the writing classroom (the skill of writing in the target language included) and find out the refreshing effects the introduction and well-designed didactic organization of using such games may bring into the classroom. The researches of Yudintseva (2015) and Zhang et al. (2017) show how people improve their skills by playing games. Yudintseva (2015) presents a research-based description of different game-enhanced second language vocabulary acquisition strategies. In the research by Zhang et al. (2015) it is not only explained that playing MMORPGs has a positive impact on the increase of language competence, but also possible ways that help raise all both receptive and productive language skills. Being in a virtual environment requires constant interaction that is rooted in MMORPGs games. MMORPGs are games that bring together hundreds of players to interact together. People in the game continuously cooperate, exchange their experiences, form alliances and friendships, overcome together the difficulties set by the game.

The results in a way confirming the conclusions raised by most of the researchers presented above (Wessels, 1994; Colby & Colby, 2008; Lewis & Bedson, 2014; Zhang et al. 2017) can be found in a brand new research by Esparrago-Kalidas et. al (2024). The researchers investigated the use of the Gamification-Incentive-Feedback (GIF) Model in the process of the learners' motivation enhancement activities and concluded that the use of the GIF Model is a promising approach helping the students create a rewarding and motivation enhancing experience. They also suggest the application of the GIF Model in the activities aimed at making the learners much deeper involved in the topics designed to be dealt with during the lesson time. The research can be recognized as one more evidence speaking for the positive application of selected games in different education-related activities.

Purushotma (2005) presents situations in games where people who played computer games, did not know the language used in such games. What followed, they were forced to learn the language through the reactions that tool place in the game. Purushotma (2005) presents a scene from 'The Sims', in which the virtual avatar falls asleep in the middle of the room, because the player had not been able to learn that his avatar needed sleep. In the next part of his research, Purushotma (2005) checks what the people taking part in his research learned due to the reactions and stimuli they had approached in the games. Much to his surprise, he finds that many people truly dedicated to the games they played, learned the language much faster and much better. They went as far as to remember plenty of the selected phrases and expressions for a long time. Similar

conclusions can also be found in the master degree elaboration written by Bytheway (2011).

However, excessive playing computer games not only requires a lot of effort and monitoring from the teacher, but can also have negative effects for the young participants. There are many advantages and disadvantages that can affect the future condition of a child, or an adult in the future. American Psychiatric Association (hereinafter: APA, 2022) offers the following characteristic two features of video game addiction (also called internet gaming disorder): /1/ severely reduced control over gaming habits; and /2/ negative impacts on daily functioning, (personal, social, educational and/or occupational issues included). At the same time, while remarking that the situation defined as internet gaming disorder in no way can be recognized as popular and generally occurring in the world, the following symptoms signalling that the stage of video addiction is about to occur, could be observed: /1/ poor performance at school or work; /2/ various withdrawal symptoms when gaming is not possible; /3/ a need to spend more time playing video games to get the same level of enjoyment; /4/ placing gaming over other previously enjoyed activities; /5/ despite the negative consequences gaming cause being unable to reduce the playing time; /6/ lying to family members about the amount of time spent playing video games; /7/ using video games to escape stressful situations at work or school; and /8/ using video games to relieve negative moods. It is mostly these symptoms that helped us select a group of 54 young adults whom we next requested to take part in the research. E. Hartney (2018) claims that video game addiction starts from 6 hours of excessive playing a week. The research results given by the same author show that only 10% to 15% of people who play video games show clear symptoms of addiction.

This work is to set two main goals and hypotheses. The first of these is the assumption that excessive video game playing helps in the development of an individual's bilingualism. The second one is that more addicted video gamers should reveal a higher level of communication skills as contrasted with the ones obtained as the result of blended standard school learning.. Thus, the general assumption is that computer (i.e. video) games do shape the bilingualism of their notorious players.

In this paper, the notion of person's bilingualism was understood in the way presented by Baetens-Beardsmore (1986). In the research carried out on a group of bilingual users of English he discovered that one of easy to observe features of bilingualism is that bilingual speakers tended to perceive language as one of many communication systems, what generally made them being more open to the world. At the same time, following his conclusions, such an approach could rarely be found in the learners who were hardly advanced in the use of the language they had just begun discovering. Also Lyon (1996) concluded in her book that the approach characteristic for bilingual users was that their range of experiences could be described as being much broader and much more diverse. They were able to shift themselves to the necessary forms of dialogic communication much faster than these users of the second language, who were in the phase of contrasting the forms of communication they knew because of using their mother tongue and these necessary to be used when speaking English. Thus, the very definition of bilingualism accepted in the research was that a bilingual person need not necessarily

be a person able to fluently use any of the two languages s/he knew; instead, s/he could communicate easily enough in any of the two languages s/he knew, being able to produce/receive messages in any of the two languages.

METHOD

The principal research method is of quantitative type. During the research we would like to find whether there exists any connection between the type of bilingualism of a video game addicted person and the level of his/her target language, initially employed by the video game authors to shape and control the information flow useful for the game users to play them effectively. In order to establish the conditions of the research a number of both dependent and independent variables have been estimated (Table 1).

Table 1
Dependent/independent variables of the research

Independent variables	Dependent variables
Age of the study participants	Learning process enforcing factors
Level of study participant PC proficiency	Level of study participant stress
Level of study participant L2 proficiency	Ways of L2 study preferences
Level of exposure of study participant on the technical issues	Ways of study imposed of the participants
Necessity of language use by study participant	

Source: Own elaboration

At the beginning of the study, an anonymous survey defining the conditions necessary to possess by video game addicts was launched among video game fans, regularly taking part in various video game contests; such steps allowed us to select a group of 54 players that fulfilled the conditions originally established for video game addicts. Apart from that, we also selected a group of 50 computer users who liked to play video games, but could not meet the definition of a video addicted player. Additionally, both groups of video game players had to take part in the standardized language comprehension test set by us that followed the CEFR expectations (EF SET: English test with free certification). A test like this is offered to all those students who wish to establish their current level of the target language proficiency. Following the recommendations described in such a CEFR test, we prepared a similar one; our test was focused upon everyday (i.e. general) English and stressed the communicative aspect of the language (mostly lexis, structures and the skills of spoken/written communication). All would-be study participants were expected to fill the tests they had received, fill them up and send back to us. Each test we received was checked by us following the scoring system to be found in the CEFR test. Only the participants who achieved the scores equal to the A1/A2 level were recognized as possible participants of the study. Finally, the results achieved by both addicted and non-addicted video-game players were compared.

Participants

The studied group was selected very carefully. Not only each of the participants was requested to fill up a pre-test questionnaire, but also they should fill up a research questionnaire, which was to assess one's level of language in relation to the group of no-game-addicted research participants. As already mentioned above the principal

research assumption was to confirm or reject our claim that the level of bilingualism of people addicted to video games, especially these which require the application of different forms of communication either between the two (or more) players, or between the players and their computers is shaped much faster. If this hypothesis is confirmed, this might mean that - from the purely linguistic point of view - there can be found at least one positive issue of the video game addiction syndrome. In addition, it might also be possible to find out how game addicted players shape their language and suggest these video games that might be of considerable help in this respect. If the hypothesis is not confirmed, it would mean that people addicted to games do not achieve better results in FL learning and that such excessive use of video games cannot be recognized as having had any positive influence on the level of FL communication of video addicted players. All the people participating in the survey were adults; the age range of all research participants was from 18 to 28 years. The total number of the research participants (both groups) was 104 people. All the people were informed that the participation in the research is voluntary and anonymous. Additionally they were notified that all their participation particulars and the obtained results would be destroyed when the research aims had been reached. The subjects were also requested to present a list of their favourite games, specifying roughly the amount of time they spent on playing them (according to the special time limit list adjoined to the participation survey). This information also allowed us to assess the level of involvement of all the research participants in the gaming activities.

In this way, the sample of the research participants was also established. We took into account all the above specified issues we wished to observe in the study participants, i.e. the current level of PC and L2 proficiency, their (both past and current) involvement in video-games playing, as well as their everyday possibilities of L2 use.

The list of games given to the research participants was carefully tailored to the trends of June 2019. The list was based on the Steam platform and the Twitch streaming service, where the most popular games that most people play are listed. It was also allowed for the participants to enter the games that were not listed. In case a game out of the list had been entered, it had to be explained (in the target or mother tongue) what made a player like it.

The research tool

The principal research tool was a standardized test of English certified by CEFR. The test is normally used to establish the current level of the individual's level of proficiency of a language user. It was assumed that the range of the target language proficiency normally expected to participate in everyday communication should be somewhere between A2 and B1. All subjects had to complete a test consisting of 50 multiple-choice questions (both grammar and lexis), and a write a paragraph on one of the five topics offered to them. The selected topic had to be fully developed and well organized; the issues had to be explained sufficiently by the use of different vocabulary. All the test participants could obtain a maximum of 160 points in the test. The tests that were taken carelessly, lacked a large number of responses or were not completed at all and were rejected. The answer key (both the multiple choice test and the written part)

was provided by the CEFR. The test results allowed us to have a look at the level of proficiency of all the research participants, as well as to compare and contrast the two groups taking part in the research.

The Common European Framework of Reference for Languages (CEFR) is an international standard for the description of language competences - used worldwide to describe the language competence of language learners. Language skills corresponding to each level of language proficiency are represented on a six-point scale, from A1 for beginners to C2 for those who have mastered a given language. Due to this, anyone who is involved in language teaching and testing, e.g. teachers, schools, educational institutions and learners themselves, can learn about the international requirements for foreign language proficiency at a given level of proficiency. It also means that employers and educational institutions can easily compare Cambridge English exams and tests with other exams in their country.

The Test

The test that was prepared for the research participants imitated the one of CEFR language competence tests available in the Internet. As already remarked, all gamers were requested to complete a test that consisted of 50 multiple-choice questions (both grammar and lexis), and to write a paragraph on one of the five topics offered to them. The selected topic had to be fully developed and well organized; the issues had to be explained sufficiently by the use of different vocabulary. The whole test counted 100 points to be scored by the research participants. Before the test, all the research participants were requested to declare in their pre-test questionnaires the current level of their language proficiency after they had been given the CEFR second language competence descriptions. The multiple choice questions were of different levels of difficulty, ranging from these normally solved by A1/A2 language users to these indicating the C1/C2 levels of competence. It was also assumed that all the test participants should be able to present the language level indicated by their schooling cycle (i.e. those gamers who completed their secondary FL school education should represent the B1 level of competence, whereas those after college /university studies should be at B2 level at least). Getting the maximum number of points in the test would indicate that the person's competence level was at its highest (i.e. C2) one. The people scoring a little above ⅓ of the total score (i.e. 60 points) were recognized to represent the level A2, assumed to be represented by all secondary school graduates. The lowest level was the level A1, which was to be indicated by having scored 40 points in the test. There was no-one to be considered as having failed the test.

All the results obtained by the research participants were subject to analysis. Not only the crude test results were taken into account, but also such variables as the amount of time spent on video-gaming and/or level of exposure of study participants on the necessary technical issues (i.e. the complexity of a game, the amount of language necessary to let the game smoothly move on, necessity of language use by a study participant etc.)

As expected the vast majority of study participants, recognized to be at least moderately game-addicted, have reached the B1/B2 level, which makes them communicative

language users. They could correctly analyse given texts (even these containing specialist technical phrases). They could also quickly create oral and written statements or promptly respond to given gaming activities. The players marking more interactive games (i.e. the ones that required considerable amount of work with other people, faster reaction or complicated instructions), generally obtained better results in the test. The best results were obtained by the people who declared a few of their favourite online interactive games. Such games usually require quick responses and decision making processes carried out in a foreign language.

An important thing, when writing a paragraph each of the gamers had been requested was to use controlled language to describe an idea. The words should be used in the right way, and there should be no semantic disconnection between the meaning of the words and the idea the person wanted to convey. Apart from that, the following issues were taken into account during the process of assessment of the passage: the number of grammatical and/or lexical errors found in the paragraph; the richness of the vocabulary (the same words could not be repeated too often; they had to be used in a similar context; they should match the context etc.); the construction of the sentence with the choice of appropriate words was also taken into account. The points scored during the assessment of paragraphs were added to the previous part consisting of solving a multiple choice test. In this way the ultimate score of each of the study participants was established.

The final test score ranking looked as follows: only 2% of the test participants scored 100 points; a large amount of them reached the level of 75 - 70 points (67%), i.e. C1/B2 level; 21% showed their language competence to be at the B1 level; the remaining 10% scored less than 40 points or close around the figure (borderline of A1/A2 level of English competence).

Correlation Calculations

Statistical calculations to establish a possible correlation between addicted and non-addicted video gamers were carried out. In this section, we wanted check if there was a correlation between the first part of the survey and the second, on the one hand and assess their level of communicative possibilities at the beginning of the research and at the end on it, on the other one. What was to be measured was the assumed existence of possible correlation between the levels of English of the group of addicted and the one of non-addicted gamers. In order to establish the existence of such correlation the Pearson's correlation coefficient *R* was to be found out. Both addicted and non-addicted gamers were added to the Pearson correlation pattern and each person's score was assigned. A positive *R*-value would confirm our hypothesis that addicted people shaped their English better; a zero *R*-value would indicate that there is no relationship between addiction and the level of English; a negative *R*-value would indicate the inverse relationship, the longer a person spends time in front of the computer, the lower their English level.

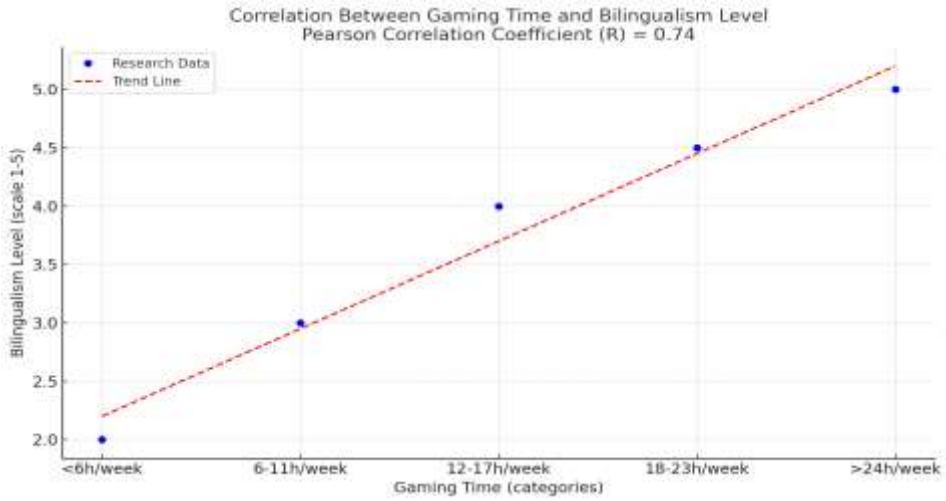

Diagram 1
Correlation between gaming time and the level of bilingualism Pearson's correlation coefficient (R) = 0.74
Source: Own elaboration

The chart illustrates the correlation between the time spent on playing video games and the level of bilingualism among study participants. The X-axis represents categories of time spent on gaming, ranging from less than 6 hours per week to more than 24 hours per week. The Y-axis represents the growing level of bilingualism, rated on a scale from 1 to 5, with 5 denoting the highest level of bilingualism.

Based on the collected data, there is an observable increase in the level of bilingualism as the gaming time increases, confirming the high Pearson correlation coefficient (R = 0.74). The trend line (dashed red line) indicates a positive trend, suggesting that a longer duration spent on video games could be correlated with better language skills, which supports the research hypothesis.

This chart demonstrates that individuals addicted to games, who spend a significant amount of video-gaming time, might also be able to enhance their language abilities, in this way achieving a higher level of bilingualism. This phenomenon could be attributed to their necessity of communicating with other players in the multilingual environments provided by online multiplayer games.

As the diagram demonstrates the correlation predictions were positive. Due to previous research, we could conclude that playing games showed a positive impact on learning English as far as video-addicted gamers are concerned. After analysing all the questionnaires and tests it was found out that the *R*-value was 0.74, what indicates a positive high correlation. Such results allow to claim the existence of the following correlation conclusion: that the longer time is spent in front of the computer screen, the higher level of language proficiency of the gamers could be found.

FINDINGS

The research showed that all the survey participants were young people placing themselves within the age limit 18 -28 years of age. When divided into age groups, 68% did not finish their 22nd year of life and 28,2% placed themselves within the age group 22 – 25 age limit. The remaining part (3,8%) were the people older than 25 years of life. As one can see, the largest group was formed by adolescents and young people.

The main topic of research is the level of bilingualism of video-addicted people. The survey was created to explore this topic. Following our key assumption, addicted people can use English better because they have taught and educated themselves while playing computer games excessively. However, this does not have to apply to every person. The research provided information on the results of tests of addicted people, correlated with non-addicted people. All of the research participants were requested to declare the level of language competence they had been officially expected to achieve because of having completed their mandatory level of language education, i.e. A2 after having competed their elementary cycle of education, B1/B2 after having passed their final secondary school examination and B2/C1 when having completed higher studies. It was found out that all of the 104 research participants (i.e. 100%) have completed their secondary education (either general or technical cycle); apart from that, 37.34% of them were doing their studies and 17.06% completed their higher education. It was then assumed that these participants who had completed their studies ought to nominally represent the C1 level of language competence, those participants who were currently studying should be nominally competent at the B2 level, whereas the remaining amount of the participants should have met the CEFR-indexed B1 level. In this way we obtained the results presented in Table 2: 54.50% of the participants with their A2/B1 levels of language competence; 37.34% of the participants with B1/B2 levels of language competence and 17.06% of the participants with B2/C1 levels of competence. When split into video-addicted and non-addicted gamers, the results looked as follows (Table 3): A2/B1 - 45.68% of video-addicted study participants; B1/B2 – 22.98% of video-addicted gamers; B2/C1 - 31.34% of video-addicted game players.

Table 2
Levels of language (English) competence of the study participants (in %)

No.	Level of language competence according to CEFR indications	% of the study participants
1.	A2/B1	54.50%
2.	B1/B2	37.34%
3.	B2/C1	17.06%

Source: Own elaboration

It needs to be added that we did not check whether such levels of language competence had really been reached by all research participants because of the fact that all of them had completed their mandatory education and all of them before being handed certificates testifying their current levels of education had to sit to mandatory examination checking their foreign language competence and all of them passed such exam.

The first essential question (that concerned the whole 104 survey participants) was the question about the time spent on playing games expressed in hours per week. The vast majority of people (78%) stated they spent more than 11 hours a week. The second group of players (12%) said they spend 5 - 9 hours a week playing games. These two groups of gamers were recognized as revealing evident symptoms of video game addiction. The two remaining groups of video game fans declared much lesser number of time spent in front of their computers/smartphones; 7% of them replied that they spend up to 1 hour a week playing games and the remaining 3% mentioned they played video games from time to time. For obvious reasons, we primarily focused our attention on the group of video addicted players.

Table 3
Levels of language (English) competence of video-addicted/non-addicted participants

No.	Level of language competence according to CEFR indications	% of video-non- addicted study participants	% of video-addicted study participants
1.	A2/B1	54.32%	45.68%
2.	B1/B2	77.02%	22.98%
3.	B2/C1	68.66%	31.34%

Source: Own elaboration

When asked about age, the vast majority (68%) of the people recognized as video game addicts, that took part in the research filled the age range of 17 - 27 years. Only 29 people (28%) stated their age to be over 28. Of this, only four people (below 4%) replied that their age was 14 -17. This result can indicate that the largest age group recognized to be endangered with excessive video game playing could be found among young and moderately young game fans; this type of 'video game frenzy' is far less observed among older groups of computer users.

Three more questions the respondents were requested to provide their answers for concerned their feelings they had when deciding to begin playing the game/s/ and the ways being involved in gaming allowed them to increase the number of possible acquaintances/ friends both in Poland and outside the Polish borders. The first question should let us discover whether the process of being game addicted had already begun, or whether the respondents were still before entering this process. At the same time the second question should permit us to find out whether the respondents had enlarged their possibilities to talk while playing the game/s/.

The results of the question show that only 11.00% of the players treat playing as fun and do not plan beforehand whether to play a video game rather than which game to play. At the same time, as many as 29.10% of the respondents declare that they have their favourite games and that they choose a game they would like to play beforehand. Apart from that, 26.20% of the players inform that they have surveyed the processes most video games available to them require and that they are quite close to selecting the ones they may like playing. Such declarations may be recognized as being quite annoying from the sociological point of view, because they, in a way, contradict earlier declarations of the respondents, especially those games players who do not consider themselves as being game-addicted. A player who, for this or some other reason, has

already shaped his/her video game preferences has found herself (or himself) quite close the line game addiction begins.

As for the answers to the second problem it was found that - regardless of the country of origin the players' new friends come - the number of new friends was declared to have significantly increased; more than half of the respondents (51.50%) stated to have found new friends inhabiting different parts of Poland. At the same time, a slightly higher number of video players (57.90%) informed that they had had a possibility to play a game with foreigners and that they had talked to them when playing. The numbers of players who did not meet new friends either in Poland (11.70) or abroad (11.89) are quite small. Such declarations sound promising as they show that talking to other partners when playing video games remains one of important elements of the activity, what - from the linguistic point of view - evidently helps develop the process of game-directed conversation. When such conversation is carried out in the language other than the mother one, the unplanned process of exercising the target language takes place.

We also asked the group of game addicted research participants about the tool they prefer using when playing video games. It could be found that the largest amount of game addicted people (82%) prefer using computers; the indications of game consoles and smartphones were much lower and located themselves on more or less equal footing (9% each of them).

When requested to specify the type of video games preferred by the gamers from the video addicted players it was found that the group of people spending their time with multiplayer games is twice higher than these preferring single player ones (62% to 31%). The remaining group of video-addicted players (7%) were not able to openly decide on the kind of games preferred by them. The answer to this question was very important for us because of a very simple reason; multiplayer games, are the games which require continuous access to the internet to play them (what naturally results in the appearance of various forms of verbal/ written communication between/among the players). In contrast to this, single-player games do not always require contact with other players; what's more, the information on how to play is quite often provided at the beginning of the game.

The next question concerned the games all 104 game players prefer playing. Out of a list of most popular games they were requested to /a/ tick these they liked playing and /b/ arrange them according to the time they used to spend on them. In case the games they could not find the games they liked playing they were requested to add new ones. Table 3 below illustrates the answers given by all the survey participants.

The table lists most of the games that the respondents entered. It can be seen, most people said they used to play *World of Warcraft*. Then there is *Counter-Strike* and *Dota 2*. All these games require continuous internet access and continuous verbal co-operation of players. The games that do not require such connection with the network (some of them being off-line games) are: *GTA 5* (*Grand Theft Auto*), *Minecraft*, *The Sims*, *Witcher 3*, *Zelda*, *Diablo* and *Gothic*. The games that scored one or two points are mostly not included in the chart; they are: *Warframe*, *Warcraft 3*, *Zelda*, *World Of*

Tanks, Insurgency, Tomb Raider, Swords and Sandals, Heart-stone, Darkest Dungeon, Overwatch, FIFA, Bloodborne, Metro 2033, La Noire, Red Dead Redemption, Tekken, Mortal Kombat, Escape From Tarkov, Just Dance, Sekiro, Fallout and *Borderlands*. As one can see the respondents indicated plenty of different video games they like spending their time on. This can be a sign of considerable involvement in the gaming world of the research participants (both video game addicts and the gamers playing video games occasionally).

Table 4
Select the games with which you spend most of your time

Name of game	Answer	Name of game	Answer
World of Warcraft	68	Dota 2	39
Counter Strike	47	GTA 5	46
Apex Legends	27	The Sims	12
Multiplayer Games	14	Fortnite	10
Tibia	9	Minecraft	35
Rainbow Six Siege	37	Rust	34
League of Legends	9	Rocket League	32
Witcher	6	PUBG	28
Dota Underlords	30	Garry's Mode	30
Zelda	6	Diablo	6

Source: Own elaboration

An interesting observation can be found in the next question, in which we wanted to find out whether the research participants recognize playing video games as a waste of time they might spend on doing some other, possibly more useful, activities. It turned out that only 8.70% of them shared this point of view, whereas 15.50% found video games playing as the time spent in a very profitable way, 19.10% also seemed to share this point of view (with slight level of doubt whether this was the time spent in the most profitable way); finally, almost ¼ of the research population (24.30%) did not know how to answer this question and a little bit lesser number of the participants (22.30%) were able to accept the claim that playing video games is not the most profitable way of spending they time (although they often add that they like this way of spending their free time). It is thus possible to see that the vast majority of people do not think that video games steal their time. Quite the contrary, these people believe that the time spent on playing video games is not a waste of time. What's more it appears that - in many cases - these people feel that being busy with games they can achieve specific goals that can mean something to them. As the answers to the next question may suggest one of these specific goals may be their individual work over the improvement of their language.

This question searched for their opinion on the claim that video games playing did develop their English (assuming that they themselves recognized their current level of English to be clearly better when compared to the level they had some time ago). Only 1.10% said that they did not notice any improvement with their English, whereas 9.70% declared small improvement and 18.40% claimed their English was slightly better. The two other groups declared that they had noticed evident improvement of the language

(36.90%) and/or discovered their large improvement (34.00%). Naturally, these declarations needed to be reconfirmed by their tests to find out whether their beliefs and/or impressions were correct.

The most popular game among the respondents was the game titled "*World Of Warcraft*." This is an MMORPG game. The player takes on the role of his/her avatar and sweeps the world overcoming various adversities posed by the creators. The game is about gaining new levels of experience and increasingly overcoming difficult challenges. Due to its difficulty level, it is not possible to play the game alone. People must organize themselves into smaller or larger groups. Only through joint efforts are they able to overcome their adversities. The game requires continuous internet connection. The players are forced to play with other people and - what is another important feature of the game - to communicate. More people and better communication are required to fight harder opponents. People always use voice messengers. The players are obliged to cooperate at a high level.

This game, as well as many other games selected by the respondents, has been defined as being demanding in terms of vocabulary and speed of situational (and verbal) choices. This is a crucial aspect of every multiplayer game (Dourda *et al.,* 2014). Every player must be aware of and make decisions very quickly. The expressions a player is expected to use (and repeat many times during the game) is of high standard, with many specialized structural and lexical constructions, what the players do not even realize. In addition to the level of the vocabulary required for ordinary conversation during (and after) the game, it is also necessary to give detailed information, solve various puzzles and/or share information with other players, users must also be able to use specific vocabulary when being in trouble (e.g. when the player's avatar is close to be perished, a player usually has to ask other players for help. As such decisions have to be taken in a few seconds, there is no time to think about choosing a vocabulary or correct grammar. It has to be very well controlled; otherwise, his/her teammates will not understand him/her, and s/he will lose the avatar in the game. As observed by Zhang *et al.* (2017), due to these inherent game conditions, players are forced to quickly internalize, remember and apply the phrases.

DISCUSSION

Stojkovic & Jerotijevic (2011) turn attention onto some other important issue of the quality of vocabulary used in such video games. As the player's avatar needs to gain more levels, it gets transferred to increasingly different areas of the game (Peterson, 2010). Due to this, the vocabulary is not always the same. For example, in "*World of Warcraft*", at the beginning of the adventure, the player's avatar appears in the desert, where s/he must find water and food, and share it with other players. Having completed this level, the player it taken to the jungle, where completely different adventures await him. Naturally, having attempted to conquer a given level, the player has to use different vocabulary and agree with other players what activities to undertake (Rama *et al.*,2012) As we can see, such a variety of situations allows one to use extensive and constantly repeated vocabulary, and structures.

Similar conclusions can also be found by Thorne *et al*. (2012) in their paper titled *The semiotic ecology and linguistic complexity of an online game world*,. The paper authors, having discussed a number of not fully explained online gamers' verbal reactions during the games as well as the cognitive effects of such lexical involvement of the players, present their opinion that the amount of time spent on video playing does have influence on the level of language performance of the players. At the same time the forms of lexical expressions presented by the players in a way co-exist with the language of the games they have spent most time with. A situation like this suggests that the amount of time spent over the extensive use of certain lexical forms commonly reappearing in the games does influence the way of each phrase presentation but shortens the context in which they may be used. It turns out such users are often satisfied with the application of the video-game appearing phrases they have made themselves aware of functioning in some strictly defined video-game explained contexts, at the same time reserving the time of use of such phrases to these (or very similar) contexts exclusively.

The respondents who stated that computer games would help them learn English, most often chose multiplayer games (Bytheway, 2014). The most common answers were such games as "*World Of Warcraft*", "*Counter-Strike*", "*Rainbow Six Siege*", "*Rust*", or "*Garry's Mode*". All these games are online games, which means one has to be continuously connected to the Internet and spend time with other players. Many of the adults who have finished their school education and are now busy spending most of their time at work, are usually not able to continue their English education in school-like way any longer. As these people are usually unable to attend (usually expensive) language courses and still do not want to lose contact with the language, many of them have decided to develop their English in a more practical way (e.g. with the help of video games). When doing so, they have also discovered a perfect target to externalize the language they know. When at school they had to learn the language to earn a grade, but when the grade had been obtained, they did not see any other good enough reason to remember the learnt phrase/s/ any longer. When being involved in video-gaming the situation has changed; now they have to use many specific expressions to succeed in certain situations and/or to agree the activities with their partners. Such a situation means that each of them needs to participate in real, context-involved conversations. In many situations, the English they still remember from their school education is not only bettered and/or developed, but also polished, being given a perfect target. Due to the fact they have begun playing video-games, they have noticed they can talk and write much better. Being in school, they shaped the potential of their reading, listening and/or speaking skills, but it was their games that trained and helped develop their language. It could be said that thanks to the game these people have become bilingual.

Online games are characterized by the fact that continuous Internet access is required. Due to this, the games force their players to interact with other players. These games themselves have certain assumptions and instructions that the player must follow. Whereas offline games do not offer access to other players and each person plays the game alone, in case of online games the players are not only provided with specific instructions that have to be followed (what means the players' reading and/or listening skills are put to practice), but also these specific instruction need to be fulfilled and

applied when the play begins; the player must make an effort to interact with the other players to complete the level. Thus, players begin developing their speaking and/or writing skills (when carrying on a texted chat, for example). Also, players must respond to the instructions of other players. Not only does the game requires each player to complete specific instructions, but also inform other players about the decisions they have made. They must communicate with each other, provide information, talk and collaborate to achieve a given level. It is much more engaging and shaping language than just completing very similar instructions from an offline game. In online games, the instructions are constantly changing, as are the players and the requirements for the game. Online games use the language potential of the players in a much more demanding way; they force them to use their English to the limit.

As for the first issue it was found that playing computer games does bring benefits. Video-game players have been found to either restore their school-attained level of English, or even develop it a little bit. It was also found that playing the games that require the use of English (rather them the forms of communication carried out in the study participants' mother tongue) generally helps in the establishment of the language potential at the level previously reached during their FL school education. At the same time the group addicted to video games was found to have developed their second language, thus becoming more communicative and more aware of the peculiarities of the language used by them during the time they spent on game playing. In this way, it is possible to state that playing online video games, especially the ones that force the gamers to communicate in English to describe their moves and possible strategies, exerts positive influence on the level of the language they use. The results of statistical calculations indicate that the correlation between the time spent on video-playing and the level of communicative English is positive, what shows that these gamers who spent much time on playing different communication requiring video games generally represent much higher level of English when compared to the gamers who play occasionally.

Similar observations are also offered by Peterson (2011), when he analyses the results of his research carried out in Japan. In his paper titled *Digital gaming and second language development: Japanese learners interactions in a MMORPG*, he writes that many Japanese MMORPG players achieve much better results in dialogic communication, due to their well-exercised game-directed language performances.

When putting the research results in a broader but at the same time much closer to FL education-friendly context, it has to be stated that the results show that the higher initial level of FL competence of a language user (claimed to have possessed in the pre-research declaration), the higher level of the language competence presented in the CEFR test. As the group of video-addicted players was found to have completed their school FL education a considerable amount of time ago, the most probable means helping them maintain the level of FL competence they gained much earlier was being involved in video-game playing. In this way it may be assumed that playing video-games exerts positive influence on the level of FL competence of adult players, being a strong defence tool against FL attrition. Finally, it also shows that maintaining strong positive motivation towards an activity remains the most certain tool to preserve the

level of FL competence even is the very idea of preserving the said competence becomes a notion of second importance. This is also where our results co-function with most of the findings declared in the research presented by Esparrago-Kalidas *et al*. (2024).

CONCLUSIONS

The paper presents the results of a survey conducted on video-game afflicted adults. In it we wanted to find answers to the questions whether video-games generally help develop, restore, or re-learn the English of adult gamers, whether there exists a correlation between the intensity of video-game playing and the level of English of video-gamers, and - generally - whether there appears some interconnection between the development of one's bilingualism and the intensity of video-game playing.

Thus, the thesis that computer game playing shapes one's bilingualism could be found to be positive. People playing games must use their language to their full extent; due to their natural conditions online games develop both hard and soft skills. Players are forced to use every language aspect at a high level. It helps them either re-learn or even develop English very well. The adults who have completed their education in English are not only able to maintain their original (i.e. school-attained) level of English, but also develop it and regularly polish it. Computer games significantly increase the gamers' self-confidence and strengthen their language. The players are expected to make different descriptions, dialogues, texts of various types, they should carry out various conversations and/or exact descriptions of their current positions or define the situations that have found themselves in. All tested people positively interact with most of the forms of English they have met; not only do they overcome the barriers given to them but are also able to maintain a high level of language and use it in practice.

RECOMMENDATIONS

It is recommended that possible future studies use a larger sample size and extend the duration of the study to draw more meaningful comparisons between this approach and other non-traditional methodologies.

Authorship Contribution Statement

Polok: Generating ideas and conceptualization, developing the research design, managing the entire research process. Jeleśniański: Field research including data collection, data analysis, data presentation, results composition. Przybysz-Zaremba: Writing the literature reviews, organizing the discussion and conclusion, and supervising the research and final editing.

Conflict of Interest

There is no conflict of interest of the authors

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