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Research Article

Foreign Language Learning Effort and Use of Digital Media among Digital Natives: A Case Study from an Urban Secondary School

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Abstract: This study aims to investigate the impact of new media and some demographic factors such as gender, affinity with English, self-reported academic success, and reading habits on foreign language learning efforts of 21st-century language learners born into a digital world. The participants were 100 students attending a government secondary school in Artvin, which is located in the Eastern Black Sea Region of Turkey. A case study methodology was employed in the research to investigate the characteristics of the specific subjects extensively. Two questionnaires and a demographic information form were used to collect data and were analyzed with descriptive and inferential analyses. The frequency distribution was presented in tables, and the binary logistic regression model was conducted to assess and identify the influence of new media on digital natives' foreign language learning efforts. Research findings indicated that more than half of the digital natives possess a higher level of foreign language learning effort. Secondly, the variables such as affinity towards learning English, self-reported academic success, and using media hardware and social media had a significant effect on digital natives' foreign language learning effort. Finally, the digital natives' classification of effort was seen to be significantly predicted by using new media. The study strongly recommends the extensive integration and use of new media type, which the learners prefer, in the foreign language learning process of the digital natives since it directly contributes to the process of foreign language learning effort and indirectly enhances the enthusiasm and willingness of the digital natives.

Anahtar Sözcükler: Yabancı dil öğrenme çabası, yeni medya, dijital yerliler, yabancı dil öğrenimi, vaka çalışması

Dijital Yerlilerin Yabancı Dil Öğrenme Çabası ve Dijital Medya Kullanımı: Kırsal bir Ortaokul Örneği

Özet: Bu çalışmanın amacı, yeni medya, cinsiyet, İngilizceyi sevmek, akademik başarı ve okuma alışkanlıkları gibi bazı demografik faktörlerin, dijital dünyaya doğan 21. yüzyıl dil öğrencilerinin yabancı dil öğrenme çabaları üzerindeki etkisini araştırmaktır. Katılımcılar, Artvin'de bir devlet ortaokuluna devam eden, 56'sı kız ve 44'ü erkek 100 öğrenciden oluşmaktadır. Araştırma kapsamı içindeki konuları derinlemesine irdelemek için vaka çalışması yöntemiyle kullanılmıştır. İki anket ve bir demografik bilgi formu aracılığıyla toplanan veriler, tanımlayıcı ve çıkarımsal analizlerle incelenmiştir. Frekans dağılımı tablolar aracılığıyla sunulmuştur. Ayrıca, yeni medyanın dijital yerlilerin yabancı dil öğrenme çabaları üzerindeki etkisini değerlendirmek ve belirlemek için ikili lojistik regresyon modeli uygulanmıştır. Araştırma bulguları, öncelikle dijital yerlilerin yüksek düzeyde yabancı dil öğrenme çabasına sahip olduğunu göstermiştir. Ayrıca, İngilizce öğrenmeye olan yakınlık, akademik başarı ve sosyal medyayı kullanma gibi değişkenler, dijital yerlilerin yabancı dil öğrenme çabaları üzerinde önemli bir etkiye sahip olduğu görülmüştür. Son olarak, dijital yerlilerin yabancı dil öğrenme çabaları konusunda sınıflandırılmasının yeni medya kullanımı ile önemli ölçüde yordandığı görülmüştür. Çalışma, yabancı dil öğrenme sürecine doğrudan katkıda bulunduğu ve dolaylı olarak öğrencilerin heyecan ve istekliliğini artırdığı için, yeni medyanın yabancı dil öğretim sürecine kapsamlı entegrasyonunu ve kullanımını şiddetle tavsiye etmektedir.

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1. Introduction

The dazzling changes in information technology and media use taking place in this century put an unbelievable pressure on teachers' shoulders to equip their learners with the necessary skills to get by in this age. To keep up with the world of new media and technology is crucial for young learners in this competitive world. Today's generation of young learners has been born into a world infused with technology and new media, making them behave, think, and learn differently from their predecessors. As a result, they tend to adopt and use new media and information technology excessively due to the abundant opportunities surrounding them. This new generation of learners has been claimed to receive information quickly, to take an active part in their learning process, and to be proficient in multitasking, and to have less tolerance for traditional lectures (Oblinger & Oblinger, 2005; Tapscott, 2009) as well as exhibiting different social characteristics and having different expectations about life and learning. Hence, the traditional teaching and learning paradigms and approaches were shaken and thought over again, considering renovating and benefiting from the educational potential of those characteristics of the young generation and development in the new media and technology.

Consequently, it has been argued for long that this young generation should be very well known by the educators and trained differently from their antecedents since they have been merged with technology since birth. Finally, Prensky (2001) simply called this generation with an appealing term as "digital natives." Due to the opportunities of communication with the people around the world via new media and the characteristics of these digital natives are thought to arouse an interest in foreign language learning and increase the effort put in language learning studies. Effort is thought to be the result of motivation. As suggested by Gardner (2001), effort is one of three elements of motivation; the desire to achieve a goal, attitude, and effort.

Thus, it could be said that being inspired and motivated by the power and opportunities of new media on communication, digital natives would put much effort into learning a foreign language. It is now time to look specifically at the details about digital natives, new media, and foreign language learning efforts. Before presenting the research findings, it would be useful to introduce a brief review of the literature.

1.1. The Digital Natives

Many different terms are used to call the generation who was born into the digitalized world as millennium generation (Lancaster & Stillman, 2010), internet generation (Rosen, 2010), digital generation (Jukes et al., 2010), net generation (Tapscott, 2009), multitasking generation (Wallis, 2006), and media generation (Cvetkovic & Lackie, 2009). Although the term "digital natives" indicates that this generation is excessive users of digital technologies, it certainly implies far more than that. Due to the technology-rich environment, the digital natives are exposed to; they are said to develop their unique characteristics, which make them different in some respects. According to this hypothesis (Prensky, 2001), the technology-rich environment made young people approach and use information in a completely different way and process it very fast by causing a change in their brain structure. They work best with graphics and visual items and have a particular interest in games, videos, and digital elements. This smart generation has also been more collaborative, multitask, and sturdy (Tapscott, 2009). Prensky (2001) defines the people who were born before this new digital era as "digital

immigrants" and emphasizes that digital immigrants are indeed supposed to learn and use new technologies quite well.

Nevertheless, digital immigrants are not likely to understand digital natives. Prensky (2005) uses an analogy to make this difference more explicit by suggesting the case of a language learner and a native speaker of that language. Learners of a foreign language, however functional they are in that language, cannot be as good as the native speakers of that language. Similarly, digital immigrants are not expected to be capable of using and manipulating technology like digital natives (Prensky, 2001). As a result, this hypothesis suggests thinking over the educational process of this generation thoroughly. Since the learners' characteristics, expectations, and needs seem to change, the teaching styles and materials may need to be adjusted accordingly. Therefore, an in-depth understanding and investigation are needed to help teachers understand and meet young learners' educational expectations. According to Prensky (2001), although digital natives speak a different language from digital immigrants, they share the same goals in the educational settings. Thus, they are the teachers-digital immigrants who are expected to understand the learners'-digital natives' skills and preferences to achieve the educational goals by reaching them. Likewise, Prensky (2001) and Tapscott (2009) regarded this generation as smart, innovative, powerful, and collaborative by appreciating them. He also claims that they have the power to change whatever is old and traditional in societies, including educational systems.

Contrary to the aforementioned hypothesis supported by Prensky (2001) and Tapscott (2009), Bauerlein (2008) criticizes the digital age for stupefying the young generation by making them less curious and intellectual. According to him, the young generation is not aware of the advantages and vast opportunities offered by the internet as sources of data, information, and knowledge. Instead, they are just passive consumers of information and are unable to think critically to use this information effectively. After all, Bauerlein (2008) claims that teachers do not need to take any trouble adapting themselves to this new generation.

Indeed, it is difficult to accept or deny two of the approaches completely. At this point, it is worth referring to Bennett and Maton's (2010) contribution to the efforts of clarifying the characteristics of the digital natives. They underline the importance of individual preferences in young people's use of technology. Each individual is emphasized to have his unique interest, motivation, and needs, which affect their choices of technology. So, it is recommended to be cautious while describing the characteristics of the digital natives and generalizing some of those characteristics to the whole generation (Bennett & Maton, 2010). Another critical and interrogating approach to Prensky's digital natives was brought up by Helsper and Eynon (2010). After researching with a large population, they reached a conclusion claiming that the gap between digital immigrants and digital natives is being exaggerated, and this is not such a big issue when it comes to educational levels, skills in technology, and experience. Nevertheless, they still support the findings of such previous researchers as Prensky (2001), Oblinger and Oblinger (2005) and Stevenson, (2002) about the importance of this new era and generation that are genuinely different from the previous ones.

1.2. The New Media

The new media, which is also called and used as digital media and Web 2.0 tools in the literature, is distinguished with its features such as being interactive, incorporating two-way communication, and saving and exchanging information through computing (Logan, 2010;

Flew, 2008; Jenkins, 2006). They contain social media sites such as Facebook, Twitter, and Google+, photograph and video sharing websites such as YouTube, Instagram, and personal or live blogs, and media hardware such as smartphones, wikis, podcasts, and webcams. Saving the students from being passive users of technology and allowing them to create, manipulate and easily share information with others are the notable novelties it has brought to the lives and learning environment of young people (Hara &Sanfilippo 2016). Thus, they have brought a shift for the needs, expectations, and roles of both teachers and learners. Firstly, teachers are expected to embrace the potential of opportunities coming through new media by adopting the role of coordinator, facilitator, and organizer rather than their traditional lecturer roles (Alvarez et al., 2013). Correspondingly, teachers are supposed to improve their competences in dealing with the new media to cope with this professional challenge. Secondly, learners are expected to take an active part in all educational processes involving production, creativity, and sharing knowledge along with critical evaluation instead of being just passive recipients and absorbers of the knowledge. As suggested by Weigel et al. (2009), new media has a considerable effect on the physical, social, and intellectual development of the young generation despite the differences in their purposes and preferences of new media usage as entertainment, knowledge, social interaction, and communication. Through the communication facilities provided by new media, the new generation had the opportunity to hang out with a global audience and communicate across borders (Hoechsmann, 2008) while sitting on the couch in their living room.

Some of those encounters and communication processes are possible to take place in intercultural settings, which involve people speaking different languages. So, it would not be weird to speculate that experiencing those kinds of communication would enhance the desire to learn English as an international language. In other words, these experiences are expected to motivate the learners to put effort in their foreign language studies either formally or informally. Hence, it is this expectation that guides the researchers to conduct this research on this topic. It is now time to investigate the foreign language learning effort in detail.

1.3. Foreign Language Learning Effort

Learning effort is defined as the willingness to cope with compelling duties and errands as well as embracing new and challenging concepts. It is regarded as an affective and motivational entailment for achievement and is closely linked to both cognitive and motivational aspects of learning. It has been indicated as a crucial initiator of learning (Krapp, 2003) and a sub-component of motivation (Rheinberg, 2006). Many studies in the literature also indicate a close relationship between learners' effort and academic achievement (Kaufmann, 2007; Rauer & Schuck, 2004; Stubbe & Bos, 2008, as cited in Richter et al., 2016). According to Ericsson et al. (2006), the amount of effort put into possessing a skill is the most significant determinant of the final achievement of the learners.

Different sub-dimensions of effort were discussed in the literature, such as "degree of specificity and degree of effort." In terms of specificity, two levels of behaviors were determined as task-oriented behaviors and general achievement behaviors. The behaviors related to an isolated problem or projects are classified as "task-oriented behaviors," and the behaviors related to the effort put in academic achievement at school are classified as "general achievement behaviors." The "degree of effort" was defined as the "overall amount of energy or work expended over the course of learning" (Agbuga & Xiang, 2008, p. 181, as cited in Bozick & Dempsey, 2010).

Since the effort put by the learners for a task differ from each other in terms of degree and behavior type, effort was handled under three subcategories in the literature. The first categorization of learning effort was developed by Carbonaro (2005) as rule-oriented, involving compliance of students with classroom rules; the procedural effort that requires meeting the teacher instructions; and intellectual effort that includes activities committed to mastering a subject. Later, a new but similar classification was developed as procedural, substantive, and non-compliance by Bozick and Dempsey (2010). The procedural effort involves the behaviors of completing a learning activity, obeying the rules in the learning environment, and putting in the required effort to achieve well at school. Compliance effort could be directly related to the academic achievement of language learners as well since it requires following the rules and instructions set by the teachers. Hence it would not be unreasonable to expect the students with high compliance effort to be successful at academic subjects as they will probably have high attendance to the school. Substantive effort incorporates the active involvement of learners in the learning process. It involves all the activities related to the learning process, such as conducting projects, spending time at school, and studying for exams. The last subcategory, non-compliance, is related to the behaviors that hamper the effort put by the learners, such as ignoring school and tasks to be done for class and ignoring the learning activities (Bozick & Dempsey, 2010).

However, the studies in the literature were seen to yield different models depending on the region where the research was conducted. According to the results of a study conducted with Malaysian engineering students by Alias et al. (2017), only two learning effort models were generated. The two dominant learning effort models were intellectual effort and compliance effort. Alias et al. (2017) explained that since Asian culture glorifies compliance with authority, their students mostly showed high compliant effort. Similarly, in a review of the empirical literature, Bishop (2006) indicated that the effects and determinants of effort differ significantly between nations and schools, as well as within schools. It was also seen that the physical environment of the school, students' satisfaction with the school environment, relationships with teachers and peers, and teachers' guidance are all significant factors affecting students' effort (Hopland & Nyphus, 2016; Kinderman, 1993; Ryan, 2001; Wentzel, 1998). In the Turkish EFL context, a study was conducted by Karabıyık and Mirici (2018) to develop a scale to evaluate the foreign language learning effort types and levels of Turkish EFL learners. The results and types of learning effort yielded in their study were similar to the models developed by Carbonaro (2005) and Bozick and Dempsey (2010). Karabıyık and Mirici (2018) added one more sub-dimension as "focal" to explain the attentiveness and mindfulness aspects of learners' behaviors. In this study, the model with four sub-dimensions, as suggested by Karabıyık and Mirici (2018), was adopted.

The main concern of this study is the "foreign language learning effort" of young learners. So, it might be assumed that the degree of effort the learners invest in learning a foreign language is directly affected by the strength of learners' motivation and the attitudes they have towards that language. Studies in the literature yielded striking results regarding the relations between learning effort, attitudes, and motivation (Bandura 1997; Dörnyei 1998; Gardner & MacIntyre 1993). In other words, considering the results of those studies, it could be claimed that they are all interrelated and significant predictors of achievement in language learning. (Csizér et al. 2010; Garrett 2010; Moratinos-Johnston, et al. 2018). It is also possible to find studies in the literature suggesting a direct relationship between effort and success in learning a foreign language (Ampofo &Osei-Owusu, 2015; Aratibel, 2013; Inagaki, 2014).

Hence, the present study hypothesizes that the natural interest of digital natives in using the new media could be a strong motivation to raise the degree of effort in learning a foreign language as emphasized by previous researchers (Bennett, et al., 2008; Bennett & Maton, 2010; Jones & Shao, 2011). Although there has been considerable interest in outlining the characteristics of the digital natives and their learning preferences, there has been little empirical research on it. Therefore, an investigation is needed to shed light on digital natives' use of new media and foreign language learning effort. For this reason, the following research questions were designed for an in-depth understanding of the topic;

1. What are the profiles of those students identified as digital natives in terms of language learning effort and the new media usage?
2. What are the factors that have an impact on digital natives' foreign language learning effort and new media usage?
3. How does new media usage shape the language learning effort of the digital natives?

2. Method

2.1. Research Design

Considering the purpose of the research, a quantitative case study design was planned to provide an in-depth and comprehensive analysis of the data gathered from specific objects and in a specific context without generalizability concern. Thus, the research design was a case study in which the case represented a secondary school located in a socially and economically disadvantaged region. Yin (2009) defined case studies as research designs aiming at explaining and describing events or phenomena in their natural context thoroughly. Mills et al. (2010) indicated that while early case studies were frequently used in qualitative research types, this tradition has changed, and case studies were begun to be used as part of quantitative or mixed methods research designs. Mackinnon (2010) distinguished the roles of qualitative and quantitative case studies in educational research by suggesting that quantitative surveys enable the researcher to define patterns while qualitative research uncover the reasons for those patterns. However, it should be reminded that case studies have poor bases for generalization, and researchers need to be cautious while handling the results (Crowe et al., 2011). Thus, the common assumption that case studies provide a greater understanding of social phenomena in a specific situation and with specific subjects encouraged the researchers to employ this design.

2.2. Participants

The study was carried out in an urban secondary school located in Artvin, which is a small city in the eastern Black Sea region of Turkey, in the 2018-2019 academic year. The school is a state secondary school, but the students' English proficiency is A1 level according to the Common European Framework. They have a library in the school where they do their homework or read books. The students do not have internet access at the school. In spring and summer, most students help their families work in the tea fields and grow animals after school.

This case study was conducted in one specific school, and all the volunteer students were asked if they wanted to participate in the study before distributing the questionnaires. The total number of students at the school was 180, and the questionnaires were distributed to 160 volunteer students. However, only 100 of the questionnaires could be involved in the analysis due to some severe missing information in them. Of the participants, 56 (55.4%)

were females, and 44 were males (43.6%). Their ages ranged from 10 to 14. Of the students, 84 (83.2%) reported that they loved studying English, whereas 16 (15.8%) said they did not love it at all, and they studied it because it was a compulsory school subject at school. Besides, 81 (80.2%) of the participants reported that they found themselves successful in their English courses, while 19 (18.8%) of them did not. Finally, 83 (82.2%) of the students reported that they love reading as their recreational activity, and 17 (16.8%) of them reported that they did not like it at all.

2.3. Data Collection

The data were collected through three instruments; an information form, Foreign Language Learning Effort Scale (FLLES from now on) developed by Karabıyık and Mirici (2018) and Survey of New Media Usage Habits developed by Uğraş (2012). In the FLLES, there were 17 items in total, and the Scale had four components as non-compliance, procedural, substantive, and focal, based on a 5-point Likert scale. Out of these items, 3 of them are under the component of 'non-compliance,' which is about the students' behaviors hampering learning; 3 of them belong to the component of 'procedural' related to students' interest and participation in learning. Furthermore, 8 of them belong to the "substantive" component, which is related to the students' active involvement in learning activities; the rest of three items are under the component of 'focal,' which are related to the students' concentration level in an academic environment. There were also three items in the questionnaire, which were reverse coded before carrying out the analysis. For the internal consistency, Cronbach's alpha values were calculated both for all the four subscales and for the entire Scale. The Cronbach's alpha was found to be 0.85 for "non-compliance" subscale; 0.83 for "procedural" subscale; 0.81 for "substantive" subscale and 0.75 for the "focal" subscale. For the overall Scale, it was found to be 0.84. Those values indicated a high level of reliability for both the whole Scale and the sub-dimensions. The Survey of New Media Usage Habits involved ten questions investigating the new media usage habits of digital natives. The survey was intentionally developed by the researchers (Uğraş & Gülseçen, 2012) towards the digital natives by counseling the experts in the field.

2.4. Data Analysis

The research was based on a survey design. So, descriptive statistics such as mean, median, mode, standard deviation, frequency tables, and inferential analyses were primarily conducted through the Statistical Package for Social Sciences (SPSS) program. After performing the Kolmogorov–Smirnov normality test, it was seen that the assumption of normality was strongly violated by data. So, non-parametric tests such as Mann-Whitney-U and Kruskal Wallis were employed. Finally, the binary logistic regression analysis was used to determine if there was a difference between social media users and non-users in their foreign language learning effort.

3. Findings and Discussion

The findings of the research are presented under the research questions in the following paragraphs.

3.1. What are the profiles of those students identified as digital natives in the new media usage and language learning effort?

The first attempt of the present study is to develop a clear profile of the participants in terms of their new media usage habits and language learning effort as suggested by research questions.

3.1.1. The foreign language learning effort revealed by the digital natives:

As mentioned above, FLLES evaluates four aspects of foreign language learning effort as non-compliance, procedural, substantive, and focal, and each aspect of effort requires a separate subscale. However, the Scale also allows for creating a composite score (Karabıyık, 2018). So, firstly, the responses were analyzed to evaluate the participants' overall score, and they were assigned to high and low groups based on the median score (median = 4.014, mean =4.205, SD =0.67) obtained from the Foreign Language Learning Effort Scale. Thus, 54 (58.7 %) participants were assumed to have a high level of effort, while 38 (41.3) of them were evaluated as the ones revealing a low level of foreign language learning effort. Then, the analyses were conducted to determine the scores in each of the subscales separately to discover the strengths and weaknesses of the participants regarding their foreign language learning effort. Descriptive statistics were conducted to assess the students' foreign language learning effort, and group means and standard deviations were presented in Table 1 in descending order. When the mean values shown in Table 1 are considered, it could be concluded that the participants put various aspects of effort in their foreign language studies.

Table 1.

Means for the Foreign Language Learning Effort of Digital Natives

GROUPS	N	MEAN	SD
Focal	100	4.53	0.80
Non-compliance	99	4.34	0.81
Procedural	96	4.32	0.81
Substantive	96	3.76	0.75
Overall Score	**92**	**4.04**	**0.67**

As can be seen in Table 1, the effort of the "Focal" sub-dimension was the highest and followed by "Non-compliance," "Procedural," and "Substantive." The results of the items are presented in groups according to the four language learning effort areas of the FLLES outlined in the method section. This finding manifests that EFL students, in general, have a high level of awareness and concentration on their studies of the foreign language. The items involved in the non-compliance sub-dimension of effort are quite similar to the items of focal effort. So, the very close scores between these two sub-dimensions show consistency in terms of students' responses. The high mean scores in reverse coded negatively worded items of non-compliance effort indicate that students refrain from distracting and disrupting behaviors during their studies. The finding indicating that the scores of procedural effort are higher than that of substantive effort reveals that learners are more concerned with completing a learning activity and obeying the rules of the learning environment rather than actively engaging in the learning process.

When the scores of the sub-dimensions were considered, three of the sub-dimensions, namely, focal, non-compliance, and procedural, were above the median score and very close to each other. The only sub-dimension which was below the median score was "substantive effort." The highest score in the "focal effort" category indicates the digital natives' high awareness about the importance of studying English, and they show interest in the task they perform. They seem to be successful in directing their attention and concentration on the topic. High levels of mindfulness and attentiveness help the learners develop patience and compassion, as claimed by Rogers and Maytan (2012). Therefore, it would not be weird to expect the digital natives to show passion in learning a foreign language. A high level of learners' attentiveness refers to students' positive responses to the teachers' instructions and directions in the classroom. Those responses are directly related to the "non-compliance effort," which is the second-highest ranked sub-dimension of foreign language learning effort. Refusing non-compliant behaviors in the classroom requires both cognitive and behavioral engagement in the task. Thus, the close scores between these two sub-dimensions explicitly reveal the consistency of students' behaviors in their foreign language learning effort. It is quite clear that they firstly expend effort on concentrating on their studies and show persistence to maintain their motivation by suppressing any kind of distractions (Fredricks et al., 2004). Students' scores in the procedural sub-dimension are also very close to the focal and non-compliance aspects of foreign language learning effort. The behaviors under procedural sub-dimension refer to all the endeavors to fulfill the requirements of a learning environment. It seems that students work hard and invest extra time to meet the demands of their courses, such as dealing with and completing the assignments on time. Digital natives having high scores in three sub-dimensions, which involve intertwined effort behaviors, seem determined and committed to reach their desired academic outcomes.

The last sub-dimension in which the digital natives received the lowest scores deserves to be evaluated entirely differently. The items of the questionnaire under this category interrogate the digital natives' engagement in the learning process, especially outside the classroom and school. The low scores in this sub-dimension point out low capacity in studying autonomously. They look they are not exerting extra effort to create learning opportunities for themselves and perceive the teachers and the school as the primary source of information.

3.1.2. The new media usage habits of digital natives:

This research question focuses on the depth (frequency) and width (differentiated uses) of the new media. Thus, new media use was measured as the frequency and purpose of use, was analyzed by frequencies, and presented in Tables 2 through 5. To start with, Table 2 shows the distribution of students by ownership of media hardware such as Wi-Fi, notebooks, tablet computers, smartphones, and internet access. As can be seen in Table 2, 91% of the digital natives use Wi-Fi in some ways. Table 2 also posits that nearly 70% of them seem to use smartphones and whereas slightly over 60% of the digital natives use notebooks and tablet computers to access the internet.

Table 2.

The distribution of digital natives by ownership of new media hardware

Media Hardware students own	**N**	**F**
Notebooks	61	61.6
Tablet computers	62	62.6
Smartphones	67	69.1
Wi-Fi	91	91.0

Participants rated the frequency of "media hardware and social media usage" from "never to often" on a Likert Type Scale. In the analysis of frequency, the five rating scales were consolidated into three groups and were interpreted as "never," "sometimes," and "often." The percentages of the responses were used to describe the digital natives' usage of media hardware and social media. Among media hardware, 42% of digital natives mostly seem to use smartphones "often," 45.0 % use it "sometimes," and 13.0% "never" use them at all. Approximately half of the digital natives "sometimes" use notebooks, while 38% "never" use it. As for notebook, nearly 50% of digital natives have reported that they "sometimes" use it while more than one-third of them have reported that they "never" use it at all.

More than half of the digital natives (59%) have indicated that they use Google often; 35 % of them use it sometimes, and interestingly, 6% report that they never use Google. Digital natives seem to be interested in neither Facebook nor Twitter "often." Almost two-thirds of them do not use Facebook at all, while more than 80% do not use Twitter. The most popular social media sites among the digital natives are Instagram and YouTube. Instagram is used by 82% of the digital natives often, while YouTube is often used by more than half of them. Just one-third of the digital natives have reported that they often used WhatsApp, and more than half of the participants have expressed that they "sometimes" use it. Finally, 58.2% of the digital natives have rated that they often use e-mail, while 23% of them just use it sometimes, and 18 % never use it (Table 3).

Table 3.

The time digital natives spend using the new media hardware and social media

Media Hardware and Social Media	Never	Sometimes	Often
Notebooks	38.0	47.0	15.0
Tablet computers	42.0	39.0	19.0
Smartphones	13.0	45.0	42.0
Google	6.0	35.0	59.0
Facebook	68.7	19.2	12.1
Instagram	11.2	6.1	82.7
Twitter	80.8	9.1	10.1
YouTube	21.0	22.0	57.0
WhatsApp	15.0	52.0	33.0
E-mail	18.4	23.5	58.2

Considering the most frequently used types of social media, which are Instagram and YouTube, digital natives might be assumed to prefer sharing posts such as videos and photographs through social media. Both Instagram and YouTube are popular social networks that allow users to view, share, upload, comment on, or like and dislike photos and videos. This finding seems to be in line with the studies of Gibbons (2007) and Underwood (2007), suggesting that new technologies caused profound changes in how they communicate, socialize, create, and learn. Sharing photos and videos with their friends worldwide is among their prominent characteristics (Gibbons, 2007; Helsper & Eynon, 2010). In other words, this finding confirms Hara and Sanfilippo's (2016) statements indicating that thanks to the new media, the digital natives are not the passive consumers of information anymore, and they are more likely to create, manipulate and easily share information with others.

Table 4.

The purpose of digital natives for using new media

New media usage	N	f
Google search and e-learning platforms, e-libraries, wikis	94	94.9
For fun	93	94.0
Reading e-books	91	91.0
Using WhatsApp	85	85.9
Using Instagram	81	82.7
Using Twitter	80	80.8
Using YouTube	79	79.0
Using E-mails	77	77.8
Gaming	75	75.0
Shopping	71	72.5
Using Facebook	31	31.3
Reading newspapers and magazines	21	21.0

The participants have indicated various purposes for using social network sites, and in Table 4, the purpose of digital natives' usage of new media is listed in descending order. According to the Uses and Gratifications Theory, different media users own various reasons for using them (Severin & Tankard, 2010). As can be seen in Table 4, almost 95% of the digital natives use new media for academic purposes such as Google search, e-learning platforms, e-libraries, and wikis. Similarly, 91% of digital natives use new media for reading e-books. However, the second most popular purpose of using new media among the participants is for fun. The third purpose seems to be communication purposes, as using WhatsApp has been rated by 85% of the participants. Using social networking sites such as Instagram, YouTube, and Twitter comes after the use of new media for communication purposes. Around 80% of the digital natives' primary purpose seems to be using social networking sites. Besides, 77% of the participants endorsed that they use new media for communication through e-mails. Two other main reasons rated by most participants (75%) were gaming and shopping (72%). The least rated reasons were using Facebook (31.3%) and reading newspapers and magazines (21.0%). These findings disagree entirely with Bauerlain's (2008) theories, claiming that the digital natives do not tend to use the opportunities offered by the internet for intellectual and educational reasons. In line with Prensky (2001) and Tapscoot (2009), these findings clearly indicate that the digital natives' first reason to use the internet is Google search, e-learning platforms, e-libraries, and wikis. This finding is also thought to indicate the curiosity and eagerness of the digital natives towards learning through the new media, contrary to what Bauerlain (2007) suggested.

Table 5.

Examples of tasks from students' preferences while studying

While studying……	YES	NO
I watch TV	53.6	46.4
I listen to music	85.4	14.6
I talk on the phone	53.0	47.0
I check my e-mails	20.7	79.3
I check my messages and chat through WhatsApp	55.4	44.6
I engage with my Facebook, Instagram or Twitter account	24.1	75.9

The question interrogating the multitasking ability of the digital natives by "Can you do two tasks at the time?" was replied by all of the students. Out of 100 students, 18 of them indicated that they could not do two tasks at the same time. The rest (92) students expressed that they could perform various activities at the same time. Students" preferences of tasks while studying are presented in Table 5. As can be seen in Table 5, 85% of the digital natives listen to music while studying, more than half of them have reported that they watch TV (53.5%), talk on the phone (47%) or checking messages and chat through WhatsApp (55.4%) while studying. Around one-fifth of the participants have responded that they check the e-mails (20.7%) or engage with Facebook, Instagram, or Twitter (25.1%) while studying. These responses of the participants might be seen as evidence for Prensky's (2001) controversial issue of the multitasking capability of digital learners (Helsper & Eynon, 2010). The results of the present study also indicate that a vast amount of digital natives multitask and function well when network. This finding is also consistent with the studies of Oblinger and Oblinger (2005) and Tapscott (2009) that supported Prensky (2001) about the multitasking ability of digital natives.

However, although it is beyond the scope of this research, it should be noted that the positive or negative effects of multitasking on learning and the educational environment are still being discussed. On the one hand, some scholars (Prensky, 2001; Oblinger & Oblinger, 2005; Tapscott, 2009) have long claimed that multitasking gives power to the digital natives since they have the capability of dealing with several different tasks at the same time as well as receiving and processing information rapidly. On the other hand, some others approach this idea cautiously and put forth the notion that multitasking will have some adverse effects on the learning process due to the cognitive overload it causes (Hembrook & Gay, 2003). Moreover, there is not any evidence about the positive or negative effects of multitasking on language learning.

3.2. What are the factors that have an impact on digital natives' foreign language learning effort?

The second research question searched the factors affecting digital natives' foreign language learning effort. Those factors were analyzed under two categories. The first category involved demographic factors such as gender, affinity with English, self-report academic success, and reading habits of digital natives. The second category included new media usage habits. The results of the Mann-Whitney U tests of demographic factors are presented in Table 6.

Table 6.

The factors affecting the digital natives' foreign language learning effort

		Focal sub-dimension		Procedural sub-dimension		Substantive sub-dimension		Non-compliance sub-dimension		
Subject Type		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
Sex	F	4.45	0.76	4.40	0.72	3.83	0.6	4.50	0.68	
	M	4.22	0.84	4.24	0.90	3.65	0.8	4.12	0.92	
		U=949.000		U=1056.0		U=978.000		U=854.000		
		P=**0.04**		P=0.52		P=0.26		P=**0.01**		
Affinity	Y	4.34	0.81	4.37	0.78	3.81		0.76	4.3	0.8
with	N	4.39	0.80	4.10	0.94	3.48		0.62	4.0	**0.7**
English										
		U=655.50		U=519.50		U=429.00		U=424.00		
		P=0.873		P=0.22		P=**0.03**		P=**0.01**		

Success	Y	4.46	0.71	4.47	0.72	3.89	0.71	4.42	0.7
	N	3.91	1.02	3.73	0.90	3.21	0.64	3.96	0.9
		U=509.50		U=355.00		U=329.00	U=493.00		
		P=**0.01**		P=**0.00**		P=**0.00**	P=**0.01**		
Habits	Y	4.38	0.7	4.37	0.73	3.73	0.73	4.38	0.7
	N	4.21	1.1	4.09	3.60	3.60	0.81	4.11	1.0
		U=704.50		U=601.00		U=593.00	U=575.00		
		P=0.99		P=0.48		P=0.45	P=0.24		

As shown in Table 6, the Mann-Whitney U test results indicated that the digital natives' foreign language learning effort significantly differed depending on their gender, affinity with English, and perceived academic success ($p \leq 0.05$). Firstly, the means of the female digital natives possess higher scores when compared to their male counterparts in the "focal and non-compliance sub-dimensions" of foreign language learning effort. As mentioned above, considering the similarity of the items between focal and non-compliance sub-dimensions, it could easily be stated that the awareness and concentration levels of the female digital natives are higher than those of males. The female students do not tend to be affected by distracting and disrupting behaviors while studying. Consistent with prior research (Carbonaro, 2005; Hopland & Nyhus, 2016; Marks, 2000), female students seem to be more persistent and determined in their studies. This research confirmed that females exert substantially more effort than male students do.

Next, the means of the digital natives who reported to possess an affinity towards English are higher than those who reported non-possession in the "substantive and non-compliance sub-dimensions" of foreign language learning effort. As shown in Table 6, the Mann-Whitney U test results indicated that the digital natives' foreign language learning effort significantly differed depending on their affinity with English and perceived academic success ($p \leq 0.05$). The means of the digital natives who hold the belief that they possess an affinity or unique talent towards English are higher when compared to the ones who reported the opposite, in the "substantive and non-compliance sub-dimensions" of foreign language learning effort. It is clear from the research results that the belief towards their ability withholds the digital natives from unwanted and distracting behaviors in educational settings and motivates the learners to conduct projects, spend time at school, and study.

Finally, the digital natives' effort is strongly related to students' self-reported academic success. The means of the digital natives reporting themselves as successful in their English studies are higher than those who reported themselves unsuccessful in all the sub-dimensions of foreign language learning effort. This finding is also supported by some previous research (Ampofo & Osei-Owusu, 2015; Aratibel, 2013; Inagaki, 2014; Richter et al., 2016). These two self-reported variables might be regarded as an indication of the extent to which students believe they are doing well in their foreign language studies and the effect of these beliefs on their effort level. In addition, these findings are quite noteworthy to indicate the effect of perceived ability, students' attribution, and the place students position themselves on their foreign language learning effort.

Table 7.

Mann-Whitney- U Analysis of Differences for Foreign Language Learning Effort of Digital Natives

	Focal sub-dimension			Procedural sub-dimension		Substantive Sub-dimension		Non-compliance sub-dimension	
Subject Type	MEAN		SD	MEAN	SD	MEAN	SD	MEAN	SD
Smartphone	Y	4.33	0.86	4.36	0.80	3.75	0.73	4.31	0.84
	N	3.62	0.99	4.20	0.64	3.53	0.74	3.62	0.74
	U=13.000			U=179.000		U=185.000		U=98.000	
	P=0.04			P=0.34		P=0.46		P=0.00	
Google…..*	Y	4.39	0.72	4.40	0.70	3.80	0.69	4.39	0.72
	N	3.46	1.65	2.93	1.42	2.91	1.32	3.26	1.60
	U=170.50			U=85.000		U=128.000		U=125.000	
	P=0.28			P=0.01		P=0.10		P=0.05	
Entertai.	Y	4.11	1.16	3.94	1.10	3.76	0.68	4.31	0.82
	N	4.37	0.79	4.34	0.79	3.75	0.76	4.61	0.53
		U=271.000		U=215.000		U=261.500		U=271.00	
		P=0.90		P=0.41		P=0.93		P=0.41	
E-books	Y	4.37	0.75	4.39	0.72	3.78	0.73	4.40	0.73
	N	4.18	1.25	3.66	1.38	3.46	0.94	3.66	1.21
		U=385.50		U=247.500		U=291.000		U=227.70	
		P=0.76		P=0.15		P=0.41		P=0.02	
WhatsApp	Y	4.44	1.250	4.47	0.64	3.86	0.98	4.37	0.73
	N	3.76	0.67	3.42	1.08	3.16	0.66	4.09	1.20
		U=437.00		U=259.000		U=326.000		U=546.00	
		P=0.10		P=0.00		P=0.01		P=0.660.68	
Instagram	Y	4.39	0.70	4.48	0.67	3.89	0.65	4.04	1.00
	N	4.24	1.00	3.96	0.96	3.46	0.87	4.46	
		U=1026.0		U=649.000		U=662.500		U=712.50	
		P=0.82		P=0.00		P=0.01		P=0.01	
Twitter	Y	4.28	1.06	4.19	0.75	3.73	0.87	4.25	1.01
	N	4.36	0.74	4.35	1.03	3.76	0.73	4.35	0.76
		U=754.50		U=676.000		U=691.000		U=707.00	
		P=0.96		P=0.65		P=0.98		P=0.90	
YouTube	Y	4.42	0.72	4.50	0.70	3.88	0.68	4.48	0.69
	N	4.23	0.93	4.02	0.90	3.52	0.81	4.06	0.94
		U=994.00		U=678.500		U=755.500		U=741.00	
		P=0.24		P=0.00		P=0.02		P=0.00	
E-mails	Y	4.35	0.80	4.31	0.78	3.78	0.73	4.37	0.71
	N	4.34	0.82	4.32	0.84	3.72	0.78	4.30	0.90
		U=1188.0		U=1127.5		U=1073.0		U=1124	
		P=0.79		P=0.99		P=0.68		P=0.58	
Gaming	Y	4.54	0.88	4.36	0.94	3.97	0.79	4.50	0.89
	N	4.29	0.77	4.25	0.75	3.68	0.72	4.28	0.78
		U=668.00		U=696.500		U=650.000		U=706.00	
		P=0.02		P=0.09		P=0.04		P=0.06	
Shopp-ing	Y	4.48	0.84	4.25	0.94	3.87	0.89	4.25	0.85
	N	4.30	0.80	4.36	0.75	3.73	0.69	4.50	0.79
		U=793.50		U=877.500		U=691.000		U=699.000	
		P=0.17		P=0.81		P=0.19		P=0.04	
Facebook	Y	4.09	01.13	4.01	1.01	3.77	0.73	4.18	1.04
	N	4.40	0.72	4.38	0.75	3.62	0.92	4.37	0.76
		U=600.00		U=494.000		U=534.500		U=583.000	
		P=0.35		P=0.09		P=0.50		P=0.,64	
Newspaper	Y	4.33	0.82	4.25	0.90	3.73	0.78	4.17	0.71
	N	4.42	0.73	4.35	0.79	3.85	0.64	4.38	0.83
		U=784.000		U=742.000		U=744.500		U=614.000	
		P=0.69		P=0.67		P=0.88		P=0.04	

*Google search, e-learning platforms, e-libraries, and wikis $p<.01$

As for the second category, which involved the effect of using new media on the digital natives' foreign language learning effort, the results of the Mann-Whitney U test were

presented in Table 7. As can be seen, the mean of the digital natives' using new media for gaming is higher in all the four sub-dimensions. The mean of the ones using new media for reading e-books, magazines, and newspapers, and shopping are higher in the "non-compliance" sub-dimension. Moreover, the means of participants using new media for Instagram and YouTube are higher in three sub-dimensions as Procedural, substantive, and non-compliance. Finally, there are higher means for those using Google, in procedural and non-compliance sub-dimensions; those who use WhatsApp in procedural and substantive sub-dimensions; and those who used smartphones in focal and non-compliance sub-dimensions of foreign language learning effort.

Considering these results, it is noteworthy to remind the importance of the individual preferences of the digital natives about the type of technology they use, as suggested by Bennett and Maton (2010). As shown in Table 7, it is quite clear that students are certainly under the effect of their own interest, motivation, and needs when it comes to using the new media. For instance, the digital natives who seem to use the new media for shopping, reading the newspaper, and reading e-books are the ones who are also compliant with the rules and who refrain from distracting and unwanted behaviors in their foreign language studies. Non-compliance effort seems to be effective in the use of all types of new media. This result could be associated with the autonomous and independent characteristics of the digital natives to some extent. Another striking result yielded from the study is the use of social media. Interestingly, neither Facebook and nor Twitter seems to be an effective factor in the foreign language effort of the digital natives. This is most probably related to the preferences of the students again. As can be seen in Tables 2, 3, and 4, respectively, the use of social media such as Facebook and Twitter is quite rare, and they not popular at all among the digital natives. Thus, they do not seem to be related to the foreign language learning effort of the digital natives. This result may seem to be contrasting with some previous studies (Smith, 2013). However, it has also been underlined in the literature that the digital natives were not a 'homogeneous generation" and may display differences in their preferences of using the new media (Facer & Furlong, 2001, p. 467). In addition, using popular types of new media among the participants such as Instagram, YouTube, WhatsApp, and especially gaming are almost related to all types of foreign language learning effort. Thus, further analysis was thought to be needed, and binary logistics regression analysis was performed to see the effect of those variables, and the results were presented below.

3.3. How does new media usage shape the language learning effort of the digital natives?

The binary logistic regression analysis was performed to examine if the two groups of digital natives (users and non-users of new media) differed in their foreign language learning effort. After checking the model assumptions and determining no evidence of multicollinearity between the predictor variables, logistic regression analysis was conducted, and the results were presented in Table 8. In comparison with the initial model, the logistic regression model involving all the predictive variables were seen to predict the classification of the participants more effectively as belonging to the groups of high or low foreign language learning effort ($X2= 32.079$, $p<0.002$). The model involving all the predictive variables could account for 61.7% of foreign language learning effort. The Hosmer-Lemeshow test was used to assess the goodness-of-fit of the model, and it was seen that it did not give a significant p-value ($p>0.05$), indicating that the model was acceptable for the goodness of fit, and the model-data fit was sufficient ($X2=1.392$; $DF=7$; $p=0.986$).

Table 8.

The Results of the Logistic Regression Analysis on the Capability of New Media to Predict Foreign Language Learning Effort

Variables	B	SE	Wald	df	Sig	Exp(B)
Smartphone	-1.029	1.414	0.530	1	0.672	0.645
Google*	-2.702	0.979	0.308	1	0.037	4.858
Entertainment	23.790	0.284	0.000	1	0.999	3.628
Gaming	-2.055	0.942	4.760	1	0.029	1.378
Shopping	-1.994	1146	3.029	1	0.082	0.136
WhatsApp	0.114	2.201	0.003	1	0.959	1.121
Newspaper	0.218	1.024	0.045	1	0.832	1.243
Instagram	2.798	1.113	6.327	1	0.012	16.419
Twitter	33.665	1.668	0.021	1	0.999	1.554
E-mail	0.778	0.919	0.716	1	0.398	2.177
E-books	-0454	1.247	0.133	1	0.716	0.635
YouTube	1.720	1.668	0.045	1	0.009	2.004
Facebook	1.926	2.005	0.923	1	0.337	6.860

*Google search, e-learning platforms, e-libraries, and wikis $p<.01$

The statistics from the Wald test concerning overall foreign language learning effort showed that using new media for Google search, gaming, Instagram, and YouTube made a significant contribution to being classified as belonging to the groups of high or low foreign language learning effort (Table 8). A comparison of the odds ratios (Exp(ß)) for the predictive values indicated that Google search, gaming, Instagram, and YouTube had an Exp(ß) value of 4.858, 1.378, 16.419, 2.004 respectively. The data in Table 8 suggest that a one-unit increase in the predictive variables will increase the log odds coefficients of Google search, gaming, Instagram, and YouTube by 4.858, 1.378, 16.419, 2.004 times, respectively. This finding explicitly confirms Hara and Sanfilippo's (2016) statements indicating that thanks to the new media, the digital natives are not the passive consumers of information anymore, and they are more likely to produce, construct, manipulate and share information through the new media. So, it is this characteristic of the digital natives, which makes Google search, gaming, Instagram, and YouTube very popular among them and effective on their foreign language learning effort (Prensky, 2001).

Furthermore, this is potentially an important finding since it underlines the importance of using computer games in educational settings, particularly in foreign language studies. It seems that the effort to learn a foreign language of the digital natives is certainly fostered by computer games. As suggested by Uzun (2009), those games which make the learning environment student-centered and get along with the characteristics of the digital natives quite well are really helpful. Similarly, various studies conducted in different parts of the world with the learners from a different educational background have concluded that the internet and new technologies have the potential to increase the enthusiasm and help to improve the proficiency of the learners in English (Arifah, 2014; Baytak et al., 2011; Drayton et al., 2010; Genç-İlter, 2015). This is true to some extent. However, it should be reminded although digital natives are familiar with the new media by birth, being a digital native does not necessarily mean that all forms and types of new media will surround and equip their whole learning environment (Goertler, 2009). As shown in the Table, the digital natives reported that they use different forms of new media. Still, only four of them are significant

predictors of the foreign language learning effort. As suggested by Ushida (2005), digital natives are undoubtedly able to use ICT in everyday life, and they are not always able to transfer those skills to pedagogical environments.

4. Conclusion

The present study attempted to provide a clear picture of the new media use and foreign language learning effort of the digital natives. The impact of new media use and some demographic factors that were thought to be the predictors of foreign language learning effort were investigated. Hence, the following results were drawn from the study. Firstly, the study indicated that more than half of the digital natives possess a higher level of foreign language learning effort. The scores of the learners were also evaluated under four sub-dimensions of foreign language learning effort, namely, focal, non-compliance, procedural, and substantive. The digital natives, in general, seemed to be eager and enthusiastic in exerting the necessary effort to learn a foreign language. In other words, they already have a high level of awareness and concentration in their foreign language studies. Additionally, distracting and disrupting behaviors did not pose a challenge for them in their studies of the foreign language. Therefore, they seem determined and committed to reach their desired academic outcomes. Besides, they tend to take the responsibility of completing the learning activity and obeying the rules. However, they are not as strong in actively participating and taking part in the learning process. It may imply that they need practice and support to develop their autonomous learning environment.

Secondly, the digital natives' foreign language learning effort significantly differed depending on their affinity towards learning English and self-reported academic success as well as using media hardware and social media, such as smartphones, Google, reading e-books, and newspapers, WhatsApp, Instagram, YouTube, gaming, and shopping. The digital natives using the new media, as mentioned earlier, hardware and social media, were seen to make endeavors in different aspects of foreign language learning effort. Whereas social media sites such as Facebook and Twitter are the least preferred and used ones, video sharing sites such as Instagram and YouTube are the most popular ones. The participants have indicated various purposes for using the new media, and a vast amount of digital natives multitask and function well when network.

Thirdly, various factors were seen to be effective on the foreign language learning effort of the digital natives, such as gender, students' perceived ability, self-report academic success, and the use of the new media. Obviously, females seemed to exert substantially more effort than male students do. Besides, the digital natives, expressing themselves with an affinity towards learning a foreign language and reporting themselves as successful in their foreign language studies, seemed to exert higher effort in learning a foreign language. Hence the study also underlined the importance of self-beliefs in foreign language learning effort.

Finally, after approving the sufficient model- data fits in the regression analysis, it was concluded that the model would be instrumental for predicting the foreign language learning effort of the digital natives. The digital natives' classification into low or high foreign language learning effort was significantly predicted by using new media such as Google, Gaming, Instagram, and YouTube. Relying on the results the study yielded, some implications and recommendations were put forward. The results of the present study are notable in terms of revealing the importance of new media and learners' self-perceptions of success and their affinity towards English in enhancing the digital natives' foreign language learning effort. The study strongly recommends the extensive integration and use of new media type, which is

preferred by the learners, in the foreign language learning process of the digital natives since it directly contributes to the process of foreign language learning effort and indirectly enhances the enthusiasm and willingness of the digital natives. The power of social media has been underlined through the research. Therefore, teachers of English are also recommended to use game-based and video-based foreign language learning applications since gaming and YouTube were seen as the strongest predictors of foreign language learning effort. Besides, the power of social media should not be ignored, and activities designed around uploading and sharing pictures and videos through Instagram could be used as an effective and useful tool for enhancing the effort performance of the digital natives in their foreign language studies. As this research has confirmed that a huge amount of digital natives have the capability of multitasking, some comparative and longitudinal research is strongly recommended to shed light on the pros and cons of being multitasking, which is a contentious issue in respect to the educational environment. Since the research indicated that the digital natives tend to create, manipulate and share information with others and do not want to be passive consumers of information, they should be motivated to be the active constructor of the information, and the educational environment is recommended to be designed to allow them to act more independently.

However, it should be noted that this small-scale study was conducted, in one specific school, with a limited number of participants to provide an in-depth understanding through analyzing different aspects of data. So, this should be considered as a limitation, and the generalizability of the results needs to be approached cautiously.

Ethical Issues

The author(s) confirm(s) that ethics committee approval was obtained from İnönü University (Approval Date: 11.02.2021).

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