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Research Paper

Impact of Personal Response System (PRS) on Iranian EFL Learners' Performance, Class Communication and Comfort Level

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Abstract
The current study aimed at investigating the impact of Personal Response System (PRS) on Iranian EFL learners' English language performance, class communication, and comfort level. To this purpose, a mixed methods design was used. The participants comprised 60 male-female Iranian grade eight junior students studying at Bahonar secondary school, Kazeroon, Iran. They were selected through convenient sampling method from two intact classes and divided into two experimental and control groups. The needed data was collected using the following instruments: Oxford Placement Test (OPT), Preliminary English Test (PET), Observation Checklist, and PRS. The two groups of the participants attended twelve English class sessions of the high school once a week. The only difference between the two groups was that during the class sessions, the experimental group attended PRS. Data analysis was conducted through descriptive statistics, independent samples t-tests and qualitative content analysis of the observation data. The results showed that PRS had a statistically significant impact on English language performance, class communication, and comfort level of Iranian EFL learners. Accordingly, EFL teachers are recommended to use this tool in an attempt to enhance EFL learners' general English language performance.
Keywords: *Class Communication, Comfort Level, English Language Performance, Personal Response System (PRS), Technology.*

تاثیر سیـ تم پاسخگویی فردی بر سـ ج آرامش، لا لا موجود در کلا ع کرد زبـ زبا آموزان زبان انگلیسي
هدف این مقاله تحقیق بررسی تاثیر سیستم پاسخگویی فردی بر سطح آرامش، رلاابلا موجودلالالالاس و عملکرد زبانی زبان آموزان زبان انگلیسي بود. از اینرو، طرح روش ترکیبی اتخاذ گردید که در آن ۶۰ لار از زبان آموز لا کلاس هشتم مدرسه ی شهید باهنر شهرستان کازرون به عنولان شرکت کننده به کار گرفته شدند. دلیل انتخاب آنها دسترسی آسان به آنها بود. ابزارهایی از قبیللازمون تعیین سطح آکسفورلا، آزمون انگلیسی مقدماتی و سیستم پاسخگویی فردی در ابن تحقیق به کار گرفته شدند. هر دو گروه شرکت کننده در این تحقیق در مجموع ۱۲ جلسه از قرار هفته ای یک جـ .. حاضر شدند. .نها تفاوت این دو گروه، دسترسی به سیستم .اس.گویی فردی بود ک. فقط گروه آزمایش داشت. آنالیز آمری همگی تـ .یفی بـ . .ام تی- تس . .ورت گر .. نتیـ.ه ی تحقـق نشان دهنده ی این مساله بود که سیستم پاسخگویی فردی تاثیری بس مهم بر عملکرد، رولالا لالاسی و سطح آرامش زبان آموزان دارد.لاز ا.نلالالالا ملارسین زلبلا لالالخللا لا می شود جهتلالالالاش لاملالالاد، لالالالاط لالاسی و سطح لارلاش زبان آملالالانلاز این لالزلالالالاستقلالا لالالا.
واژگان کلادی: لاوابطلالاجللا در لالاس، لاطحلالزلامش، لالالالاد لالانی زلبلالالالالالان لالالالانگلاسـ ، سیستلا پاسلاگلالی فرلالا، تکلالالوژلا

Introduction

"Technological developments in ubiquitous computing and wireless communication together with the adoption of mobile multimedia devices and applications have been converted into huge opportunities for English as a foreign language" (Rodríguez-Arancón, Arús and Calle, 2013, p. 1189). Technology can be used in different forms in different fields. One such technological tool that can be used for student responses and to provide controlled activities is the Personal Response System (PRS). Stuart, Brown and Draper (2004) argued that the PRS gets students' minds to work and influences their learning and its engagement of students is a pioneer to student-directed and improves learning because when the teacher engages students in the classroom, their level of active construction of knowledge increases (Kay, Lesage, and Knaack, 2010). It is suggested that the inherent features of response system technology are well suited for the instruction of English language learners. It enables learners to respond nonverbally by pushing a button, and it allows for anonymity that may lower the affective filter (Krashen, 1981).

Moreover, it is believed that language learning is a hard task and requires a lot of time and effort. One step that can be taken in making this task easy so that learners' English performance is class communication which is of high importance as a result of globalization. Tomlinson and Masuhara (2004) consider that teachers should provide engaging materials for their learners so that they can communicate well in the context of classroom. Scholars believe that communication in class is a process where motivation and thoughtfulness are merged (Guthrie, Wigfield, and Von Secker, 2000). Learner comfort, as a main element of classroom environment is another affective factor the role of which in language learning cannot be ignored. Comfort level is affected by several elements among which classroom location, classroom size, classroom furniture, heat, lighting and indoor air quality can be enumerated (Puteh et al., 2015). Regarding the importance of the learning environment, it has also been noted that the learning environment is a pre-requisite for students' conceptual change, in line with learners' needs, feelings, and ideas (Scott, Assoko and Driver, as cited in Wahyudi and Treagust, 2017).

Iranian students begin to study English from junior high school to the end of pre- university courses in Iran educational system. They study English for 7 years in formal education. In addition, most learners who are able to register in English language institutes for more practice. Apparently, these huge amounts of time or budget have not been effective and most Iranian learners experience different challenges. The problem is more serious in oral skills (Dolati and Seliman, 2010). In the so-called global village, individuals should learn to enhance their communication abilities within the socio-cultural environment, better interact in a global setting, and find new solutions for their communication problems. However, in spite of significance and inevitability of speaking skill, it is seen that the majority of the students are afraid of speaking. They are anxious when they were required to speak. It often happened, for example, that the researcher, as an English language teacher, asked someone to volunteer to speak but nobody raised their hands, nobody; however, it is true for almost everybody to first reach the proficiency level before they love speaking. The problem is that, in spite of the proved potentials of technology in education, it can be seen that in the Iranian educational system, using technological tools is not common in the academic settings including universities, schools, etc. In other words, having a glance at Iranian educational system shows that still traditional teaching methods and techniques are prevalent in many educational settings and just recently some forms of technological methods including Computer Assisted Language Learning (CALL) has come to be applied in some educational environments. But the use of many tools including PRS is not so popular in Iranian educational systems. Thus, generally, not much research has been conducted in

this regard. Patry (2009) confirmed that "although much research has been done with audience response systems, it tends to be focused on its use in specific fields such as science, and more must be done in other settings to determine its educational value" (p. 2).

Technology and language learning have been touched by some Iranian researchers in different studies (e.g., Bahojb Jafarian and Shoari, 2017; Ghaemi and Golshan, 2017; Najmi, 2015; Taheri and Davoudi, 2016; Wang, Teng and Chen, 2015), but so far, no Iranian study has touched the effect of PRS on Iranian EFL learners' English language performance, class communication, and comfort level. This is the gap this study aimed to fill. Thus, the following research questions were addressed:

RQ1. Does the use of PRS increase Iranian EFL learners' English language performance in comparison with the use of the traditional lecture method?

RQ2. Does the use of PRS increase learners' class communication in comparison with the use of the traditional lecture method?

RQ3. Does the use of PRS increase Iranian EFL learners' comfort level in comparison with the use of the traditional lecture method?

Literature Review

The use of technology in language learning and teaching began in the early 1970s and since then, it has found its way into the field rapidly (Karakash and Ersoy, as cited in Elyasi and Pourkalhor, 2014). Some scholars (e.g., Agca and Özdemir, 2012) believe that technology makes foreign language materials easy to access and use, and makes language learning more meaningful through personal engagement. As in other fields, the use of technology has become increasingly widespread in education but selecting the most proper technology tools is controversial because of such a variety of hardware and applications. An important issue in selecting technology tools is that the task of acquiring a second language should not be made more difficult by using unnecessary and complicated tools. Many research studies have been conducted on the use of technology in the instruction of English language learners (e.g., Dooley, 2009; Narciss and Koerndle, 2008; Sahin, 2009). Technology skills are identified as critical for professional success in the 21st century, and English language learners expressed satisfaction about these skills (Ibarz and Webb, 2007). The use of technology in language learning is commonly manifested by different methods among which CALL, mobile-assisted language learning (MALL), Modular Object-Oriented Dynamic Learning Environment (Moodle), Email, blogging, PRS, etc. Theoretical root of PRS goes back to the attempts made by a group of academics at the University of Southampton in seeking to encourage active learning in large lectures and tutorials. To this end, they introduced the use of a PRS wherein each student is equipped with a hand-held electronic transmitter, similar to a television remote control, called a PRS handset (d'Inverno, Davis, and White, 2003).

PRS involves equipping students with a handset which allows them to send anonymous responses to questions sent to them by the lecturer. Titman and Lancaster (2011) believed that the primary uses of this type of technology is rooted in the 1960s, but in its current form and application, it has become available in the last 15 years. In the modern systems, radio frequency transmitters are applied so that students' answers can be transmitted through their handset to the lecturer's computer. Then, the answers are automatically collected by computer software and the audience can see the frequency of responses (Titman and Lancaster, 2011).

Abrahamson (2006) referred to popularity of PRS in higher, primary and secondary education in different fields especially in science-based courses in many American educational

settings including universities. However, the pedagogical practices involved in using PRS may take different forms in different settings. For instance, in many settings, PRS handsets are used to run in-class tests with automatic markings. In contrary, in some institutes, course content is not covered in lectures because the students are asked to read material beforehand and a series of PRS questions are put to them by lecturers to identify misunderstandings and discuss about the topic (Abrahamson, 2006). Regarding the reasons behind using PRS, some possible reasons have been proposed as follows (d'Inverno, Davis, and White, 2003):

- The traditional lecture-based method of course delivery wherein the audience is passive has been recognized as inefficient;
- Expectations of students, particularly in higher education teaching, have changed remarkably;
- The use of PRS has turned passive learning in lectures into active learning;
- PRS can stimulate increased student attendance by providing some added value to attending a lecture or tutorial;
- PRS is user-friendly and this causes students to like it and enjoy a lecture course in different settings;
- Dialogue between lecturer and student is enjoyable for students, especially in large group settings wherein lecturer-student dialogue is difficult;
- PRS can provide a natural way of providing breaks within the lecture and provide a way of emphasizing new topics and consolidating material.

The impact of the use of PRS on students' attendance rate in the class was studied in a trial test of this technology by Thornton (2011) on 84 students and 2 tutors of Worcester University. The majority of the students agreed that the use of the technology significantly and positively affected their attendance in the class, but the tutors had mixed opinions about the impact of PRS on students' attendance. Since students find it difficult to concentrate beyond 20 minutes in the class, using PRS is sometimes fun and a way of bringing liveliness to the classroom environment.

Method

Design of the Study

The nature of the current study was so that the research questions could not be answered within just a qualitative or a quantitative design. Thus, the study took advantage of a mixed methods design. Mixed methods research combines quantitative and qualitative research methods in different ways, with each approach adding something to the understanding of the phenomenon (Ary, Jacobs, and Sorensen, 2010, p. 559). In the quantitative phase of the study, the impact of PRS on the learners' English language performance, class communication, and comfort level was investigated using descriptive statistics and independent samples t-test. In the qualitative phase, the observation data was qualitatively analyzed to explore the impact of PRS on the learners' performance. PRS served as the independent variable, and English language performance, class communication, and comfort level as the dependent variables.

Participants

The participants of this study included 60 male-female Iranian grade eight junior students studying at Bahonar secondary school, Kazeroon, Iran. They were selected through convenience sampling from two intact classes, and divided into two experimental and control groups.

Procedures

The needed data was collected using the following instruments: Oxford Placement Test (OPT), Preliminary English Test (PET), Observation Checklist, and PRS. The two groups of the participants attended twelve English class sessions of the high school once a week. The only difference between the two groups was that during the class sessions, the experimental group attended PRS. Data analysis was conducted through descriptive statistics, independent samples t-tests and qualitative content analysis of the observation data. PRS was used during the treatment period in the experimental group. In fact, the researcher borrowed PRS from a non-profit intelligent institute and equipped the participants with PRS. The Class Communication Questionnaire, developed and validated by Yusof (1984) was used to measure class communication of the participants.

Results and Discussion

To answer the first question regarding the impact of PRS on Iranian learners' English language performance, the mean scores of the two groups were compared with each other in the pre-test and the post-test. While there was no significant difference between the mean scores of the participants in the pre-test, their post-test scores were significantly different. This led to the conclusion that PRS significantly affects Iranian learners' English language performance in a positive way.

As a justification for this finding, it can be said that since learners has a positive attitude toward the use of technology in language learning, this has led to improvements in their language performance (Finkbeiner, 2001; Najmi, 2015). Another justification is that technological ways of teaching increase learners' motivation to learn language and this leads to higher levels of performance among them (Kamalaian and Sayadian, 2014; Radia, 2019). Furthermore, the researcher believes that another possible justification for the positive impact of PRS on language achievement of Iranian EFL learners is that this type of instruction increases learners' autonomy and this in turn leads to their significant improvement in language achievement. Finally, some opportunities provided by technology use such as simplicity of directed guidelines, active learning opportunities, and joint learning settings may help achieve English language acquisition (Gibson, 2008).

Consistent with this study, Clickaya (2005) investigated the impact of technology on students' English learning and showed the positive impact of technology on students' English learning. Another study whose results support that of the current paper is the one by Greene (2013) wherein the impact of incorporating technology into the curriculum was examined and it was revealed that learners' English achievement improved significantly. Some other studies (e.g., Ahmad and Al-Khanjari, 2011; Anbarestani, 2009; Fahmi Bataineh and Barjas Mayyas, 2017; Sidman-Taveau, 2005) also investigated the effectiveness of using technology on learning English and proved the significance impact of technology on English achievement of EFL learners. This finding also supports Abu Naba'h, Hussain, Al-Omari, and Shdeifat's (2009) study which addressed the impact of using technology on the achievement of secondary students and revealed that technology has had a significant impact on secondary students' achievement.

Regarding the impact of PRS on Iranian learners' class communication (second research question), it was revealed by the results of the independent samples t-test that using PRS leads to significant improvements in the experimental group's communication level in comparison with the traditional group which was deprived of the PRS. In line with this finding, Francis (2017) confirmed the significant and positive impact of technology on learners' ability to engage with learning materials and communicate with their teachers as well as their peers. To justify this

finding, the researcher tends to refer to the increased motivation level of the participants (as shown in the current paper) due to using PRS which, as shown by the results of the current study, has in turn led to the learners' improvement of willingness to communicate in the classroom. This correlation between willingness to communicate and motivation has been previously documented in the previous studies. Another argument which can be put forth to justify this finding is that potentially learners' foreign language anxiety has been decreased as a consequence of their exposure to PRS and this has caused their tendency to communicate to be significantly increased. The inverse association between foreign language anxiety and tendency to communicate has also been reported in the previous studies. As the third justifying argument, it can be said that possibly the learners' sense of having agency has been increased because of using PRS and this has encouraged them to communicate more in the classroom. Last but not least, the mediating role of the affective factors such as learners' self-confidence, self-esteem, autonomy, etc. on which technology use can have positive effects can also be at hand in the significant impact of PRS on the participants' class communication. That is, when learners' self-confidence, self-esteem and autonomy improve, naturally they will be more willing to communicate in the classroom.

As for the third research question concerning the impact of PRS on learners' comfort level, the results indicated that after being exposed to PRS, the participants' comfort level significantly increased in comparison with the control group. No study was found on the impact of technology on learner comfort in the literature. Therefore, no comparison could be made between this finding and the findings of the previous similar studies. However, this finding can be justified by saying that the personalization and individualization created by using PRS may have led to higher comfort level among the learners. That is, possibly learner anxiety and stress have been reduced as a result of using PRS and personalization created from using PRS, and this reduced anxiety and stress has contributed to higher comfort among them. Moreover, lack of face-to-face interaction due to using PRS may have caused the learners to feel more comfortable in the classroom. In addition, the learners' increased class communication after using PRS may be another reason for significant increase in their comfort level. Furthermore, increased motivation of learners as a result of using PRS can be a determining factor in increasing their comfort level. Finally, the role of other personal factors including self-esteem, autonomy, independence, self-confidence, etc. which are heavily under the impact of using technology in the classroom, cannot be neglected in enhancing their comfort level in the classroom.

Conclusion

The current study will bridge a gap in the literature by investigating the role of PRS tool in such aspects of language teaching and learning as the Iranian learners' English language performance, class communication, and comfort level.

The researcher believes that a possible justification for the positive impact of PRS on learner participation is that PRS increases learners' autonomy and this in turn leads to their significant improvement in language performance. It is also possible that the learners' self-confidence plays a mediating role in the impact of PRS on their class communication. Also, taking the impact of personal responsibility on language performance into account, it can be hypothesized that personal responsibility of the learners has increased as a result of the use of PRS and this has led to higher language performance among them. Interestingly, as mentioned above, technology can significantly reduce learner shyness (Hughes and Coplan, 2010), and this can contribute to improving learner language performance.

Based on the results of this study, it can be concluded there is a need for some changes in the educational system of Iran so that English teachers and learners can benefit more technological tools in general, and PRS in particular in English classes. Interestingly, since in the existing literature, it has been shown that both teachers and learners have a positive attitude towards such tools and prefer to use them in the English classes, planning and implementing some measures aimed at using PRS in English classes are not misplaced. Therefore, it seems that the time has reached for the arrival of more technological instruments including PRS in the English classes in Iran, as supplementary to traditional methods of ELT. PRS can used to help students to learn English language more effectively, communicate more easily with their teachers and peers, and feel more comfortable and less anxious in the classroom. This requires macro-level strategies through which technological tools can be utilized in the English classes in the Iranian high schools. The recent revisions and changes made in the English textbooks of the Education Ministry can be continued so that the need to incorporating technological tools in the high school English curriculum can be fulfilled.

It can, however, be admitted that given that the structure of the education system of Iran is oriented towards traditional methods than technological ones, the use of more technological devices including PRS in the English classes in Iran cannot occur overnight and requires something like a paradigm shift. It is hoped that authority's pursuit the affairs so that this idea is materialized in the shortest time interval with the lowest cost.

In practice, the first pedagogical implication of the study is that EFL teachers can use PRS as a supplementary tool in their classes in trying to improve their students' class communication, comfort level and English language performance. The second implication is that EFL learners should ask their teachers to use PRS in English classes if they seek to be more proficient, motivated, engaged and comfortable. As the third implication, high school authorities should equip their schools with PRS so that English teachers do not consider using it as a challenge in their classes. Fourthly, the Education Ministry should approach towards some conceptual and practical shifts in its paradigms so that the ground is more paved for using such tools as PRS in high schools. Finally, material designers should develop the educational materials in a way that the use of technological tools including PRS is encouraged in the English classes.

All in all, the results of the current paper confirmed that as a result of using PRS, Iranian EFL learners' performance, class communication, and comfort level, and English language performance were improved significantly. Accordingly, EFL teachers are recommended to use this tool in an attempt to make English learning easier for EFL learners. Given that class comfort and class communication are indispensable parts of English learning, the finding of the current paper is promising for ELT stakeholders, especially EFL learners.

References

Abrahamson, L. (2006). A brief history of networked classrooms: Effects, cases, pedagogy and implications, in Banks, D.A. (Ed) *audience response systems in higher education: applications and cases.* Idea Group Inc.

Abu Nabah, A., Hussain, J., Al-Omari, A., & Shdeifat, S. (2009). The impactof computer assisted language learning in teaching english grammar on the achievement of secondary students in Jordan. *The International Arab Journal of Information Technology, 6*(4), 431-440

Agca, R.K., & Ozdemir, S. (2012). Foreign language vocabulary learning with mobile technologies. *Procedia - Social and Behavioral Sciences, 83*, 781 – 785.

Ahmad, N., & Al-Khanjari, Z. (2011). Impactof Moodle on learning: An Oman perception. *International Journal of Digital Information and Wireless Communications, 1*(4), 746-752.

Anbarestani, M. (2009). The effects of CALL programs on expanding lexical knowledge of EFL learners among iranian intermediate-level student**.** Retrieved from ganj.irandoc.i.

Ary, D., Jacobs, L. C., & Sorensen, C. (2010). *Introduction to research in education* (8th ed.). Orlando, FL: Harcourt Brace College Publishers.

Ayari, M.A., Ayari, S., & Ayari, A. (2012). Effects of use of technology on students' motivation. *Journal of Teaching and Education, 1*(2), 407-412.

Celce-Murcia, M.; Dörnyei, Z.; & Thurrell, S. (1997). Direct approaches in second language instruction: A turning point in communicative language teaching? *TESOL Quarterly, 31*(31), 141-152.

Dancer, D., & Kamvounias, P. (2005). Student involvement in assessment: a project designed to assess class participation fairly and reliably. *Assessment & Evaluation in Higher Education, 30*(4), 445-454.

D'Inverno, R., Davis, H., & White, S. (2003). Using a personalresponse system for promoting student interaction. TEACHING MATHEMATICS AND ITS APPLICATIONS, 22(4), 163-169.

Dooley, K. (2009). Intercultural conversation: Building understanding together. *Journal of Adolescent & Adult Literacy, 52*(6), 497-506.

Dornyei, Z. (2001). *Motivational Strategies in the Language Classroom*. Cambridge, UK: Cambridge University Press.

Elyasi, L., & Pourkalhor, O. (2014). The impactof recorded instructional TV programs and traditional teaching on Iranian high school students. *Asian Journal of Management Sciences & Education, 3* (3), 125-131.

Fahmi Bataineh, R., & Barjas Mayyas, M. (2017). The utility of blended learning in EFL reading and grammar: a case for Moodle. *Teaching English with Technology, 17*(3), 35-49.

Finkbeiner, C. (2001). One and all in CALL? Learner-moderator-researcher. *Computer Assisted Language Learning, 14*(3-4), 339-361.

Francis, J. (2017). The Effects Of Technology On Student Motivation And Engagement In Classroom-Based Learning. Doctoral dissertation. The College of Graduate and Professional Studies, the University of New England.

Gibson, S. (2008). Reading aloud: A useful learning tool? *ELT Journal, 62*(1), 118-130.

Greene, N. (2013). Computer Assisted Language Learning (CALL) for the inclusive classroom. Retrieved from Theses/Dissertations/ Professional Papers.

Guthrie, J., Wigfield, A., & VonSecker, C. (2000).Effects of integrated instruction on motivation and strategy use in reading. *Journal of Educational Psychology, 92*(2), 75-96.

Halat, E. (2013). Experience of elementary school students with the use of WebQuests. Mevlana International Journal of Education, 3(2), 68–76. Retrieved from ERIC database. (ED543594).

Harris, J., Al-Bataineh, M., & Al-Bataineh, A. (2016). One to one technology and its impacton student academic achievement and motivation. *Contemporary educational technology, 7*(4), 368-381.

Heafner, T. (2004). Using technology to motivate students to learn social studies. Contemporary Issues in Technology and Teacher Education, 4, 42–53. Retrieved from http://www.citejournal.org/.

Heaslip, G., Donovan, P., & Cullen, J. (2014). Student response systems and learner engagement in large classes. *Active Learning in Higher Education, 15*(1) 11-24.

Ibarz, T., & Webb, S. (2007). Listening to learners to investigate the viability of technology driven ESOL pedagogy. *Innovation in Language Learning and Teaching, 1*(2), 68-79.

Jan, M., Soomro, S.A., & Ahmad, N. (2017). Impact of social media on self-esteem. *European Scientific Journal, 13*(23), 329-341.

Jerald, C. D. (2008). *Benchmarking for success: Ensuring U.S. students receive a world class education*. National governors association. Retrieved from files.eric.ed.gov/fulltext/ ED 504084.pdf.

Junn, E. (1994). Pearls of wisdom: Enhancing student class participation with an innovative exercise. *Journal of Instructional Psychology, 21*(4), 385-387.

Kamalian, A., & Sayadian, S. (2014) .The role of text messaging in an Iranian EFL vocabulary learning and motivation. *Science Journal of Education, 2*(4), 101-107.

Kareva, V. (2017). The influence of classroom communication on student commitment to the university. *European Scientific Journal, 7*(26), 90-104.

Kay, R., LeSage, A. & Knaack, L. (2010). Examining the use of audience response systems in secondary school classrooms: A formative analysis. *Journal of Interactive Learning Research, 21*(3), 343-365.

Khine, M., Fraser, B., Afari, E., Oo, Z., & Kyaw, Th. (2017). Students' perceptions of the learning environment in tertiary science classrooms in Myanmar. *Learning Environ Res*, 135-149.

Krashen, S.D. (1982). *Principles and practice in second language acquisition*. NewYork: Pergamon Press Inc.

Loss, J. (2000). The communications contract. *The Internal Auditor, 57*(6), 88-95.

Murray, L.M. (2016). *The impactof using technology on the Motivation of Second and Third Grade Science Students*. Master thesis. Goucher College. Graduate Programs in Education.

Najmi, K. (2015).The impactof mobile-assisted language learning on guided writing skill of Iranian upper inter-mediate learners. *Journal of Applied Linguistic and Language Research, 2*(4), 42-52.

Narciss, S., & Koerndle, H. (2008). Benefits and constraints of distributed cognition in foreign language learning: Creating a web-based tourist guide for London. *Journal of Research on Technology in Education. 40*(3), 281-307.

Ogundokun, M. O., & Adeyemo, D. A. (2010). Emotional intelligence and academic achievement: The moderating influence of age, extrinsic motivation. *Journal of the African Educational Research Network, 10*(2), 128-141.

Oxford Advanced Learner's Dictionary, 7th Edition. (2005). Oxford University Press.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82* (1), 33-40.

Puteh M., Che Ahmad C. N., Mohamed Noh N., Adnan M., and Ibrahim M. H. (2015). The Classroom Physical Environment and Its Relation to Teaching and Learning Comfort Level. International Journal of Social Science and Humanity, Vol. 5, No. 3, March 2015

Richards, J.C., & Schimidt, R. (2002) *Longman dictionary of language teaching and applied linguistics* (4th Ed). Pearson Publication.

Sahin, M. (2009). Second language vocabulary acquisition in synchronous computer-mediated communication. *Eurasian Journal of Educational Research, 34*,115-132.

Sidman-Taveau, R.L. (2005). Computer-assisted project based learning in second language: Case studies in adult ESL. Retrieved from https://www.lib.utexas.edu/etd/d/2005/sidmantaveaur63568/sidmantaveaur63568.pdf.

Solorzano, R.W. (2008). High stakes testing: issues, implications, and remedies for English language learners. Retrieved from https:// www. researchgate. net/ publication/ 249798038_High_Stakes_Testing_Issues_Implications_and_Remedies_for_English_Language_Learners

Stuart, S. A. J., Brown, M. I., & Draper, S. W. (2004). Using an electronic voting system in logic lectures: one practitioner's application. *Journal of Computer Assisted Learning*, 95-102.

Susak, M. (2016). Factors that Affect Classroom Participation. MA thesis. Department of Service Systems College of Applied Science and Technology. Rochester Institute of Technology-Croatia.

Taous, B. (2013). *The role of classroom interaction in improving the students' speaking skill*. Master thesis. Biskra University. Faculty of letters and Languages. Department of foreign languages.

Thornton, P. (2011). To what extent do personal response systems benefit learning and teaching within higher education environment? *Worceter Journal of Learning and Teaching, 6*, 66-75.

Titman, A.C., & Lancaster, G.A. (2011). Personal response systems for teaching postgraduate statistics to small groups. *Journal of Statistics Education, 9*(2), 1-20.

Verdugo, R., & Flores, B. (2007). English-language learners: Key issues. Retrieved from https://journals.sagepub.com/doi/10.1177/0013124506294852.

Wahyudi, M., & Treagust, D.F. (2017). Learning environment and students' outcomes in science classes in Indonesian lower secondary schools. *Journal of science and mathematics education in S.E. Asia, 27*(1), 139-165.

Yusof, A.M. (1984).The relationships between family communication, self-concept, andacademic achievement of adolescents in some schools of Petaling Jaya, Malaysia.Unpublished thesisWestern Michigan University, Michigan.