

# **A Meta-Analysis on Technology and its Impacts on English Language Learning and Teaching**

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## **ABSTRACT**

This meta-analysis reviews the collection of the articles on technology and its impacts on English language learning and teaching. Effective technology in education can enhance learning experiences and provide access to a wide range of resources for students and educators. It can revolutionize how we teach and learn, making education more engaging, interactive, and inclusive. This article gives ten significant research articles, published between 2013 and 2019. These articles are selected from 40 similar articles on technology and its impacts on English language learning and teaching. These articles were analyzed to explore the various ways in which technology has influenced the acquisition and instruction of the English language. The data were analysed in a systematic design. The findings indicate that technology has significantly converted the outmoded methods of language education and teaching, providing new opportunities for interactive and immersive educational skills. Such as online platforms, mobile applications, and multimedia resources, have been shown to enhance language proficiency, motivation, and engagement among learners. Overall, this meta-analysis highlights the need for further research and the development of effective educational strategies to maximize the benefits of skills in English language education and instruction.

**KEYWORDS:** Educational technology, teaching, English language learning, Meta-analysis

## **INTRODUCTION**

Technology refers to the application of scientific knowledge and tools to create products, systems, and solutions that improve the quality of life, enhance productivity, and solve problems. Equipment remains up creating over all parts of society. An extraordinarily large part of individuals from one side of the planet to the other became engaged with involving technology in day-to-day existence as it saves time and exertion. Strategies to take care of our social orders have completely altered how individuals think, work, and live (Grabe 2007). Technology combination these days have gone through developments and changes refers to the use of logical information, apparatuses, and techniques to take care of our social orders that have modified how people think, work, and live (Grabe 2007). The technology of useful issues

further develops proficiency and improves human capacities. It envelops a large number of devices, frameworks, and cycles that are intended to work with undertakings, correspondence, and the securing of information. Technology can take different structures, including computerized apparatuses, programming applications, equipment tools, online stages, and interactive media assets. The job of technology in educating and learning is huge to the point that analysts currently believe that the combination of educators, what's more, technology will prompt incredible learning achievement (Sharma, 2009). With regards to training, technology is utilized to upgrade education and growth opportunities, give admittance to data and assets, work with correspondence and joint effort, and back imaginative instructive practices. The mix of technology in training can change conventional educational strategies, advance customized opportunities for growth, and enable students and teachers to new open doors for commitment and development. Innovation has been described by different researchers. As per İŞMAN (2012), it is the suitable use of data particularly in a specific district, and is a way to deal with doing an endeavor, especially using particular cycles, systems, or data. The usage of innovation consolidates not simply machines (PC equipment) and instruments, but what's more incorporates coordinated relations with others, machines, and the environment (İŞMAN, 2012).

Innovation has perpetually been a critical piece of educating and learning environment. It is a major piece of the educators' calling through which they can use it to work with understudies' learning. As per Becker (2000), PCs are seen as a critical instructive instrument in language classes in which teachers have favorable access, are enough prepared, and have a valuable open door in the instructive arrangement. PC innovation is regarded by a lot of instructors to be a basic piece of giving extraordinary guidance. PCs are viewed as a basic educational instrument in language classes to which educators have beneficial access, are enough ready, and have exactly an entryway in the enlightening plan. As pronounced by Hennessy, Ruthven, and Brindley (2005) and Pourhosein Gilakjani (2017), innovation blend is portrayed to the extent of how teachers use innovation to perform normal activities even more effectively and how this use can re-shape these activities. Innovation combination is portrayed to the degree that teachers use innovation to perform typical exercises even more successfully and how this utilization can re-arrange these exercises. Drayton, Falk, Stroud, Hobbs, and Hammerman (2010) argued that using PC innovation shows a veritable chance for development that updates understudies' liabilities.

Advancement urges students to advance freely and to tie down fit ways to deal with acting. The free utilization of types of progress gives student's self-direction. Beliefs about schooling influence academic convictions, and educational convictions influence thusly convictions in innovation and its use (Pajares, 1992). As such, there is a direct connection between conviction and practice. Numerous educators use innovation without having a significant impact on their instructive point of view on schooling (Zhao ve Cziko, 2001).

## METHODOLOGY

The article analyzes, how outrageous the approach acknowledged in before studies (2013\_2019) on technology and its effects on English language learning was predictable with the purposes and impacts. Literature roofed with the technology around 40 researchers' articles, outlines and guides assets were made for investigation reasons. Amount of 10 articles was at last assigned for a methodical survey of compelling technology. These incorporate 3 qualitative and 7 quantitative investigations. In the four stages, the review was led. In the first step foundation study was made from sites and available in articles. Web access; I utilized Google Researcher and an online site. In the subsequent step, a writing survey was created from diverse websites sites and articles. In the third step, 40 articles were accessible journals in time of 2013 to 2019. The exhaustive type of every article was recounted for solid thought regarding the titles, methodology, and findings of the articles. In the last step, the idea of technology and its effects on English language learning and teaching which were moreover frequently expressed in most prominent of the notice studies were perceived with the perspective of analyzing the previous exploration of the technology.

## FINDINGS

| No | Name of Article                                                                             | Nature of the study | Year   | Authors                                           | Sample                                                                                                         | Instrument                                | Subjects                                                                             | Findings                                                                                                                                                                                                                                                                                                                                      |
|----|---------------------------------------------------------------------------------------------|---------------------|--------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Teachers' Perceptions of Using Technology in Teaching EFL                                   | Quantitative        | (2013) | Fatemeh Mollaei & Mohammad Javad Raisati          | 40 undergraduate and graduate EFL teachers: of the forty participants 20 were male and 20 were female teachers | 30-item questionnaire                     | Technology, Computer, EFL teachers                                                   | Result acquired and uncovered educators' discernments about coordinating innovation in their classes, impetuses for instructors who use innovation, kinds of innovation utilized, working with and hindering elements influencing innovation execution, and the various mentalities of male and female educators toward utilizing innovation. |
| 2  | A Qualitative Approach to Examine Technology Acceptance                                     | Qualitative         | (2013) | Kristin Vogelsang, Melanie Steinhuser & Uwe Hoppe | 14 teachers with many years of experience in the PMS field                                                     | Interview questions                       | Technology acceptance model, theory building, research methods, qualitative research | The aftereffects of this study incorporate builds which could never have been uncovered in conventional acknowledgment studies. Additionally, we could obviously bar a few builds like picture and emotional standard.                                                                                                                        |
| 3  | Transferring The Experience of Using Technology from Formal Education to Distance Education | Qualitative         | (2014) | Merve Yildiz & Prof. Dr. Yavuz Selim              | Twelve Scholars                                                                                                | Interviews were held with twelve scholars | The use of technology, formal education, experience, transmission                    | It was observed that slide projectors were the most usually involved innovation in proper training. Other regularly utilized innovations are PowerPoint and slates.                                                                                                                                                                           |

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| 4 | Students perceptions on the impact of mobile technology in the classroom             | Quantitative | (2014) | Dr. Harry Benham, Gerard Carvalho, & Michelle Cassens | 451 students of business college                        | Survey                                        | Mobile Devices, Learning, Engagement                                       | This finding appears to show that an instructive BYOD strategy can't find lasting success without both the dynamic commitment of the personnel in the making of the approach and the preparation required so the Staff can really carry out the utilization of portable innovation in the study hall |
| 5 | Examining Students' Perceptions & Efficiency of Using Technology in Teaching English | Quantitative | (2015) | Hussain Ahmed Liton                                   | 33 EFL students from some renowned universities in Asia | The data were collected through questionnaire | Students' Perceptions & Efficiency of Using Technology in Teaching English | The exploration discoveries uncovered that the understudies are drenched in the growing experience effectively and eagerly yet many don't have any idea how to coordinate advances into their way of learning.                                                                                       |



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| 6 | Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools          | Quantitative | (2015) | Simin, Ghavifekr & Wan Athirah Wan Rosdy  | 101 Teachers from public, primary and secondary schools | A total of 101 questionnaires were distributed | Technology effectiveness, Teaching and Learning: ICT Integration | Discoveries demonstrate that educators' well-equipped arrangement with ICT devices and offices is one the principal factors in progress of innovation based educating and learning.                                                                                                       |
| 7 | The Impact of Mobile Phones on English Language Learning: Perceptions of EFL Undergraduates | Quantitative | (2016) | George Mathew & Talal Hail Khaled Alenazi | fifty-two male undergraduate students                   | questionnaire                                  | English Learning, undergraduates, mobile phones                  | Albeit these discoveries are connected with the neighborhood setting, they may, in some measure to a limited extent, be transferrable to the learning conditions in different locales as the utilization of cell phone is turning out to be increasingly more pervasive around the world. |



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| 8  | Mobile technologies in teaching English as a foreign language in higher education: a case study of using mobile application Instagram | Quantitative | (2016) | Liliia Khalitova, Gulnara Gimaletdinova                 | Advanced level 50 students in Kazan Federal University    | Open response questionnaire | Mobile assisted language learning, English as a Foreign language learning, Instagram | The review uncovered that versatile application Instagram further developed understudies' listening perception abilities, specifically, the capacity to grasp feelings and explicit data in bona fide discourse. |
| 9  | The Application of Technology in Teaching Grammar to EFL Learners                                                                     | Qualitative  | (2016) | Zari Saeedi & Aso Biri                                  | 34 participants were selected and divided into two groups | 17 conditional sentences    | technology and teaching grammar to EFL learners                                      | The discoveries of this study have suggestions for L2 students, empowering them to change their perspective on language and checking out at it from a more open viewpoint.                                       |
| 10 | Technology and English Language Teaching and Learning: A Content Analysis                                                             | Quantitative | (2019) | Muhammad Bello Nawaila, Sezer Kanbul & Radwan Alhamroni | 60 teachers                                               | Twenty items questionnaire  | Technology, learning, English language Teaching, innovations, ELT                    | Instructors and understudies ought not be utilizing innovation only for it being innovation, but instead think about innovation as a device for understudies' scholarly headway and mechanism of guidance.       |

## **ANALYSIS OF EFFECTIVE TECHNOLOGY STUDIES**

This review aimed to express technology and its impacts on English language learning and teaching. After reading forty (n=40) publications from diverse online websites, ten (n=10) of them met the criteria of this review and included for further analysis of this study. A qualitative research and a questionnaire was conducted by Fatemeh Mollaei & Mohammad Javad Raisati (2013) on forty (n=40) undergraduate and graduate EFL teachers: of the forty participants 20 were male and 20 were female teachers, to determine teacher's perceptions of using technology in teaching EFL. The outcome got and uncovered educator's discernments about coordinating innovation in their classes, motivators for educators who use innovation, sorts of innovation utilized, working with and occupying factors influencing innovation execution, and the various mentalities of male and female instructors toward utilizing innovation.

A qualitative study under the title of a qualitative approach to examine technology acceptance, made on fourteen (n=14) teachers with many years of experience in the PMS field by Kristin Vogelsang, Melanie Steinhuser & Uwe Hoppe (2013). Interview questions gathered from them, also, the aftereffects of this exploration incorporate develops which could not have possibly been uncovered in conventional acknowledgment studies. Additionally, we could obviously avoid a few develops like picture and emotional standard. Essentially, an examination completed on twelve researchers (n=12), and expected to explore, moving the experience of utilizing innovation from formal schooling to separate training by Merve Yildiz and Prof. Dr. Yavuz Selim (2014). Interview were held with twelve researchers; it was observed that slide projectors were the most usually involved innovation in conventional training. Other ordinarily utilized advancements are PowerPoint and writing boards.

One more quantitative review directed from 400 and 51 (n=451) students of business school, the point was understudy's discernments on the effect of portable innovation in the homeroom. The review was taken by Dr. Harry Benham, Gérard Carvalho and Michelle Cassens (2014). The finding appears to demonstrate that an instructive BYOD strategy can't find lasting success without both the dynamic commitment of the workforce in the making of the approach and the preparation required so the personnel can really carry out the utilization of versatile innovation in the study hall. Moreover, a quantitative report made on 33 (n=33) EFL Understudies from an eminent college in Asia to figure out the systems for looking at understudy's discernments and effectiveness of involving innovation in educating English. The analysts were Hussain Ahmed Liton (2015) the information were gathered through survey. It has been uncovered that the understudies are submerged in the educational experience effectively and energetically, yet many don't have any idea how to coordinate advances into their way of learning. One more review uncovered as quantitative exploration on 101 (n=101) instructors from public, essential and optional schools. A sum of 101 polls were disseminated among educators connected with the point (instructing and learning with innovation: Viability of ICT joining in schools) by Simin, Ghavifekr and Wan Athirah Wan Rosdy (2015). At last, the result of the review acquired and uncovered that educators' exceptional readiness with ICT devices and offices is one the fundamental variables in outcome of technology\_based educating and learning.

Although, another quantitative study on fifty-two (n=52) male undergraduate students were operated. The information gathered through poll, and the review was the effect of cell phones on English language



learning: view of EFL students by George Mathew and Talal Hail Khaled Alenzi (2016). The discoveries of this study are connected with the neighborhood setting, they may, to some degree to a limited extent, be adaptable to the learning climate in different locales as the Utilization of cell phone is turning out to be increasingly more common around the world. Lillia Khalitova, Gulnara Gimaletdinova (2016) played out a learn about "versatile advances in showing English as an unknown dialect in Advanced education" a contextual investigation of utilizing portable application Instagram. A quantitative report through open reaction survey took from cutting edge level fifty (n=50) students in Kazan Government College. The exploration uncovered that portable application Instagram further developed understudy's listening appreciation abilities, specifically, the capacity to figure out sentiments and explicit data in bona fide discourse. Moreover, one more subjective review from Zari Saeedi and Aso Biri (2016) is worked on 34 (n=34) members, and they were partitioned into two gatherings. Seventeen (n=17) restrictive sentences requested from them. Connected with the point "The use of innovation in instructing Language structure to EFL students. The discoveries of this study have suggestions for L2 students, empowering them to change their perspective on Language and checking out at it from a more open viewpoint.

The last article is about, innovation and English language educating and learning: A substance investigation. Muhammad Bello Navwaila, Sezer Kanbul and Radwan Alhamroni (2019). Sixty (n=60) instructors were the members of the review, and twenty things survey asked from them. The review featured that educators and understudies ought not be utilizing innovation only for it being innovation, yet rather think about innovation as a device for understudy's scholarly headway and vehicle of guidance.

## SUMMARY

The impact of technology on English language learning and teaching has become a topic of significant interest in the field of education. In this meta-analysis research, ten articles were examined to explore the various ways in which technology influences the process of learning and teaching English as a second language. The findings of this study revealed that technology has the potential to enhance language learning by providing interactive and engaging opportunities for students to practice their language skills. Additionally, technology can facilitate communication between teachers and students, allowing for more personalized and effective instruction. However, it was also noted that the integration of technology in language learning and teaching comes with its challenges, such as access to resources and digital literacy skills. Overall, this meta-analysis highlights the importance of carefully considering the role of technology in English language education and suggests that further research is needed to fully understand its impact on student outcomes.

## CONCLUSION

Technology has revolutionized the way education is delivered and accessed, making learning more interactive, engaging, and accessible. Students now have the ability to access a wealth of information at their fingertips, collaborate with peers and experts from around the world, and engage in immersive learning experiences through virtual reality and simulations. Additionally, technology has also enabled teachers to personalize instruction, track student progress more effectively, and provide real-time feedback. I searched and read more than forty (n=40) articles related to technology and its impacts on English language learning and teaching, and I selected and reviewed only ten of them with the high quality of comprehension. So, the meta-analysis research, which is conducted on ten (n=10) articles pertaining to technology's impacts on English language learning and teaching has provided valuable insights into the subject matter. The findings of the meta-analysis suggest that technology plays a significant role in enhancing English language learning and teaching. The use of technology, such as online resources, interactive learning platforms, and digital tools, has been found to improve students' language proficiency, engagement, and motivation. Furthermore, the meta-analysis also revealed that technology has the potential to address individual learning needs and cater to diverse learning styles, thereby promoting inclusivity and accessibility in English language education. Additionally, the integration of technology in language teaching has been shown to facilitate collaborative and communicative learning experiences, enabling students to develop their language skills in authentic and meaningful contexts. However, it is important to acknowledge that the effectiveness of technology in English language learning and teaching is contingent upon various factors, including pedagogical approaches, teacher training, infrastructure, and digital literacy. Therefore, future research should continue to explore the best practices for integrating technology into language education and identify potential challenges and limitations associated with its use. Overall, the findings of this meta-analysis underscore the importance of leveraging technology to support English language learning and teaching. As technology continues to evolve, educators and policymakers should strive to harness its potential to create innovative and effective language learning environments. By doing so, they can empower learners to develop the linguistic and communicative skills necessary for success in an increasingly interconnected and digital world.

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