# Should be acknowledged for forethought in using 5G technologies

# (A Collection of Data)

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# Abstract

*The goal of this data is to increase understanding and awareness of the 5G system and technology that has been obtained by a number of contemporary and wealthy countries to date. A large number of countries outside of the richest and most sophisticated nations, on the other hand, have simply observed and attempted to produce this progress. Despite this, the preparedness to grow, investigate, and adapt to the full scope of 5G activities remained a mystery. The likelihood is based on human capability and facility preparedness, which is characterized as crystallization to the next generation. COVID-19, on the other hand, caused significant changes, with one suggestion that the outbreak had an influence on teaching and learning methods as well as English as a foreign language instruction. In short, 5G provided the opportunity to bridge unusual scenarios such as COVID-19 while simultaneously maintaining educational consistency.*

# Keywords

*5G, English as a foreign language, Proposal data, System and Operation*

# Objective

Despite investments and commercialization of 5G, the standardization of 5G networks is still in its early phases. Lin (2022) confirms that "5G pushing advanced tech that rate of access is vital in increasing by operator and society, taking advantage of the advancement process" (p. 1). So says Dawid Szymon (2022), "the routes of operation, time consumption, management, and cost are evolving at a flexible pace," he says, "so society and the operators will also be happy when dealing with 5G technologies." 5G, on the other hand, Aside from the benefits and downsides of 5G, language scholars are interested in investigating and expanding the use of 5G sub-topics in the language sector (Cheng & Fan, 2022). For example, the Internet with enhanced video and audio capabilities (such as higher-resolution video, improved sound and gesture detection, and so on) may give a fresh language learning experience.

In terms of technological growth, "machine learning will be advantageous in detecting learners' progress" (Lu et al., 2022). When teachers experiment with teaching tactics that foster more engagement between the teacher and students, such as face-to-face interaction, small group discussions, or even personalized attention, the way the instructor communicates class content may alter. Tangjuan and Il-Tae (2022) thought that "5G mobile computing technology can optimize network transmission performance, enhance server operation efficiency, and has a favorable effect in overcoming delay and poor coverage problems" (p. 1). The following are some of the opinions and research findings of (Irfan & Ahmad, 2022):

> *The existing information and communication technology (ICT) theories identify behavioral intention as the primary determinant of technology usage behavior with information acquisition (IAC) and intention to use 5G technology (ITU5GT) are scarce; The analysis further reveals that openness, conscientiousness, extroversion, and agreeableness positively moderate the IAC-ITU5GT linkage. On the contrary, neuroticism negatively moderates this linkage. These outcomes will assist the policymakers, professionals, and stakeholders who aim to induce positive changes in the users' behavior of technology adoption. (para. 1)*

Many people believe that digitization is always an innovation and a technological advance. He (2022) notices "People are conducting research on self-driving and innovation in public transit as the automobile industry

develops. These will become a reality in the near future with the arrival of 5G." (p. 1). Winatha et al. (2022) use of "video media, building literacy skills in the digital era may also be done through website media, or we often hear about the web according to the material on the website with various sorts" as an example of 5G influence (p. 294).

This article in general outlines the information required to run a 5G system, particularly in teaching and learning English as a foreign language, with the undergone domain and distinctive operation of 5G technologies, based on arguments based on scientific research. The usual 5G network needs and design difficulties are described.

# Data description

Briefly describe the data: According to Armstrong (2020), the use of 5G included "real-time, speed, immersion, friendly infrastructure development, which is recognized as a developing and under-economic country's wish, stable connectivity, solid to market and global demand, i.e., the education sector, equal and responsive techniques to teaching and learning media, as a brilliant idea for the development of all sectors." In an essence, what does challenging the use of technology in education imply for modern society? According to Dake and Adjei (2019, pp. 202–205), five domain elements influence the identification of 5G adoption in education, which are connected to knowledge, time, space and location, connections, and values.

- The first is that 5G has been expanding, presenting, and offering disruptive and high-impact technology penetration, such that education, for example, is satisfied with diverse tools such as future versions that reflect real-time conditions.
- The key benefit of 5G operations is the process of determining user involvement by properly preserving, discarding, and processing data. The essential point is that, in contrast to previous technologies such as 4G, this generation gives the utmost ease of access when used without the need for costly program settings. There is no longer any reason to impede system operation with overload.
- The third pinpoint describes how effectively 5G may boost life elements; with the essential idea of the third pinpoint being the development of smart living.
- Fourth, because modern society recognizes the term IoT (internet of things) in a variety of sectors, these sources describe the numerous different contributions of IoT, which are process, action, and administration, all delivered in a single line of technology process, so there are no boundaries between administration work and non-administration work.
- Finally, 5G is at the top of the technological progress pyramid, earning recognition as a comprehensive technology category.

Sun (2021) explores the "current state of research in 5G by virtue of the fact that this technology is already built with artificial intelligence and gives a way to assess the learning process" (pp. 2-3). Furthermore, as evidenced by the linguistic and English language education process and output, 5G and its development, i.e., in teaching English in the case of this research, showed potential. Both subjects, which are surrounded by the colorful computational modeling and substances of the environment, will evolve in conjunction with the environment in terms of eco-education and eco-linguistics (p. 9).

Scholars agreed, according to Hou (2022), that "5G advocated such as translation study to convert as a role model of language study branches in which translation is produced with real world problems, including the dynamic of the environment" (pp. 1-2). Furthermore, how can 5G aid in the teaching and learning process? From normal operation, i.e., 4G, to multifunction systems, many purposes, and multi-use in a single operation, 5G creates a top generation of technology (p. 2). At the end of this paper, the author deduces a broad variety of benefits from 5G

usage in English language education and firmly supports human empowerment via the most recent technological period (p. 11).

According to Yu and Nazir (2021), "two phrases are expanding in usage as a result of 5G integration; the first is mobile help and integrated learning, with remarks defined by an excellent experience" (p. 1-2). Scholars and their results in earlier literacy indicate that artificial intelligence is one of the characteristics of 5G operations. Therefore, for the next discussion of the research, there are five items discussed in accordance with the priority of 5G and AI (pp.2-14).

- AI and the Classroom Process: Modern teaching and learning aims to improve ability not only in hard skills but also in soft skills. In this scenario, the attention given to AI in the classroom process at all levels is directed at the independence of the individual learning process.
- How AI influences teaching: creating teaching and learning materials should be based on syllabi and educational regulations. As a result, when an AI system is utilized in the teaching process, it is also obtained. In this scenario, the system is utilized by the teacher to create syllabi and exercises, and subsequently by students to learn through training courses.
- What is the long-term impact of implementing AI? When technological instruments are applied, one of the outcomes of AI acquisition is increased learning satisfaction.
- How to effectively manage the learning process with high technology: the point is artificial intelligence providing a simultaneous process with the framework system known as Internet-based Multimedia Assisted Language Learning (IBMALL), which previous researchers used to overcome the obstacles faced by non-native English learners.
- How to characterize AI-related operations in an English-language setting
  - ✓ Gao (2021) recommends "constructing a data processing model based on the cache placement system architectural diagram" (p. 3643).
  - ✓ Li (2021) employs a method that includes "translated original articles from the BBC website into English and Russian translations for these goals." After completing a text translation, the student addressed the principal's encounter with an inaccuracy and found the following book "tough" in a video conference (para. 1).
  - ✓ Lu and Sun (2019) described the "key features of educational information building" (pp. 2-3), which are depicted in the picture below. The following logical order of development can then be adapted to meet the characteristics of policymakers and institutional leaders: "demand scenario, general view, scenario innovation, remote interactive teaching, VR-AR teaching, remote listening and evaluation, embedding AI with teaching evaluation, constructing smart campus management, and projection of long-term development, i.e., fostering sustainable 5G through gold planning" (pp. 4–9). Furthermore, the features of educational information production are depicted in a diagram, which can be found in the appendix section following the references.
- 5G might be defined as an age of self-learning (Dai, 2021).

## Limitations

This data reflected the grand idea of teaching and learning English as a foreign language as it was specifically built to target developing and underdeveloped nations that intended to implement 5G integrated with EFL. However, the main common challenge that the government addresses in all areas of the EFL program is the lack of structured information and technology facilities as well as the difficulty in recognizing skilled human resources to solve the issue of 5G development. Because the vast majority of developed and emerging economies continue to

rely on 4G, the prospect of developing 5G infrastructure is enticing. As a result, the author recommended future research to improve policy management of 5G implementation in English language education as a foreign language to support the outer circle of contemporary countries category. Second, further study on 5G implementation is still needed, especially on instructors' engagement in 5G implementation and the overall administration of English language teaching and learning programs.

## Declarations

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# Appendix



(1) The educational environment will be more intelligent and adapt to the needs of individuals. Through ubiquitous communication networks, sensor equipment, and intelligent perceptions of learners' environments and characteristics, a learning environment will be actively created in which they may plan learning paths, push appropriate learning resources, and switch the concept of "people find information" to "information finds people."

(2) All kinds of data and educational information will be realized through a seamless circulation. Data analysis is the basis of realizing intelligent educational services, and the construction of education informatization will establish norms and standards for the collection and analysis of all kinds of data. Through perceptions of the physical environment, we can realize the aggregation and cross-domain transmission of data, strengthen the adjustment function of educational services, and break the limitations of time, space, content, and media.

(3) Educational businesses will realize intelligent collaborations. Based on intelligent technology and a ubiquitous high-speed communication environment, all kinds of educational services will be realized by using full-time, full-domain, multi-mode connectivity, and collaborations will highlight its convenience, rapidity, efficiency, and intelligence. Management, teachers, training, services, and other links in the field of education will be able to intelligently collaborate to promote business reorganization processes and innovate service forms.

(4) High-quality educational resources will be better provided on demand. Under traditional modes, all learners are provided with the same learning resources, while in the intelligent era, network transmission technology will promote the efficient transmission of learning data through its entire process. Intelligent learning service systems will provide high-quality and appropriate educational resources and services through its accurate analysis of the specific needs of learning individuals.

(5) It will be possible to provide equal learning opportunities and promote educational equity. Education informatization enables high-quality educational resources and services to communicate through the network, embeds learning into daily life outside of formal education, and creates a situation of "when technology is everywhere, learning is everywhere" in which all people have equal learning opportunities to solve the problem of educational equity from the perspective of IT.

Figure
Characteristic of Education Informatization Construction