



## The role of information technology in managing the human resource development of educators in inclusion-based primary schools in Greece

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### ABSTRACT

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#### Keywords

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The rapid growth in technology offers both benefits and challenges to traditional teaching and learning methods in the field of education. Not only is information technology (IT) a study topic itself, but it also has a significant impact on all other academic fields. The ways in which teaching, learning, and human resource management are conducted in educational institutions are changing as a result of the integration of IT, particularly in inclusive settings. The purpose of this project is to investigate the effects of using a variety of IT tools and integrating IT into the curriculum in inclusive elementary schools in Greece. It looks at the ways in which these variables affect the development and management of human resources, with an emphasis on teachers working in inclusive environments. A questionnaire survey was sent to 396 education sector experts, which made it possible to get quantifiable information about these experts' opinions on the influence and integration of IT in learning environments. The findings show that the deployment of different IT tools in inclusive schools and the integration of these technologies into the inclusive curriculum have a favorable impact on the efficient management and development of human resources in these learning settings. The study confirms that integrating IT into the classroom is essential to prepare pupils for life in a knowledge-based society. To keep up with the rapid improvements in technology and economic globalization, educational institutions must proactively innovate and change their methods to human resource management.

**Contribution/Originality:** The study contributes to the field of technology and human resource management, especially in inclusive education. The findings provide a critical analysis on the drivers of effective human resource development and how inclusion-based classrooms can be effectively managed through IT-based training of educators, integration of IT tools in the inclusive curriculum, and utilizing IT tools in inclusive schools.

## 1. INTRODUCTION

Information and communications technology (ICT) developments have fundamentally changed how people think, work and live in the modern world (Eddahby, Gourja, Dezairi, Benyouness, & Cherouaki, 2021). IT integration into the curriculum is something that schools and other educational institutions need to focus on in order to enhance the

quality of learning processes. Teachers are seen as the key players in integrating ICT into routine classroom settings and preparing students for the modern digital world. This is due to the fact that ICT can provide teaching and learning environments that are dynamic and proactive (Aksal & Gazi, 2015). The talent shortage is made worse by the fact that the world of today has a greater demand than any previous period in history for knowledge and intellectual capital. In some ways, the main element affecting the education sector is the caliber of the labor force. In order to promote inclusiveness in the education sector, human resources are increasingly being employed as strategic resources (Ali Quaosar & Rahman, 2021; Neofotistos & Karavakou, 2018).

Modern technology offers a variety of instruments that can be used in classrooms to improve the quality of teaching and learning (Papaevangelou, Syndoukas, Kalogiannidis, & Kotsas, 2023). According to Muliati, Sihotang, and Octaviany (2022), IT integration is the process of determining how technology fits into the teaching and learning environment. Anyone can use the free information available on the internet by visiting websites at any time and from any location (Apostolou, 2020). International research has shown that ICT can improve teaching strategies and student learning (Aksal & Gazi, 2015; Bartlett & Bartlett, 2013), and it can also assist students in preparing for 21<sup>st</sup> century life. ICT-savvy students are equipped with the information they need to tackle problems in the future. The classroom has seen a remarkable transformation in the last century (Abedin, Hameidreza, Kamran, & Masomeh, 2021). The effects of technology are clear; the computer has replaced the classroom (Ali Quaosar & Rahman, 2021). Traditional professors have been replaced with virtual instructors in traditional classes. The invention of the computer and the internet made it possible to communicate with someone at a faraway location without traveling there in person (Neofotistos & Karavakou, 2018). Digital projectors, interactive whiteboards, and physical libraries have all replaced the traditional chalkboard (Boutskou, 2014). Books that used to be cumbersome in terms of size and weight can now be digitally compressed onto a convenient storage device. Information retrieval and discovery are now more straightforward than ever (Muliati et al., 2022).

The educational system in Greece was created to educate students for the future workforce by fostering their creativity, technical fluency, and technology literacy (Kleopatra & Dimitrios, 2014). This is consistent with the information superhighway and globalization. This is essential if the nation wants to compete in globalization (Ghavifekr et al., 2014; Mishra & Akman, 2010). The need for an efficient ICT-based curriculum is therefore one of the main elements in planning for ICT integration in the Greece educational system. As a consequence, within the system, decisions regarding technology investment will be carefully considered and optimized (Mishra & Akman, 2010). Due to the issues and challenges related to the use of learning technologies in the Greek educational system, previous research has demonstrated that IT integration into inclusive education curricula and the training of HR educators is an area that has not been given great attention (Abbasi et al., 2015).

### 1.1. Purpose of the Study

The main objective of the study is to examine the role of information technology in managing the human resource development of educators in inclusion-based primary schools in Greece.

The specific objectives of the study are as follows:

1. To establish the effect of IT-based training on the HR development of educators in inclusion-based primary schools in Greece.
2. To determine the relationship between the integration of IT tools into the curriculum and management of the HR development of educators in inclusion-based primary schools in Greece.
3. To establish the influence of IT tools used in inclusive schools on the management of the HR development of educators in inclusion-based primary schools in Greece.

### 1.2. Research Questions

1. What is the effect of IT-based training on the HR development of educators in inclusion-based primary schools in Greece?
2. What is the relationship between the integration of IT tools into the curriculum and management of the HR development of educators in inclusion-based primary schools in Greece?
3. What is the influence of IT tools on the management of the HR development of educators in inclusion-based primary schools in Greece?

### 1.3. Research Hypotheses:

*Hypothesis 1 (H<sub>1</sub>): IT-based training has an influence on the HR development of educators in inclusion-based primary schools in Greece.*

*Hypothesis 2 (H<sub>2</sub>): Integration of IT tools into the inclusive curriculum has a positive relationship with the management of the HR development of educators in inclusion-based primary schools in Greece.*

*Hypothesis 3 (H<sub>3</sub>): IT tools used in inclusive schools positively influence the effective management of the HR development of educators in inclusion-based primary schools in Greece.*

### 1.4. Significance of the Study

The study contributes to the field of technology and human resource management, especially in inclusive education. The findings of this study provide critical analysis on the drivers of effective human resource development and how inclusion-based classrooms can be effectively managed through IT-based training of educators, integration of IT tools into the inclusive curriculum and utilizing IT tools used in inclusive schools.

## 2. LITERATURE REVIEW

### 2.1. Information Technology in Education

Primary school teaching and learning have undergone a radical transformation thanks to the incorporation of information and communication technology (ICT) into the curriculum. ICT is transforming education in Greece, according to [Aivazidi and Michalakelis \(2023\)](#), especially in basic school. Their research, which focuses on instructors' perspectives, shows that educators are aware of how much technology can improve student engagement and create a more dynamic atmosphere. This study emphasizes how ICT can enhance education delivery while increasing learning efficacy and accessibility for students with different learning styles and skill levels. [Koniari \(2023\)](#) explored ICT usage in educational institutions using a quantitative approach. The research demonstrates how ICT is being increasingly used in curriculum creation and teaching strategies. According to research, a more dynamic learning environment and better student results may be due to the efficient use of technology in the classroom. It also means that teachers who are adept at utilizing ICT can modify their lesson plans more effectively to accommodate the wide range of demands of their pupils and make education more inclusive.

IT is a potentially powerful tool that can increase formal and informal educational opportunities for marginalized groups and dispersed and rural dwellers who have historically been excluded from education due to cultural or social reasons, such as people with disabilities, the elderly, and others who are unable to enroll on campus because of financial reasons or time constraints ([Ali Quaosar & Rahman, 2021](#); [Jonathan, 2016](#)). Asynchronous learning, which occurs when there is a delay between the transmission of information and the students' receipt of it, is made feasible by IT. For instance, students can access online course materials twenty-four hours a day, seven days a week ([Abedin et al., 2021](#); [Apostolou, 2020](#)). The students and teachers do not need to be present at the same physical place when learning is delivered through IT. In addition, certain IT, such as teleconferencing, allow for synchronous learning or the simultaneous delivery of education to a group of geographically separated students ([Ghavifekr et al., 2014](#)). For their educational needs, teachers and students are no longer reliant on printed books and other physical materials kept in

libraries (Muliati et al., 2022). A limitless number of people can now access a wealth of educational information on any subject and in a variety of mediums due to the world wide web and the internet. This is crucial for several schools in affluent and developing countries alike, both of which have sparse and outdated library resources (Nikolopoulou, 2014).

IT has become the most important tenet of modern civilization in a very short amount of time (Abedin et al., 2021). Learning the foundations of information technology, including its core concepts and skills, is highly valued in many modern societies (Maduewesi, 2013). Utilizing IT in teacher education has expanded significantly. IT development is a universally agreed requirement that has historically been of enormous importance to all of humanity (Olaofe, 2005). Today's society is becoming more and more reliant on technology (Asongu & Odhiambo, 2019). Everyone uses IT, whether they are talking on the phone, sending emails, going to the bank, using a library, watching the news on television, listening to sports commentary on the radio, working in an office or out in the field, visiting a doctor, operating a vehicle, or getting on an airplane (Malhotra, 2020). Computers, software, networks, satellite connections, and other associated technologies enable people to access, analyze, produce, share, and utilize information, expertise, and data in ways that were previously unthinkable (Ghavifekr et al., 2014). According to some, the broad adoption and swift expansion of IT have caused the information technology age to give way to the knowledge age (Beblavý, Baiocco, Kilhoffer, Akgüç, & Jacquot, 2019).

According to Al Qalhati, Karim, Al Mughairi, Al Hilali, and Hossain (2020), lecturers need to have certain abilities in order to successfully utilize IT in educational instruction. These include the ability to master a range of educational paradigms that incorporate IT into learning, effectively use IT as study aids, use IT as a teaching tool, master a range of assessment paradigms that incorporate IT into learning, and comprehend the policy implications of IT use in teaching (Maduewesi, 2013). IT has the ability to make these two aspects of teaching and learning more effective and efficient while also decreasing administrative labor (Imon, 2017). According to the World Bank (2020), ICT can be employed in a range of broad applications, such as educating children and providing access to information and communication that is not only available in the classroom.

Utilizing ICT in education involves more than simply adding technology to the classroom, it also involves changing how students learn. According to Aivazidi and Michalakelis (2023), the use of ICT tools can enhance the interactive and engaging nature of learning, an essential aspect of sustaining students' motivation and interest. Education can become more inclusive and efficient by using interactive software, multimedia, and online resources that accommodate various learning styles. This methodology is consistent with current educational trends that emphasize student-centered learning, where technology serves as a facilitator rather than a mere instrument.

## *2.2. Technology in Inclusive Education*

Technology has the ability to significantly increase access to the general education curriculum for all pupils (Nikolaou, Konteos, Kalogiannidis, & Syndoukas, 2023). Assistive technology is "essentially anything which might be utilized to compensate for lack of particular abilities," and it can include both high-tech and low-tech items, such as crutches or a unique pen grip, as well as computers with software designed specifically to aid dyslexics in reading (Mishra & Akman, 2010; Neofotistos & Karavakou, 2018). Other examples of assistive technology include hearing aids and glasses. They consist of accessible technologies, emergent and creative technologies, universally designed technologies, technology for education, and IT (Maryam, 2020). Depending on their purpose and usage, assistive technology aids, which can vary from a basic item such as a magnifying glass to a sophisticated computerized communication system, can be utilized by students with disabilities inside as well as outside of the classroom (Muliati et al., 2022).

Touch control devices, various keyboards and mice, speech-to-text word recognition tools, word-prediction software, grammar and spell checks, scanners, and compact disc recording (CD-R and CD-RW) drives are a few examples of assistive technology (Cullen et al., 2020; Mishra & Akman, 2010). The main uses of assistive technology

in inclusive education include the application of technology for training or practice and to help and enhance learning. Thought to need assistance, many "at risk" youngsters usually do not get what they need because they frequently do not fit neatly into a diagnostic profile (Muliati et al., 2022). Obstacles that had previously prevented them from functioning on par with their classmates are removed, allowing them to learn in a manner that makes sense to them (Al Qalhati et al., 2020; Apostolou, 2020).

An educational opportunity that may not be accessible due to a handicap could be accessible through assistive technology and a student's cognitive skills (Eddahby et al., 2021). For instance, a student who struggles to read could use a text-to-speech screen reader as a bridge between the written text and their capacity to absorb the information aurally and cognitively; likewise, a student who struggles to hear can use a hearing aid (Nikolopoulou, 2014). Students can therefore have access to multiple means of finishing their work with a greater degree of autonomy in performing tasks that they were previously unable to complete or could only complete with difficulty. This is made possible through appropriate advancements or altered techniques of interaction with the technology that is required to complete such tasks (Abbasi et al., 2015; Ghavifekr et al., 2014). Table 1 presents the usage and application of supportive technology in education.

**Table 1.** Usage and application of supportive technology in education.

Area of application	Assistive technology applications	Need and relevance in classroom learning
Reading	Digital books, book with page-turning functionality, word-by-word scanners, tabs, electrical devices, and speaking programs	For students who have trouble paying attention to reading tasks as well as reading and understanding written language
Writing	Templates, word cards/books/wall grammar and spelling checker to revise papers	For pupils who struggle with composition or writing
Math	Calculators, talking clocks, worksheets that are larger than normal, voice output meters, and calculators	For schoolchildren who struggle with calculation and find it challenging to do well in math classes
Vision	Eyeglasses, magnifier, screen reader, books in braille with large print, CCTV, and audio lesson tapes	For students who have difficulty seeing or lack complete vision
Hearing	Hearing aids, paper and pen, devices for signaling and closed captioning	For students who have difficulty hearing or are hearing impaired
Computer access	Alternative keyboards, switches, voice recognition software, and word prediction	Primary school students who have difficulty using the computer in its default configuration and have trouble completing assignments

Neofotistos and Karavakou (2018) noted that the effectiveness and applicability of an assistive technology device are determined by how it is used, how easily it can be accessed by primary school pupils, and how enjoyable it makes interactions with their environment. The direct involvement of the potential users at every stage of design and development ensures that the assistive devices are based on need, are easy to use, and are cost-effective to produce, purchase, and maintain (Burns, 2023; Neofotistos & Karavakou, 2018).

The use of digital tools and technology, such online learning platforms, specialized software, and interactive whiteboards, is growing in favor of inclusive education (Sander, 2021). These technologies provide distinct approaches to curricular engagement for students with varying learning requirements. For example, children who struggle with writing may benefit from speech-to-text software, while students who struggle with reading can benefit from audio books and visual learning aids. Kaimara (2023) uses the "Waking Up in the Morning" initiative to highlight the importance of digital transformation in inclusive education. This project serves as an example of how to use technology to create more adaptable and inclusive learning settings. In this situation, using digital tools promotes an inclusive classroom atmosphere in addition to meeting the requirements of students with a variety of learning styles.

According to Tzafilkou, Perifanou, and Economides (2023), the use of technology in inclusive education aims to improve engagement and learning results in addition to facilitating access. Students with varying learning styles might benefit from more engaging learning experiences made possible by the use of interactive and multimedia resources. The OECD (2023) policy study on digital transformation in school education, which highlights the significance of using technology to build more dynamic and responsive learning environments, is in favor of this strategy.

### 2.3. Information Technology in Delivery of Inclusive Teaching

OECD (2016) noted that the HR development of educators is significantly impacted by technology innovation and that computers certainly affect the quality of training offered to different educators, which has an impact on the quality of learning processes in the long run (Aksal & Gazi, 2015). Most people today are aware of the significant impact that computers have had and will continue to have on their lives (Mishra & Akman, 2010). To convey knowledge and information to pupils, most primary schools in Greece use teaching aids such as slide projectors, overhead projectors, and LCD (liquid-crystal display) projectors to improve the quality of classroom learning. To impart management education in remote areas, however, a variety of other tools are being used, including audio-visual tapes, and teleconferencing through satellite, among others (Mishra & Akman, 2010).

The best alternative for obtaining a business education in distant locations where networking is either unavailable or may not be cost effective is considered to be CD-ROMS (compact disc read-only memory) run on multimedia PCs (personal computers). They have the capacity to store vast amounts of information, data, numbers, pictures, documents, and graphics, as well as audio and video effects (Josjö, 2013; Walker & Logan, 2009). Furthering online communication is a helpful way to spread information since it allows for the creation of classroom settings at home thanks to e-mail and the world wide web, both of which are now widely accessible thanks to the introduction of web television (Bingimlas, 2009; Muliati et al., 2022). By combining many sorts of information, such as clip art, animated graphics, music, voiceovers, and live interactivity, multimedia can be used to its utmost potential. Television is becoming interactive thanks to digital multimedia. Its capabilities have been expanded to include information delivery and education (Abedin et al., 2021). The decision to search for information is up to the users. A chosen program can be viewed at any time rather than when it is aired (Ali Quaasar & Rahman, 2021; Apostolou, 2020).

A multimedia computer can be used for instruction with a single learner. Compared to television, multimedia systems are considered to be more learner friendly because they allow for the control of the response of the instruction transfer process in line with the student's learning ability (European Agency for Special Needs and Inclusive Education, 2022). The student can explore the provided package repeatedly to correspond with his or her own learning process, simulating a classroom environment on a computer display without involving an instructor. Students who study management often have strong personalities (Papapolychroniadis, Rossidis, & Aspridis, 2017). Instead of being lectured to, computer-based learning gives individuals the chance to study for themselves, stimulating them as they evaluate their own learning progress.

Teachers are freed from repetitive and mundane responsibilities such as tasking, drills, practice, and knowledge exchange, so they can instead focus on activities linked to growth and research (Mezzanotte, 2022). As a result, the new method eliminates reliance on traditional, less efficient infrastructure and prevents wasted time associated with gathering in a classroom (Ghavifekr et al., 2014; Imon, 2017). It is now understood that using IT has various benefits over using traditional information exchange methods. Computers are needed because they facilitate the dissemination of information and the development of management skills including conceptualization, behavior, analysis, and administration (Imon, 2017). Most schools use case studies, seminars, projects, and games to improve conceptual learning. Different software fosters the capacity to apply information in both hypothetical and real-world scenarios. The majority of instructional material is now also available on CD (Almotairi, 2013; Jonathan, 2016; Stavros. Kalogiannidis, Chatzitheodoridis, Papaevangelou, & Nikolaou, 2023).

Providing inclusive education requires the use of information technology, especially when it comes to meeting the various learning requirements of students in settings that prioritize inclusion. Teachers can create and execute lesson plans that accommodate a variety of student abilities and learning preferences thanks to the usage of IT (Aivazidi & Michalakelis, 2023). Interactive software and educational applications, for instance, provide customized learning opportunities, letting students with various requirements connect with the content at their own speed and ability level. Technology also aids in removing obstacles that have historically prevented inclusive education. Lyra, Koullapi, and Kalogeropoulou (2023) looked at the worries and difficulties that Greek teachers face while working with inclusive classrooms. They proposed that IT can provide strategies to allay these anxieties, such as simulating classroom situations with virtual reality or supporting students with impairments through assistive technology. By using this technology, teachers can get a deeper understanding of the experiences of their pupils, which improves their ability to teach in inclusive environments.

Professional development for educators is also required for the incorporation of IT into inclusive education. For inclusive education to be successfully implemented, teachers must be trained in the efficient use of IT resources (Mantzikos & Lappa, 2023). In order to guarantee that educators are proficient in both inclusive and technology-based teaching methods, Tzafilkou et al. (2023) stressed the need to provide instructors with digital competences that include professional and pedagogical components. IT also encourages collaborative learning settings, which are critical to inclusive education. Students can collaborate on projects, exchange ideas, and aid each other's learning regardless of their physical location or skills by utilizing online platforms and communication tools. Students' social participation and empathy are encouraged, and their learning achievements are improved.

#### *2.4. IT Integration in Inclusive Curriculum Education*

IT is changing the curriculum in several ways and has led to teachers being forced to reconsider traditional pedagogies (Eddahby et al., 2021). Learning activities that promote higher-order thinking skills and make use of a range of software and different online project-based resources are one such example (Burns, 2023; Neofotistos & Karavakou, 2018). All of this has a significant influence on how we perceive the curriculum, including what it is, who creates it and how, as well as how ICT can support students in forming more thoughtful reactions to the material (Ilomäki, 2008). In certain instances, the development of the curriculum may not fall within the purview of particular schools and is entrusted to education agencies in order to establish standards for both instructors and pupils (Mantzikos & Lappa, 2023).

As more ICT-based learning activities, projects, and software programs are created, the curriculum is becoming more dynamic and participatory (Nikolopoulou, 2014; Papaevangelou et al., 2023). With the ability to collaborate with students from different nations and regions on projects that address many curriculum goals at once, students are being encouraged to participate in more autonomous and independent activities (Kaimara, 2023). As a result, curriculum creators are motivated to think about the curriculum from other angles. For example, ICT can support a cross-curricular, multidisciplinary approach, thus courses do not always need to be kept separate (UNESCO, 2014). With multimedia applications encouraging several learning modalities that have been disregarded by conventional educational approaches, technology also allows instructors to approach the curriculum from the standpoint of Multiple Intelligences (MI). MI has been described in terms of how each intelligence relates to various forms of technology (Josjö, 2013; Qu, 2019). For instance, computer mice, joysticks, and assistive technology provide excellent opportunities to investigate kinesthetic intelligence, while message boards and discussion forums are a good fit for interpersonal intelligence (Papapolychroniadis et al., 2017). Additionally, there are methods for relating specific MI components to international norms (Apostolou, 2020; Neofotistos & Karavakou, 2018).

According to Cullen et al. (2020), instructors and students need to develop confidence in technology in order to increase its adoption and decrease opposition to it. Teachers must be proficient in using a range of ICT tools in order for children to grow to trust technology (Josjö, 2013). Without the expertise of instructors in ICT integration that is

appropriate for their needs, ICT cannot be utilized successfully in education (Al Qalhati et al., 2020; Mezzanotte, 2022). Teachers should be proficient in a range of technical and communication abilities in this respect, including the usage of chat rooms, word processing, web page development, file transfer protocol (FTP), and compressing and uncompressing data using applications such as WinZip (Mugambi, 2017). According to Almotairi (2013), ICT is allegedly changing schools and classrooms by introducing new curricula based on real-world issues, providing tools and scaffolds to enhance learning, giving students and teachers more opportunities for reflection and feedback, and creating communities both locally and globally that include students, teachers, parents, practicing scientists, and other interested parties. In the educational system, ICT serves instructional, cultural, social, professional, and administrative purposes (Nikolaou, 2018; World Bank Group, 2021).

Numerous studies have uncovered a variety of traits displayed by schools that have effectively included ICT into their curricula (Bingimlas, 2009; Ghavifekr et al., 2014). Common components include effective leadership, staff development, in-depth curriculum design, technical assistance provided by ICT coordinators and experts, and strategic leadership, which includes vision, personal ICT usage, and the capacity to handle change (Bartlett & Bartlett, 2013). One study highlighted four key factors for teachers to effectively utilize ICT—previous experience in creative programs (not always ICT-based), backing from senior management, a collaborative work environment, and a willingness to take chances (Christine, 2017).

Mishra and Akman (2010) found that although the use of ICT tactics in the classroom are still developing, sustainability and improving the availability of ICT is essential for continued success. The fact that schools need to address children's original usage of ICT is one of the recommendations made as a result of students having greater access to computers at home (Muliati et al., 2022). Additionally, as students want more autonomy and student-centered activities, flexibility in teaching strategies is becoming increasingly crucial. However, research indicates that rather than taking center stage, technology should continue to be seen as a valuable supplemental resource in order to meet standards-based learning objectives (Eddahby et al., 2021; Nikolaou et al., 2023).

Studies have also shown that there is still a great deal of confusion regarding how to carry out meaningful student evaluations in the new environment of ICT-led learning, and many new strategies for doing so are developing (Ali Quosar & Rahman, 2021). Among these are the self-reflective method, in which students complete questionnaires and staff members then discuss the results; the comparative model, which contrasts student achievement in ICT-based and non-ICT-based classes; and the public model, in which schools enlist the assistance of parents, the local community, and the media to help them evaluate pedagogical progress (Mishra & Akman, 2010; Neofotistos & Karavakou, 2018).

Christine (2017) explained how IT has improved inclusiveness in education globally with the help of education ministries and national and regional governments. In this case, the different education agencies across the world, especially in developed countries, have focused on integrating IT into the inclusive education curriculum, which has improved the quality of the classroom learning processes (Al Qalhati et al., 2020). This is largely due to careful planning and policy reform that focuses explicitly on integrating ICT into subject teaching. These policies often follow a bottom-up strategy, starting with broad usage at the elementary level and gradually integrating ICT into the curriculum in secondary schools and higher education institutions. Local or national ministries of education might oversee this procedure. In Australia, for instance, regional governments are in charge of their own curriculum revision, therefore each area emphasizes distinct ICT in education facets (OECD, 2016).

The different requirements of students must be taken into account when designing an inclusive curriculum that incorporates IT. This means setting up a classroom where technology is integrated into the teaching and learning processes rather than being an afterthought. Mantzikos and Lappa (2023) discussed the prospects, problems, and present state of play for inclusive education in Greece. They contend that an inclusive curriculum bolstered by IT can close the achievement gap, particularly for pupils with impairments or learning issues. A flexible and adaptive curriculum should enable technology-based individualized learning pathways. IT has a revolutionary function in

instructional strategies for inclusive curricula. Koniari (2023) asserted that the usage of ICT in educational institutions has improved teaching strategies. Education can be made more accessible and interesting by using interactive technologies, instructional software, and digital resources that accommodate different learning styles and skills. Students who find it difficult to learn using conventional techniques might find it easier to understand complicated topics when they are taught through interactive games, simulations, and visual aids. An inclusive curriculum must include assessments that reflect the diversity of students. IT provides creative methods for evaluating pupils' comprehension and development. According to Tzafilkou et al. (2023), in order for educators to successfully incorporate IT into their teaching and assessment practices, they must be digitally competent. Digital technologies may make assessments more relevant and individualized by tracking progress over time, providing timely feedback and adapting to the learner's level.

### 2.5. IT in Managing the HR Development of Educators

According to Aksal and Gazi (2015), web-based instruction is beneficial as it allows for more customization, flexibility, and learner control. Others disagree, stating that employing these technologies reduces student pleasure, impedes communication, and makes students feel more separated from one another (European Schoolnet, 2012). For instance, one study showed that students using an advanced classroom management system performed worse than a group using email services because they spent more time debating how to use the technology than they did actually learning (Mishra & Akman, 2010). However, a second study showed that when students thought the technology supported their chosen learning style, they had superior learning outcomes (declarative knowledge, satisfaction, and utility assessments) (Papapolychroniadis et al., 2017).

According to OECD (2016), employees prefer face-to-face training over e-learning since the latter is often socially isolating and does not always provide timely feedback. Papapolychroniadis et al. (2017) suggested that firms should use blended learning methodologies. Blended learning combines online and face-to-face components in order to provide learners with a stronger feeling of community, more intense degrees of personal connection, and control over the learning process (Apostolou, 2020; Kleopatra & Dimitrios, 2014). Students who experience both traditional and online learning settings are more likely to have lower levels of learning motivation, worse metacognition, and lower grade point averages, according to research on blended learning (Benbunan-Fich & Hiltz, 2003; Klein, Noe, & Wang, 2006).

According to Bhasin (2012), a perfect learning environment must have a number of crucial elements. As an example, training should (a) provide trainees with relevant material, (b) integrate practice opportunities, (c) provide learners with control and feedback, and (d) enable trainees to interact with others (Bartlett & Bartlett, 2013). Notably, Donna (2010) found heterogeneity in the amount of exercise provided by online learning systems, showing that learners often skimmed content and hence did not obtain as much knowledge. In light of this, learners gain more from e-learning when they have the opportunity to practice and when they take the required time to complete the assignments (Ahmad, 2015; Chatzitheodoridis, Melfou, Kontogeorgos, & Kalogiannidis, 2023; Kalfas, Kalogiannidis, Chatzitheodoridis, & Toska, 2023).

Some academics assert that one advantage of e-learning is that it gives students more control over their education than they would have in a conventional environment (Apostolou, 2020). Learning results and student satisfaction have both been positively correlated with learner control. Research has shown, nonetheless, that not all students gain from having greater control over their education (Ghavifekr et al., 2014). In a similar vein, Neofotistos and Karavakou (2018) discovered that learners' performance was greater when they were educated to employ self-regulating online learning procedures. Another line of study on training design concentrated on social presence and communication as key elements for successful e-learning (Malhotra, 2020). According to Abedin et al. (2021), people perform better and are more satisfied when they have more opportunities to interact with others. Additionally, group members had superior communication skills and more successful course results than those who worked individually (Říhová &

Strietska-Iilina, 2015). According to these results, social presence fosters a collaborative learning environment that boosts connections between trainees, attentiveness to other trainees' ideas, and the volume of information communicated (Nikolaou, 2021; Papaevangelou et al., 2023).

Studies on e-learning environments have revealed a number of learner characteristics that affect e-learning results, which are consistent with studies on conventional training environments (Mishra & Akman, 2010). Additionally, previous studies have found a positive correlation between trainees' performance or mastery orientation and learning outcomes (Christine, 2017; World Bank Group, 2021). Self-regulated learning approaches, such as conscious awareness and regulation of cognitive processes, were positively connected with training motivation and learning outcomes (Ali Quaosar & Rahman, 2021; Neofotistos & Karavakou, 2018). Some studies proposed a link between personality characteristics and the effectiveness of e-learning technology. Examples include usefulness, performance evaluations, and student happiness. Learning results were also found to be positively connected with both individual and computer self-efficacy (Kalogiannidis, Papaevangelou, Syndoukas, & Chatzitheodoridis, 2023; Wayne, Persson, Chounta, Wasson, & Dimitrova, 2022).

According to Tzafilkou et al. (2023), information technology plays a crucial part in supporting educators' professional growth. Their study highlights the need to combine professional and pedagogical components with digital education by introducing a unique tool for evaluating teachers' digital competency. In a contemporary educational setting, when digital literacy is not only advantageous but also required, this strategy is crucial. Teachers can remain up to date on the newest instructional technology and approaches by integrating IT into professional development programs. This guarantees a more efficient and inclusive learning environment for students. The range of instructors' perspectives and levels of preparedness to incorporate ICT into their teaching methods were highlighted by Aivazidi and Michalakelis (2023). This discrepancy suggests a digital gap that may affect how well IT manages human resource development. Targeted training programs that emphasize both the educational uses of IT as well as its technical components are necessary to close this gap. These kinds of programs must take into account the different degrees of digital competency that instructors already possess.

### 3. METHODOLOGY

#### 3.1. Research Design

A cross-sectional survey research design was used based on quantitative research methodology. This design is associated with data collected using quantitative tools and statistically evaluates a particular phenomenon based on current trends and occurrences and the role of information technology in managing the human resource development of educators in inclusion-based primary schools in Greece. The cross-sectional survey design helps to generalize the findings to a larger population of educational institutions in Greece.

#### 3.2. Target Population

The study targeted different professionals in the education sector since this would help to obtain a more representative sample of people with good knowledge on the role of information technology in managing the human resource development of educators in inclusion-based primary schools in Greece.

#### 3.3. Sample Size

A sample size of 396 professionals in the education sector was selected for the study based on a population of 40,000 education professionals across Greece. This was determined using the formula developed by Yamane (1973) as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = the required sample size.

$N$  = the target population of this study.

$e$  = the level of significance used in this study (0.05).

1 = constant.

Therefore, the sample size is obtained as follows:

$$n = \frac{40,000}{1 + 40,000(0.0025)}$$

$$n = 396.0396 \cong 396$$

### 3.4. Data Analysis

The data was examined in accordance with the study goals after all the completed questionnaires were gathered. The data was then analyzed using SPSS 20.0 software to conduct a more rigorous statistical examination. The data is represented by a frequency table, and the standard deviations and means were calculated for a portion of the data. The information that was used for the rate of distribution was collected from the first segment of the user profiling questionnaire. In this case, a model based on multiple regression was used to calculate the anticipated values, and the research hypotheses were tested and evaluated at a significance level of 0.05.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \quad (1)$$

Where:

$Y$  = the effective HR development of educators.

$\beta_0$  = the constant (coefficient of intercept).

$X_1$  = the IT-based training of educators.

$X_2$  = the integration of IT tools in inclusive curriculum.

$X_3$  = the IT tools used in inclusive schools.

$\varepsilon$  = the model's error term.

### 3.5. Ethical Considerations

Consent was obtained from the HR managers in the school sector to ensure their willingness to take part in the study. In addition, it was important to maintain confidentiality while handling the respondents' data. The participants were given the opportunity to reply to questions based on their comprehension of the questions. This facilitated the acquisition of extensive feedback to particular questions.

## 4. RESULTS

This section presents the general interpretation of the results that were obtained after analyzing data collected from the professionals in the education sector in Greece.

### 4.1. Demographic Characteristics

The respondents' demographic characteristics are presented in [Table 2](#).

From [Table 2](#), the largest portion of respondents (67.9%) were male, and 32.1% were female. The results show that the majority of the professionals in the education sector, especially from the HR departments (43.9%) had a master's degree, followed by 33.6% with a bachelor's degree, 8.1% had diplomas, and 14.4% had a PhD. Most of the professionals (55%) had more than 10 years of experience. This clearly shows that data was collected from an experienced group of professionals from the education sector, hence their responses are reliable in providing an understanding of the role of information technology in managing the human resource development of educators in inclusion-based primary schools in Greece.

**Table 2.** Demographic information of the study participants.

Characteristic	Frequency	Percentage (%)
Gender		
Male	269	67.9
Female	127	32.1
Qualification		
Diploma	32	8.1
Bachelor's degree	133	33.6
Master's degree	174	43.9
PhD	57	14.4
Experience in the education sector		
0–5 years	91	23.0
6–10 years	87	22.0
More than 10 years	218	55.0
Total	396	100

#### 4.2. Descriptive Analysis

The respondents were asked their opinion on whether IT-based training enhances the HR development of educators in inclusion-based primary schools, and the results are presented in [Table 3](#).

**Table 3.** The effect of IT-based training on the HR development of educators.

Likert scale	Responses	
	Frequency (n)	Percentage (%)
Strongly agree	208	52.5
Agree	168	42.4
Not sure	5	1.3
Disagree	12	3.0
Strongly disagree	3	0.8
Total	396	100

Most participants (94.9%) were in agreement with the statement that IT-based training enhances the HR development of educators, and only 3.8% of the respondents disagreed.

The study also examined whether the integration of IT tools into an inclusive curriculum enhances the HR development of educators.

**Table 4.** Integration of IT tools into an inclusive curriculum.

Likert scale	Responses	
	Frequency (n)	Percentage (%)
Strongly agree	147	37.1
Agree	214	54.0
Not sure	11	2.8
Disagree	19	4.8
Strongly disagree	5	1.3
Total	396	100

[Table 4](#) presents that an overwhelming 91% of respondents agreed that incorporating IT resources into inclusive curriculum improves the HR development of educators in inclusive primary schools. Inclusion-based primary schools allow teachers to help and encourage students by integrating IT technologies into the curriculum. Long-term, this helps students to achieve higher grades.

The study also established different results regarding the use of IT tools in inclusive schools, and the results are presented in [Figure 1](#).

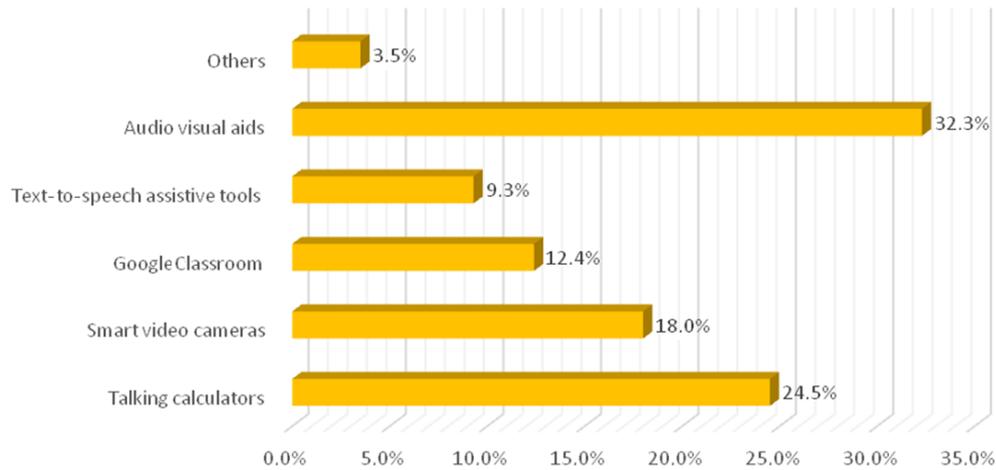


Figure 1. The use of IT tools in inclusive schools.

Concerning the different IT tools used in inclusive schools, the majority (32.3%) noted that audio-visual aids are used in inclusive schools, followed by talking calculators (24.5%) and smart video cameras (18%). The lowest proportion of respondents (3.5%) mentioned other IT tools used in inclusive schools, namely math talk tools, sound field systems, and smart blackboards, among others. It is important to note that the use of audio-visual aids, talking calculators, contemporary software, and applications can assist children in overcoming obstacles in an efficient manner without prejudice. In the classroom, students are more actively engaged and involved when effective IT tools are used to deliver learning materials.

The study also established the different aspects of the well managed HR development of educators in inclusion-based primary schools, and the results are presented in Figure 2.

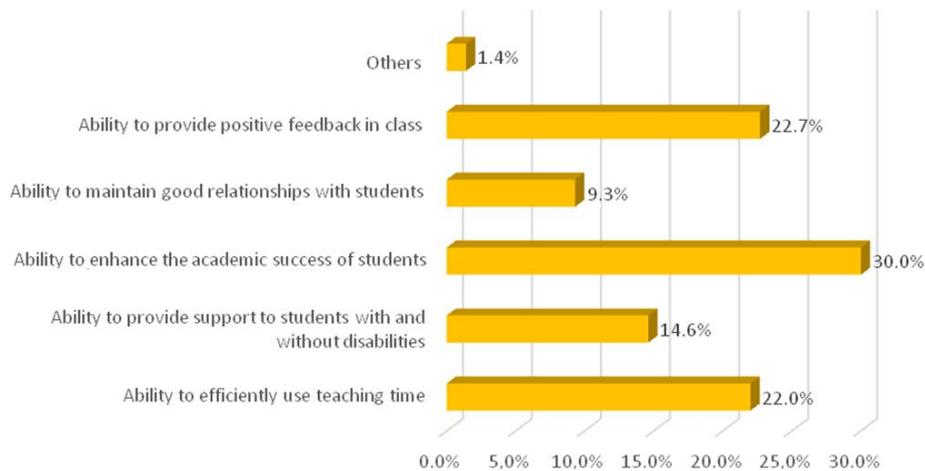


Figure 2. Aspects of the well managed HR development of educators in inclusion-based primary schools.

Regarding the aspects of effective management of the HR development of educators, the majority (30%) showed that effective HR development relates to the ability to enhance the academic success of students. This is an indication that well managed educators have the ability to help students achieve their desired academic performance. Furthermore, 22.7% noted that effective HR development relates to the ability to provide positive feedback in class, followed by the ability to efficiently use teaching time (22%), the ability to provide support to students with and without disabilities (14.6%), and the ability to maintain good relationships with students (9.3%). The lowest number of participants (1.4%) mentioned other aspects, such as the ability to use digital tools in teaching students with disabilities, the ability to integrate IT in classroom lessons, and the ability to track down the management of resources at school, among others.

#### 4.3. Correlation Analysis

A correlation analysis was carried out to establish the relationship between the study variables, and the results are given in Table 5.

**Table 5.** Cross-tabulation of the aspects of the independent variables and dependent variable.

Correlation analysis	Effective HR development of educators	IT-based training of educators	Integration of IT tools in inclusive curriculum	IT tools used in inclusive schools
Effective HR development of educators	1			
IT-based training of educators	0.648* 0.00	1		
Integration of IT tools in an inclusive curriculum	0.551* 0.02	0.649* 0.000	1	
IT tools used in inclusive schools	0.517* 0.00	0.905* 0.00	0.846* 0.00	1 0.00

Note: \* indicates statistical significance at a 5% level.

The analysis of the results indicates a positive correlation between the IT-based training and the effective HR development of educators ( $r = 0.517$ ). This shows that training the teachers in inclusive primary schools using various IT tools enhances their HR development. There was a positive correlation between the integration of IT tools in the inclusive curriculum and the effective HR development of educators ( $r = 0.905$ ), also significant at 0.05. The use of IT tools has a positive correlation with the effective HR development of educators ( $r = 0.846$ ) at a 0.05 level of significance ( $p = 0.00 < 0.05$ ), showing that the different IT tools have a big influence on the effective HR development of educators in inclusion-based primary schools.

#### 4.4. Results of Regression Analysis

Table 6 presents the findings from the regression analysis to determine the degree to which the various elements of strategic planning—such as IT-based teacher training, the integration of IT tools into the inclusive curriculum, and the use of IT tools in inclusive schools—predict the effectiveness of HR development for educators in inclusion-based primary schools. Regression analysis was used to determine how much the independent factors contribute to the HR development of teachers based on a range of projected values. The three independent factors had a positive link with educators' HR development, as shown by the positive multiple correlation coefficient (R) of 0.913. Additionally, the R-square value attests to the fact that the three independent factors alter the HR development of teachers in inclusion-based primary schools by 81.4%.

**Table 6.** Model summary.

Model	R	R-square	Adjusted R-square	Std. error of the estimate
Correlation analysis	0.913 <sup>a</sup>	0.814	0.798	0.30191

Note: <sup>a</sup> Predictor (Constant).

A one-way ANOVA was performed (see Table 7) to determine if the linear regression model matched the data well or whether the three independent variables were good predictors of the dependent variable. Since  $F(3; 393) = 126.135, p < 0.05$ , the model has been deemed a satisfactory match for the data.

**Table 7.** ANOVA analysis.

Model		Sum of squares	df	Mean square	F	Sig.
ANOVA analysis	Regression	31.240	3	17.182	126.135	0.026
	Residual	3.108	393	0.046		
	Total	73.142	396			

The unstandardized coefficients of the model were examined to establish the role of information technology in managing the human resource development of educators in inclusion-based primary schools in Greece. The coefficient of intercept (0.814) in Table 6 indicates that the HR development of educators would change by 81.4% if the IT-based training of educators, the integration of IT tools in the inclusive curriculum, and the IT tools used in inclusive schools were utilized effectively.

Table 8. Regression coefficients.

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. error	Beta		
(Constant)	0.318	0.136		2.438	0.026
IT-based training of educators	0.218	0.057	0.397	3.736	0.003
Integration of IT tools in the inclusive curriculum	0.276	0.067	0.213	3.195	0.021
IT tools used in inclusive schools	0.172	0.049	0.282	3.511	0.002

Note: Dependent variable: Effective HR development of educators. Predictors: (Constant), IT-based training of educators, integration of IT tools in the inclusive curriculum, IT tools used in inclusive schools.

Table 8 shows that the beta coefficient of the IT-based training of educators is 0.397, indicating that a unit change in IT-based training leads to a 39.7% change in the HR development of educators. The p-value of IT-based training is 0.003, and this is significant at 0.05. We therefore accept Hypothesis 1, that the IT-based training of educators has an influence on their HR development.

Similarly, the beta coefficient of the integration of IT tools in an inclusive curriculum is 0.213, implying that a unit change in the integration of IT tools leads to a 21.3% change in the HR development of educators. The variable's p-value (0.021) is significant; hence Hypothesis 2 is accepted, meaning that the integration of IT tools in an inclusive curriculum has a positive relationship with the management of the HR development of educators.

Finally, a unit change in IT tools used in inclusive schools leads to a 28.2% change in the HR development of educators. The variable is significant at a p-value of 0.005, indicating a substantial relationship between IT tools used in inclusive schools and the HR development of educators. We therefore accept Hypothesis 3, that IT tools used in inclusive schools positively influence the effective management of the HR development of educators in inclusion-based primary schools in Greece.

## 5. DISCUSSION

The results clearly show that information technology is important in the management of the human resource development of educators in inclusion-based primary schools in Greece. It was found that teacher HR development in Greece's inclusion-based elementary schools is influenced by IT-based training. The findings also demonstrate that the various IT tools used in inclusive schools and the integration of these tools into the curricula had a favorable impact on the efficient management of teachers' professional development. It is clear that information technology has had an impact on modifications to educational practices, objectives, and standards. Change processes are clearly underway, despite the fact that different academics may have different opinions on the extent, appropriateness, and future of these changes (Almotairi, 2013; Neofotistos & Karavakou, 2018). However, the changeover process is far from complete. According to some academics, educational institutions run serious risks if they don't integrate IT into every facet of their operations (Ghavifekr et al., 2014; Nikolaou, 2018). Information technology has been seen as a force for both good and evil. Modern information technology has, by its very nature, been a driver for change in educational institutions, even if it hasn't always been simple to adopt (Ahmad, 2015; Ghavifekr et al., 2014; Papapolychroniadis et al., 2017). In order to enhance education and meet human resource objectives, educators, educational institutions, and technology developers employ technology. According to Aksal and Gazi (2015), the computer is seen as a tool for delivering important components of educational activities rather than for spreading information or developing creative ways to engage and motivate students. Thus, the objectives of education are not

reconsidered. Nonetheless, the notion of dispersed intelligence amply illustrates how using outside resources can modify the functional structures that give rise to action. Information technology has made significant strides, and as a consequence, education today includes the creation, preservation, integration, dissemination, and application of knowledge (Boutskou, 2014; Cullen et al., 2020; Kleopatra & Dimitrios, 2014). In order to effectively handle the many issues influencing learning in inclusion-based primary schools, educators in the field of inclusive education may benefit immensely from having access to knowledge. Research has shown that integrating students with disabilities into classroom environments enhances the effectiveness of instructional strategies and leads to improved learning outcomes for these children (Eddahby et al., 2021). It has been shown that regular inclusive schools are the most effective in eliminating discrimination, fostering an inclusive society, and guaranteeing that every person has access to education (UNESCO, 2014).

The struggle between countries and corporations is increasingly shown in the competitiveness of talents and educational systems. Because talent levels and personal qualities are directly correlated with the quality of teaching in higher education institutions, the administration of college professors who train senior talents has drawn more attention from society (Bartlett & Bartlett, 2013; Nikolaou, 2021). But the antiquated management approach is starting to cause problems. For example, the management strategy is relatively rigid and closed; the management of teachers does not effectively integrate operating mechanisms such as competition, incentive, interest, responsibility, and flow; the overall quality of teachers needs to be further improved; and the resources for the teaching profession have not been developed and allocated efficiently (Eddahby et al., 2021; Neofotistos & Karavakou, 2018). The majority of a college's human resources are professors, who also serve as the main force behind production. The amount, quality, and organizational structure of teachers' resources influence not only the degree of economic and social development in the country, but also the availability of human resources. Thus, the operational effectiveness and academic quality of higher education institutions are impacted. Human resource management at higher education institutions should maximize the passion and creativity of each faculty member so they can contribute more to the university (Al Qalhatiet al., 2020; Mezzanotte, 2022).

The study's findings indicate that most educators are more likely to use ICT tools and resources for teaching purposes, including the internet, multimedia PCs, projector systems, PowerPoint presentations, and word processing software (Abbasi et al., 2015). When it comes to teaching and learning, or even just getting ready for school, learning software—such as educational games or other innovative ICT applications—is usually created in small batches (Ali Quosar & Rahman, 2021; Neofotistos & Karavakou, 2018; Wayne et al., 2022). These findings are consistent with the innovation diffusion theory proposed by Rogers (1995), which states that teachers are used to adopting ICT elements relevant to the curriculum or learning objectives provided by the Greek Ministry of Education. The Greek curriculum does not require instructors to create educational websites, even if they are highly skilled in computer operations and possess above-average ICT knowledge and abilities. Rather, teachers are free to purchase any necessary equipment and materials on their own. Nonetheless, a key element in the pupils' success is their lecturers. How teachers incorporate ICT into their lesson plans will be influenced by their ideas (Abedin et al., 2021; Neofotistos & Karavakou, 2018; Nikolaou, 2021). The results of the research show that having ICT skills and knowledge will encourage teachers to use technology in the teaching and learning processes, which will enhance student learning outcomes. The attitudes of the instructors play a critical role in the integration of ICT in education in addition to their ICT experience and knowledge. Several studies have shown that teachers' opinions about technology will influence how it is used in the classroom. The need to integrate ICT into basic and secondary school curriculum has been acknowledged by Greece's Ministry of Education (Anagnostou, 2015; Boutskou, 2014). Jonathan (2016) asserted that a teacher's perspectives and methods of instruction will be influenced by their attitudes and competencies. The ICT component has been incorporated as one of the revolutionary changes in Greece's education sector so that attention can be directed toward the future expansion of the country's educational system. The study demonstrates a substantial positive link between the HR development of educators and IT-based training, suggesting that IT training

plays a key role in improving educators' abilities and competences. This is consistent with research by Tzafilkou et al. (2023), which highlighted the significance of instructors' digital competency for efficient instruction. According to Kaimara (2023), training in IT tools not only provides educators with the technical skills they need, but it also improves their capacity to provide inclusive education. The findings demonstrate how HR development is improved by using IT in the curriculum. This shows that greater management and professional skill development result from educators working with a curriculum that integrates IT resources. This is consistent with Mantzikos and Lappa (2023), who analyzed the benefits of inclusive education in Greece, where IT integration is essential. The successful HR development of educators is positively correlated with inclusive schools' usage of IT technologies, according to the research. This suggests that the use of a variety of technologies, such as talking calculators and audio-visual aids, not only support inclusive teaching practices but also advance educators' professional growth. This finding supports those of Aivazidi and Michalakelis (2023) regarding how Greek instructors see ICT, emphasizing the revolutionary power of technology in the classroom. The study's findings are in line with more general patterns shown in the literature, which hold that integrating IT into education—especially in inclusive settings—can improve teaching quality and foster the professional growth of educators. This is corroborated by the idea that when educators adjust to new techniques and resources in their teaching practice, technology serves as both a teaching instrument and a vehicle for their professional development.

## 6. CONCLUSION

This study confirms that information technology plays a key role in managing the human resource development of educators in inclusion-based primary schools in Greece. The results also show that the integration of IT tools in the inclusive curriculum and the different IT tools used in inclusive schools positively influence the effective management of the human resource development of educators. The study shows that there are several changes that information technology has made to human resource management, teaching, and learning, as well as how it has enabled the development of educators in inclusive classrooms. Since the paper's scope was wide and its depth was confined, not all possible effects of IT on the labor market and employee management were explored. IT innovations provide a number of competitive advantages over the conventional means of information sharing. Together, technology and education have long been regarded as the main forces behind human advancement. Education feeds technology, which, in turn, acts as its basis. It follows that it has affected how education is practiced, aimed for, and seen to be possible. The future of education will depend far more on how we design the role of technology than on modern information technology. It was found that instructors still need support in order to use technology effectively for the benefit of their pupils. Today, IT can be leveraged to improve traditional exam formats and evaluation processes. Computer technology helps individuals broaden their viewpoints and provides access to educational opportunities. The internet is a valuable source of information for students and workers in organizations today. Among other things, it offers access to electronic books, databases, libraries, and catalogs. In order to considerably extend the possibilities for current education, the internet should be included in administrative settings as well as classrooms. This will also enable the use of online databases and resources by human resources. New methods of human resource management for contemporary university professors should be established, and relevant staff should push human resource management to the fore of school development strategies. They should also construct a harmonic system for finding, choosing, nurturing, and utilizing talents.

### 6.1. Study Implications

#### 6.1.1. Practical Implications

The necessity for ongoing professional development programs that concentrate on IT skills for educators is shown by the favorable link that has been found between HR development and IT-based training. To keep instructors abreast of the most recent technological breakthroughs, schools and educational authorities should prioritize and

organize regular training sessions. The findings indicate that the HR development of educators can be greatly improved by incorporating IT resources into the curriculum. Therefore, it is imperative that curriculum designers incorporate IT components into lesson plans and instructional materials to guarantee that technology use plays a key role in the learning process. Schools should be encouraged to implement a variety of technology tools due to the positive impact that these technologies have on HR management. This includes specialized technologies, such as talking calculators and smart video cameras, which can help deliver inclusive education in addition to more conventional resources, such as computers and projectors.

### 6.1.2. Theoretical Implications

The results of the study add to the TPACK paradigm by demonstrating how pedagogical and subject knowledge coupled with technology expertise can improve teachers' efficacy in inclusive environments. This lends credence to the notion that a synergistic fusion of various types of knowledge is necessary for successful teaching.

The beneficial effects of IT-based training on teachers point to a connection with adult learning theories that stress the value of flexibility and lifelong learning. The results can be applied to improve these ideas, especially with regard to the incorporation of technology into adult education.

### 6.1.3. Academic Implications

This study creates the potential for further research into the use of IT in education, particularly with regard to inclusive education. Subsequent studies could concentrate on particular IT tool categories and how they directly affect different facets of inclusive education. Since the study is limited to Greece, comparable research in other educational and cultural contexts would be beneficial and make it easier to comprehend how broadly applicable the findings are or point out particular difficulties and possibilities in certain geographical areas.

Longitudinal research would help to understand the long-term effects of IT integration on HR development. These studies could monitor the development of teachers over time to observe how their methods of instruction and professional development are impacted by ongoing exposure to IT resources and training.

## 6.2. Recommendations

Governments should include ICT in their present and future education initiatives, as well as set aside particular funding for its implementation in order to enhance fair and effective access to ICT and improve ICT usage in support of inclusive education. Investment in inclusive education is essential as governments reevaluate their finances in the face of many uncertainties, such as COVID-19, to ensure that children with disabilities are no longer left behind, whether or not there is a health emergency. There is need for governments to give teachers, parents, caregivers, and students access to digital training, paying special attention to females, and children with disabilities. This training should include ICT usage, fundamental configurations, and maintenance management for instructors.

Governments should prioritize supplying schools with internet and power in infrastructure development projects.

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**Institutional Review Board Statement:** The Ethical Committee of the University of Western Macedonia, Kozani, Greece has granted approval for this study on 8 June 2023 (Ref. No. 247/2023).

**Transparency:** The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Competing Interests:** The authors declare that they have no competing interests.

**Authors' Contributions:** Conceptualization: S.K. and D.K.; methodology, formal analysis: S.K. and O.P.; software: K.N.K. and D.K.; validation, investigation: S.K., O.P., E.L. and F.C.; data curation: S.K., K.N.K. and O.P.; writing—original draft preparation: F.C., D.K. and O.P.; writing—review and editing: F.C., E.L. and K.N.K.; supervision: F.C., D.K. and E.L. All authors have read and agreed to the published version of the manuscript.

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