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Approaches to Interaction that Builds Bridges Between Fields of Knowledge /

Aproximaciones a la interacción que tiende puentes entre campos de conocimiento

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Aproximaciones a la interacción que tiende puentes entre campos de conocimiento

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Claves de la interacción que tiende puentes entre campos de conocimiento

Keys to Interaction that Builds Bridges Between Fields of Knowledge

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En un mundo cada vez más interconectado y multicultural, resulta de todo punto estratégica la investigación interdisciplinar tendente a innovar e implementar avances como herramienta indispensable para construir puentes entre culturas, derribar barreras comunicativas y fomentar la inclusión en todas las esferas de la sociedad. Este libro es un compendio de ideas, metodologías y análisis e investigaciones rigurosas que invita tanto a docentes como a investigadores a explorar nuevas perspectivas y enfoques en este fascinante campo. Se trata de una propuesta de hoja de ruta a través de los retos y las oportunidades que el Conocimiento surgido de la interactuación entre disciplinas y ciencias puede ofrecer en un mundo globalizado.

La obra parte de una premisa fundamental: la enseñanza de segundas lenguas no es solo una tarea académica, sino una actividad profundamente humana. Cada interacción en el aula, en el laboratori, en los centros de gestión de recursos de conocimiento y de su aplicación a la sociedad, y, en definitiva, cada esfuerzo por comunicar una idea es un acto de conexión, de construir significado y de tender la mano hacia lo desconocido. Los autores han dispuesto un mosaico rico y diverso que combina teoría, práctica y aplicaciones innovadoras, haciendo posible que este libro devenga en referencia para entender las complejidades de la innovación y su transferencia a la vida real en el siglo XXI.

Desde las primeras páginas, el lector se encontrará inmerso en un análisis detallado de las metodologías más relevantes en la enseñanza de segundas lenguas. En un equilibrio entre tradición e innovación, se abordan enfoques clásicos como el método gramática-traducción, junto con propuestas contemporáneas como el _Task-Based Language Teaching (TBLT)_ y la enseñanza comunicativa. Cada método es presentado con rigor, pero también con una sensibilidad práctica que lo conecta con las realidades del aula, ofreciendo herramientas que los docentes pueden adaptar según las necesidades de sus estudiantes.

Algunos de los pilares de este libro es la integración de la investigación en adquisición de segundas lenguas (_Second Language Acquisition_, SLA), el liderazgo educativo

y con aplicaciones fuera del aula, la gestión de las fortalezas y las debilidades de las administraciones, el reto de las nuevas tecnologías para una educación y una sociedad realmente inclusivas. Aun siendo importante la investigación en sí misma, así como los datos, rigurosamente analizados, uno de los valores añadidos del presente libro es que subraya la importancia de atender a la sociedad, de situar la investigación y sus objetivos en un contexto integral con el fin de resultar ciertamente útil a la necesidades cognitivas, sociales y emocionales.

En un gesto audaz hacia el futuro, los autores abordan el impacto de la inteligencia artificial (IA) en Educación y en la gestión de los procesos de administración con una excelente llamada de atención a la "humanización" en los valores que tan potente tecnología. La IA, presentada aquí como una aliada transformadora, tiene el potencial de personalizar la educación de formas antes inimaginables, adaptando contenidos, ritmos y enfoques a las características únicas de los diferentes objetos de estudio. En este sentido, el presente libro no solo abre una ventana a las posibilidades tecnológicas, sino que también plantea preguntas críticas sobre la ética y los límites de estas herramientas en el ámbito educativo y en la sociedad en general.

La inclusión y la diversidad ocupan un lugar central en este libro, reflejando una conciencia profunda de los desafíos actuales en la educación, en el comportamiento y en el devenir de la sociedad. En un mundo en el que las aulas (y la sociedad misma) son cada vez más heterogéneas, este libro ofrece reflexiones valiosas sobre cómo diseñar prácticas pedagógicas que respondan a las necesidades de estudiantes con discapacidades o que provienen de contextos socioculturales diversos. En particular, los estudios de caso sobre el sistema educativo griego, que atraviesa procesos de reforma significativos, aportan una perspectiva única sobre cómo las políticas educativas pueden moldear las prácticas docentes.

Uno de los grandes méritos de esta obra es su capacidad para conectar la teoría con la práctica. Cada capítulo está diseñado para ser accesible tanto para investigadores como para docentes en ejercicio, ofreciendo un equilibrio entre conceptos fundamentales y aplicaciones concretas. Además, este libro se enriquece con una sensibilidad cultural y un enfoque interdisciplinario que lo distinguen de otros textos similares. Los autores no solo se limitan a los aspectos lingüísticos, sino que incorporan elementos de la psicología, la sociología y la tecnología educativa, ofreciendo un marco amplio y multidimensional.

Como cualquier obra académica de envergadura, este libro también deja preguntas abiertas y retos por abordar. Si bien los capítulos dedicados al contexto griego son una aportación valiosa en sí mismos, el lector puede preguntarse cómo aplicar estos conocimientos en otros contextos educativos, y puede encontrar en estos capítulos modelos de aplicación y reportes de resultados. Asimismo, la integración de tecnologías emergentes como la IA plantea debates éticos que merecen un análisis más profundo. Ello, lejos de disminuir el valor de la obra, bien al contrario, invitan a la comunidad académica a continuar explorando y ampliando el diálogo.

En resumen, el presente libro es una invitación a repensar cómo enseñamos y aprendemos, como gestionamos liderazgos, cómo y qué hacemos para una inclusión más efectiva, como, en suma, mejorar la sociedad. A través de sus páginas, los autores nos recuerdan que la investigación rigurosa, serena, profunda, sea cuantitativa o se cualitativa es, en el fondo, tender puentes entre personas, culturas e ideas. Este libro, con su riqueza conceptual y su enfoque práctico, será sin duda una fuente de inspiración para todos aquellos comprometidos con la mejora de la investigación en Ciencias Sociales, Humanidades y TIC en un contexto global. Deseamos que su lectura nos motive a seguir innovando, experimentando y, sobre todo, enseñando con pasión y propósito.

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In an increasingly interconnected and multicultural world, interdisciplinary research aimed at innovating and implementing advancements has become a strategic tool for building bridges between cultures, breaking down communication barriers, and fostering inclusion in all spheres of society. This book is a compendium of ideas, methodologies, rigorous analyses, and research that invites educators and researchers alike to explore new perspectives and approaches in this fascinating field. It offers a roadmap through the challenges and opportunities that knowledge emerging from the interaction between disciplines and sciences can provide in a globalized world.

The work is based on a fundamental premise: teaching second languages is not merely an academic task but a deeply human activity. Every interaction in the classroom, the laboratory, knowledge resource management centers, and their application in society–and ultimately, every effort to communicate an idea–is an act of connection, of constructing meaning, and of reaching out to the unknown. The authors have created a rich and diverse mosaic combining theory, practice, and innovative applications, making this book a reference for understanding the complexities of innovation and its real-life transfer in the 21st century.

From the very first pages, readers will find themselves immersed in a detailed analysis of the most relevant methodologies in second language teaching. Balancing tradition and innovation, the book addresses classical approaches such as the Grammar-Translation Method alongside contemporary proposals like Task-Based Language Teaching (TBLT) and communicative teaching. Each method is presented with rigor but also with a practical sensitivity that connects it to classroom realities, providing tools that educators can adapt to meet their students' needs.

One of the cornerstones of this book is the integration of research in Second Language Acquisition (SLA), educational leadership with applications beyond the classroom, managing the strengths and weaknesses of administrations, and the challenge posed by new technologies for genuinely inclusive education and society. While research and rigorously analyzed data are important in themselves, one of the added values of this book is its em-

phasis on addressing societal needs. It situates research and its objectives within a comprehensive context to be genuinely useful for cognitive, social, and emotional needs.

In a bold look toward the future, the authors address the impact of Artificial Intelligence (AI) in education and in managing administrative processes with an excellent call for the "humanization" of the values behind such powerful technology. AI, presented here as a transformative ally, has the potential to personalize education in unimaginable ways, adapting content, pace, and approaches to the unique characteristics of various fields of study. In this regard, the book not only opens a window to technological possibilities but also raises critical questions about the ethics and limits of these tools in education and society at large.

Inclusion and diversity are central themes in this book, reflecting a deep awareness of the current challenges in education, behavior, and the evolution of society. In a world where classrooms (and society itself) are increasingly heterogeneous, this book offers valuable reflections on designing pedagogical practices that meet the needs of students with disabilities or those from diverse sociocultural contexts. Particularly, case studies on the Greek educational system–currently undergoing significant reforms–provide a unique perspective on how educational policies can shape teaching practices.

One of the great merits of this work is its ability to connect theory with practice. Each chapter is designed to be accessible to both researchers and practicing educators, offering a balance between foundational concepts and concrete applications. Furthermore, this book is enriched with cultural sensitivity and an interdisciplinary approach that distinguishes it from similar texts. The authors go beyond linguistic aspects, incorporating elements of psychology, sociology, and educational technology to provide a broad, multidimensional framework.

Like any substantial academic work, this book also leaves open questions and challenges to address. While the chapters dedicated to the Greek context are valuable contributions in themselves, readers may wonder how to apply these insights to other educational contexts, finding in these chapters models for application and reporting results. Similarly, the integration of emerging technologies such as AI raises ethical debates that warrant deeper analysis. Far from diminishing the value of this work, these elements invite the academic community to continue exploring and expanding the dialogue.

In summary, this book is an invitation to rethink how we teach and learn, how we manage leadership, how and what we do for more effective inclusion, and ultimately, how to improve society. Through its pages, the authors remind us that rigorous, thoughtful, and profound research–whether quantitative or qualitative–is, at its core, about building bridges between people, cultures, and ideas. With its conceptual richness and practical focus, this book will undoubtedly serve as a source of inspiration for all those committed to advancing research in Social Sciences, Humanities, and ICT in a global context. We hope its reading motivates us to continue innovating, experimenting, and, above all, teaching with passion and purpose.

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1. Clarification of the Second Language Teaching with the Second Language Acquisition: Approaches and Implementations

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ABSTRACT

In the context of globalization and migration, Europe has undergone significant socio-cultural transformations, transitioning from a continent historically associated with emigration to one increasingly characterized by immigration. This demographic shift has brought about profound changes, particularly in terms of communication and linguistic diversity. As the movement of people across borders intensifies, language has emerged as one of the most critical and immediate tools for integration and social cohesion. Recognizing the pivotal role of language in fostering communication and understanding, linguists and educators have developed a wide range of methods, principles, and pedagogical approaches to facilitate effective language instruction. These efforts aim to equip both immigrants and local populations with the linguistic skills necessary for navigating an increasingly multicultural and multilingual society.

In this evolving context, scholars have made a clear distinction between the processes of language teaching and language acquisition, each of which plays a unique role in shaping the overall language learning experience. Language teaching typically refers to the formal and structured methods employed in classrooms, while language acquisition emphasizes the natural and often subconscious process through which learners internalize a new language, particularly through exposure and practice in real-world environments. The interplay between these two aspects has long been a focal point of research, as scholars strive to deepen their understanding of how individuals acquire and master new languages.

In parallel, the field of Second Language Acquisition (SLA) has made significant contributions to the understanding of how languages are learned, both within and outside of formal classroom settings. Research in SLA has illuminated the cognitive, psychological, and social factors that influence language learning, providing invaluable insights for educators. For instance, studies on the role of motivation, age, cultural context, and exposure to authentic language use have shaped how educators design curricula and implement teaching practices. Moreover, SLA research continues to refine our understanding of the stage's learners go through as they acquire a new language, from initial exposure to ultimate proficiency, and how these stages can be supported through targeted interventions.

The synergy between SLT and SLA has resulted in the development of a diverse array of instructional theories, methods, techniques, and practices, all aimed at streamlining the language learning process. These include communicative language teaching, task-based learning, and immersive language environments, each of which fosters greater engagement and practical language use. By integrating these approaches, educators can offer students a more dynamic and interactive learning experience, one that not only focuses on linguistic competence but also emphasizes the cultural and communicative aspects of language use.

In conclusion, the continuous dialogue between the disciplines of SLT and SLA enriches the field of education with new findings and innovations, guiding the development of more effective teaching strategies. As Europe and other regions of the world become increasingly multicultural and interconnected, the need for refined language teaching methodologies has never been more urgent. The research in these fields is crucial for advancing the understanding of language learning complexities and for equipping both teachers and learners with the tools to succeed in a globalized society.

KEYWORDS: second language teaching (SLT), second language acquisition (SLA), teaching methods

1. INTRODUCTION

Europe adjusted to new challenges posed by globalization and migration, recognizing communication as an essential and immediate aspect of everyday life, scholars in linguistics have outlined a variety of methods, principles, and approaches aimed at enhancing language instruction effectiveness. The European Council has implemented frameworks such as the Common European Framework of Reference for Languages (CEFR), providing a plethora of instructional resources tailored to specific target groups and objectives (Council of Europe, 2011).

Research in language learning has highlighted an important distinction between language teaching and language acquisition. It is now clear that to speed up the language learning process, teachers need to adopt more effective approaches in the classroom. They are the ones who are responsible for the content and methodology of the courses. The choice of methods depends on linguistic approaches, especially analytical and synthetic methods. Each approach to language teaching emphasizes the central role of students in the learning process (Dryden-Peterson, 2015). Each of these perspectives represents pedagogical devices that influence student behavior in the classroom and enhance the learning process (Rodgers,2009).

The first section defines what constitutes a second language learner. The second section addresses the use of the second language in the learning process. The third section

outlines various practices for teaching a second language. The fourth section presents the principles that numerous researchers have identified as essential for second language acquisition. The final section offers concluding thoughts on the learning process involved in teaching and acquiring a second language.

2. SECOND LANGUAGE LEARNERS

Language use reflects the ways in which speakers think, believe, and interpret existing ideologies (McGroarty, 2010). People learn a second language, different from their mother tongue, for various reasons such as educational purposes, skill acquisition, or survival. This may be by choice or necessity. A second language learner is an individual in the process of learning a language that is not their native language (Harmer, 2009). This learning process can occur in diverse contexts and is influenced by numerous factors. Specifically, factors such as age, motivation, learning environment, language proficiency, cultural and linguistic background, as well as various cognitive and social aspects, play a crucial role in defining second language learners.

In addition, a learner's native language and cultural background significantly influence their approach to learning a second language. This includes transfer effects from the first language and the ability to grasp cultural nuances embedded in the second language (Lightbown & Spada, 2013). Lastly, cognitive abilities, such as memory and problem- solving skills, and social factors, such as interaction with native speakers and access to learning resources, play crucial roles in the acquisition process. Social interaction, in particular, is essential for practical language use and comprehension (Gass & Selinker, 2008).

3. SECOND LANGUAGE USE (L2)

Language serves as a medium through which individuals convey their thoughts, emotions, and perceptions of both their external and internal surroundings. A secondlanguage is one that learners are taught to speak, write, and utilize, distinct from their mother tongue. It is inevitable that language use is shaped by existing ideologies, power dynamics, and the sociopolitical landscape. Sociopolitical policies and ideologies are embedded in every use of language, with dominant ideologies generally prevailing (McGroarty, 2010). The variations between ideologies and language choices stem from the recognition of the power languages have in disseminating ideologies (Cummins, 2001). Official investigations highlight the sociopolitical consequences of current educational policies in diverse nations, depicting the array of instructional practices, learning materials, and methodological techniques employed (UNHCR, 2019). Furthermore, research showcases the advantages of integrating students' primary language (L1) into their education. Comparative studies on language proficiency between student groups, those

whose L1 was incorporated into their curriculum and those whose L1 was excluded, indicated that the group instructed in their native language achieved higher fluency (Bergmann, Sprenger, & Schmid, 2015). Additionally, teacher scaffolding, which capitalizes on students' existing knowledge, has been demonstrated to improve student performance (Cummins, 2001).

4. SECOND LANGUAGE TEACHING (SLT)

García (2016) underscores that individuals use languages dynamically, engaging in "languaging" to navigate situations, emphasizing the necessity and significance of community. Methodology encompasses the various strategies educators use to enhance the learning process (Rodgers, 2009). Numerous pedagogical methods have developed within second language instruction, depending on whether the instructor aims for an inclusive or exclusive session. Different language learning goals require distinct techniques. For example, when the aim is the swift mastery of reading, writing, speaking, listening, and comprehension skills to achieve high proficiency, the direct method provides specific activities targeting these intensive skills. On the other hand, for languages where proficiency involves understanding literature, answering questions, and expressing thoughts and emotions through translation, the grammar- translation method, which focuses on grammatical structure and translation, is often utilized (Rodgers, 2009).The approaches being discussed for teaching second languages include Task-Based Language Teaching (TBLT), Communicative language teaching, Content-Based Instruction, Corrective Feedback (CF), Complex Dynamic Systems Theory (CDST), Just-in-Time Teaching (JiTT), Presentation, Practice, and Production (PPP), Suggestopedia, the Silent Way, and Eclectic Approaches to Grammar Teaching. It's crucial to emphasize that beneath the surface of language techniques, methods, and procedures lies a foundation of theories, beliefs, and overarching principles that define second language teaching (Rodgers, 2009).

4.1. Task-based language teaching (TBLT)

Task-based language teaching, hinges on language acquisition through a variety of purposeful tasks and explorative activities meticulously designed to engage learners. This approach emphasizes the utilization of meaningful tasks that mirror real-life situations to enhance language learning. Furthermore, its design prioritizes the needs of students over predefined objectives outlined in curricula. Instead of solely focusing on grammatical forms, TBLT emphasizes the application of acquired knowledge in learners' everyday lives, fostering collaborative expansion of linguistic norms through expression of feelings and thoughts. Unlike traditional language teaching methods that inundate learners with vast amounts of input they may struggle to absorb, TBLT allows learners more time to process new information through a variety of tasks.

4.2. Communicative language teaching (CLT)

Communicative Language Teaching places significant emphasis on the meaningful application of language, coupled with interactive communication between the teacher and the learner. This approach views language not just as a set of rules or structures to be memorized, but as a tool for real-world communication and interaction (Richards & Rodgers, 2001). In a communicative language classroom, students engage in activities that require them to use the language creatively to express their ideas, opinions, and emotions, fostering a communicative competence that goes beyond mere grammatical accuracy. This approach encourages students to actively participate in authentic communication tasks, such as role-plays, discussions, and problem-solving activities, where they can apply their language skills in meaningful contexts (Richards & Rodgers, 2001). The role of the teacher in communicative language teaching is that of a facilitator or guide, who provides opportunities for meaningful communication, scaffolds learningwhen necessary, and offers feedback to help students improve their communicative abilities.

4.3. Content-based instruction (CBI)

Content-based instruction emphasizes the integration of language teaching with subject matter content, embodying a curriculum-centered approach and advocating for interdisciplinary learning within foreign language classes (Richards & Rodgers, 2001). This method highlights the use of authentic content from various academic disciplines to teach language skills, fostering language development alongside content knowledge acquisition. In a content-based classroom, language is not taught in isolation but rather as a means to access and comprehend subject-specific material. Students engage in activities and projects that require them to interact with content in the target language, promoting both linguistic and academic proficiency. By immersing learners in meaningful, content-rich contexts, CBI aims to enhance language learning outcomes while simultaneously deepening students' understanding of academic subjects (Richards & Rodgers, 2001).

4.4. Corrective Feedback (CF)

Corrective Feedback (CF) plays a crucial role in second language (L2) learning, aiding learners in recognizing and rectifying their errors. Studies comparing face-to-face and technology-mediated learning environments have revealed that both modes are effective, albeit with distinct advantages depending on the learning context and the individual needs of learners. In face-to-face interactions, immediate feedback from instructors allows for real-time correction and clarification, fostering a supportive learning environment conducive to error correction (Li, 2010). Conversely, technology- mediated feedback offers opportunities for self-directed learning and asynchronous communication, enabling learners to revisit and reflect on their mistakes at their own pace.

4.5. Complex Dynamic Systems Theory (CDST)

This theoretical framework perceives language learning as a dynamic and adaptive process shaped by a multitude of interconnected factors. Researchers applying the Complex Dynamic Systems Theory (CDST) have employed sophisticated data analysis methodologies to examine how language acquisition evolves across various temporal and contextual dimensions (Pfenninger & Wirtz, 2024). By scrutinizing the intricateinterplay between individual, social, cognitive, and environmental variables, CDST offers insights into the non-linear and emergent nature of language development. Studies within this framework illuminate the dynamic trajectories of language learning, shedding light on the complex interactions that contribute to proficiency gains and fluctuations over time. Furthermore, CDST provides a theoretical lens through which researchers can explore the impact of factors such as motivation, social interaction, input variability, and instructional interventions on language learning outcomes.

4.6. Just-in-time teaching (JiTT)

Just-in-Time Teaching (JiTT) incorporates technology to provide content and feedback at the exact moment students require it, thereby enhancing the engagement and relevance of grammar instruction. This approach has demonstrated potential in transforming traditionally dry grammar lessons into interactive and efficacious learning experiences (Gesa, Frigolé, & Suárez, 2024). By leveraging technology, JiTT facilitates personalized learning experiences where students receive timely assistance and guidance tailored to their individual needs. Through online platforms, students can access instructional materials, practice exercises, and feedback mechanisms that address their specific grammatical challenges in real-time. Furthermore, JiTT encourages active participation and self-directed learning by empowering students to take ownership of their learning process and seek assistance as needed (Gesa, Frigolé, & Suárez, 2024). By integrating technology seamlessly into grammar instruction, JiTT offers a dynamic and engaging approach that fosters deeper understanding and retention of grammatical concepts.

4.7. Presentation, Practice, and Production (PPP), Suggestopedia & Silent Way

The Presentation, Practice, and Production (PPP) method, while less commonly utilized, remains a viable approach in second language teaching (Richards & Rodgers, 2001). This method typically involves three stages: the presentation of new language material, guided practice activities to reinforce understanding, and independent production tasks where learners apply the language in authentic contexts (Richards & Rodgers, 2001). Additionally, alternative methods such as Suggestopedia, which emphasizes the use of artistic techniques to facilitate language acquisition and the Silent Way, where learners take on an active role in the learning process with minimalteacher intervention offer unique pedagogical approaches that depart from traditional teacher-centered instruction.

4.8. Eclectic approaches to grammar teaching

Combining elements from various teaching methods can effectively address the shortcomings of traditional grammar instruction. For instance, an eclectic approach to teaching Portuguese as a foreign language has been suggested to enhance grammatical competence by integrating diverse instructional strategies (Geraldes Xavier, 2024). By drawing on the strengths of different methodologies, such as communicative language teaching for promoting real-life language use, task-based language teaching for fostering meaningful language tasks, and explicit grammar instruction for providing structured language practice, this eclectic approach aims to provide learners with a comprehensive and tailored language learning experience.

5. SECOND LANGUAGE ACQUISITION (SLA)

The ability of each learner to acquire a second language is significantly shaped by the methodologies employed by educators in teaching not only the second language but also subsequent languages that individuals use. Effective second language (L2) teaching should prioritize the generation of meaningful content through both oral and written expression in the used languages. This meaningful output not only holds relevance but also serves the purpose of conveying a message. Engaging learners in speaking and writing activities within contexts that hold personal significance inherently sparks motivation.

Researchers have presented and identified various principles to categorize the process of mastering the learning journey of L2. These principles include Focus on Meaningful Input, Focus on Meaningful Output, Focus on Fluency, Focus on Form, and Focus on Affective Needs (Kinkade, 2022). Each of these principles underscores different aspects of language acquisition and learning, offering valuable insights into the multifaceted nature of L2 learning processes.

Another area of study that merits attention is research exploring the various approaches, methods, and techniques employed in second language acquisition. This encompasses a wide range of topics, including but not limited to the Meta-analysis of Second Language Research with Complex Research Designs, the Factors Influencing Second-Language Learning, the Text Reading in English as a Second Language, the Research Methods in Generative Second Language Acquisition, the Second Language Speech Processing, the Social Network Analysis in Second Language, the Usage in Second Language Acquisition, the Minority Language as a Second Language.

5.1. Focus on meaningful input, focus on meaningful output, focus on fluency, focus on form and focus on affective needs

Researchers have identified several key principles that educators should integrate into the learning process to facilitate second language acquisition. These principles aim to empower learners to effectively acquire and use a second language. Firstly, the principle

of Focus on Meaningful Input emphasizes the importance of learners understanding the meaning of language and engaging in simple conversations (Kinkade, 2022). Secondly, the principle of Focus on Meaningful Output highlights the need for learners to express themselves in their own words during tasks (Kinkade, 2022). Additionally, the principle of Focus on Fluency focuses on developing learners' ability to write, think, and speak fluently by summarizing texts (Kinkade, 2022).Finally, the principle of Focus on Affective Needs underscores the importance of educators addressing the psychosocial needs of learners, fostering self-confidence, and minimizing language-related anxiety (Kinkade, 2022). These principles collectively contribute to creating an effective and supportive learning environment conducive to second language acquisition.

5.2. Meta-analysis of second language research with complex research designs

This study highlights the challenges and methodologies in conducting meta-analyses in SLA, emphasizing the importance of complex research designs to understand diverse learner outcomes and instructional approaches (Norouzian & Bui, 2024). Meta-analysis of Second Language Research with Complex Research Designs, which synthesizes findings from multiple studies to derive overarching conclusions and insights on effective language learning strategies.

5.3. Factors influencing second language learning

This review discusses the research of Lightbown and Spada, exploring how individual differences such as intelligence, motivation, and personality impact SLA. It provides insights into how these factors can influence the effectiveness of language learning interventions (Qiao, 2024). Studies examining Factors Influencing Second Language-Learning, analyzing internal and external factors such as motivation, age, aptitude, and socio-cultural context that impact individuals' acquisition of a second language

5.4. Text reading in English as a second language

This study, awarded the Albert Valdman award, uses eye-tracking data from multilingual learners to compare reading comprehension and fluency between native and second language readers. It underscores the distinct skills required for reading comprehension and fluency in an L2 context (Kuperman, et al, 2023).Text Reading in English as a Second Language, which focuses on strategies and practices for enhancing reading comprehension and literacy skills among learners acquiring English as a second language.

5.5. Research methods in generative second language acquisition

This upcoming book offers a comprehensive overview of research methods in the generative SLA framework, detailing the theoretical foundations and practical guidance for empirical research (Slabakova, Leal, & Domínguez, 2024). Explorations into Research

Methods in Generative Second Language Acquisition, which employ methodological approaches and tools to investigate language acquisition processes from a generative linguistics perspective.

5.6. Second language speech processing: a guide to conducting experimental research

This book provides a detailed roadmap for experimental research in second language speech processing, focusing on the design and execution of psycholinguistic studies (Darcy, 2024). Investigations into Second Language Speech Processing, studying how individuals perceive, process, and produce speech sounds and patterns in a second language, including phonological, morphological, and syntactic aspects.

5.7. Social network analysis in second language research

This text explores the use of social network analysis to study language learner behavior and identity, offering methodological guidance for incorporating network data in SLA research (Terry & Bayley, 2024). Studies utilizing Social Network Analysis in Second Language, which examine the influence of social interactions and relationships on language learning and use within communities of practice.

5.8. Usage in second language acquisition: critical reflections and future directions

This collection reviews various perspectives on the role of usage in SLA, examining different methodological approaches and suggesting future research directions (McManus, 2024). Analysis of Usage in Second Language Acquisition, exploring patterns of language use and communication strategies employed by second language learners in various contexts to achieve communicative competence.

5.9. The minority language as a second language: challenges and achievements

This collection provides global perspectives on learning minority languages as second languages, highlighting unique challenges and achievements in diverse contexts. Research on Minority Language as a Second Language, which examines the acquisition, maintenance, and revitalization of minority languages as second languages among diverse linguistic communities.

6. CONCLUSION

The field of second language teaching (SLT) and second language acquisition (SLA) continues to enrich education through a diverse array of conclusions, projects, principles, theories, methods, techniques, and practices, all aimed at facilitating the learning process for both educators and learners. Each research area contributes to a deeper un-

derstanding of the complexities involved in SLA and SLT, thereby informing the development of effective teaching practices and interventions.

Over the centuries, linguistics has proposed numerous theories about language structure, teaching, and acquisition. Sociolinguistics, a scientific discipline, explore the interaction between language and society. The focus of this paper is on the practices, theories, and principles employed in SLA and SLT, which enable all participants in the learning process to be actively involved. It is efficient when each educational context considers the number of learners individually and collectively to achieve higher engagement and a differentiated approach, ensuring that each learner can acquire the second language in a manner best suited to their needs.

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2. Conducting a Psychometric Assessment for the Diagnosis and Evaluation of Autism Spectrum Disorder in School-Aged Children

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ABSTRACT

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder known by impaired brain development. The change from "autism" to autism spectrum disorder (ASD) was made in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), which refers to a wide range of symptoms associated with problematic behavior. Diagnosis, as a rule, is possible from the age of three years; these main features consist in social communication and repetitive behavior skills deficit ASD has no medical cure, but early diagnosis and targeted adaptations can greatly help people with this condition to live a better life.

The term "autism" has been used since as early as 1912, when it was first introduced by psychiatrist Eugen Bleuler. Throughout the 1940s, more details were added to the portrayal of ASD thanks greatly in part to Leo Kanner and Hans Asperger when they separately outlined a comprehensive view on what was now known as their disorders. Children with ASD do not speak, undergo a continuous process of assessment using psychometric tools meant to obtain information on the emotional, cognitive and psychological aspects as well as social skills. Nevertheless, keep in mind that these tools are designed for clinical assessment rather than formal diagnosis. ·

KEYWORDS: Autism Spectrum Disorder, neurodevelopmental

1. INTRODUCTION

Cognitive function in autism is characterized by considerable variability, with 30% of children scoring within the average range and remaining developing cognitive abilities (1), while as many as 70–80 % show some form of intellectual difficulties. The talents of children and young people with ASD can often be channelled into memory, language and the arts. Deficits in communication, particularly demonstrated through abnormal verbal and nonverbal interactions such as echolalia, failure to comprehend spoken language or social situations are commonly found. Social activity is often impaired, and a lack of ability to have human connections; as well understanding social norms. Psychologically – Children with ASD may demonstrate behaviour problems such as aggression and not understanding feeling; emotions, for example laughing or crying excessively. One of

the characteristics also includes stereotyped behaviors, which are repetitive body movements and an intense interest in unusual or specific objects. These children can present clinically with decreased motor function, inflexibility and reduced muscle strength–preferring sedentary activities off minimal movements.

A psychometric tool is a test (or questionnaire) designed specifically by Alfred Binet in the 20th century, hence including rather about human characteristics. This trend of growing popularity has been supported because the tools are becoming more valid and reliable thanks to progress in their development, thus most recently also used widely at least within Greek community. Two types of tools are on the market: those designed to help screen for disease and those used in diagnostics. 1) Autism Behavior Checklist (ABC) – A 53-item questionnaire to evaluate the severity of Autism Spectrum Disorder, used primarily in schools. 2) Autism Diagnostic Observation Schedule (ADOS-2): A semi-structured observational assessment of behavior and interaction in individuals suspected of having autism. 3) Childhood Autism Rating Scale (CARS): A standardised means of assessing these behaviours that differentiates children with autism from those without the disorder and also reports on their level. 4) Modified Checklist for Autism in Toddlers (M-CHAT): This is a screening shield which has been administered to the children at 18months to three years of age. 5)Social Communication Questionnaire (SCQ): a parent interview based testing instrument that screens at-risk children as young as two years of age up to their fourth birthday.

These were decent psychometric instruments that are absolutely necessary when trying to make diagnoses based on behavior in children. Autism Spectrum Disorder is a complex neurological disorder that appears in the first 3 years of life and lasts throughout an individual´s life. A multidisciplinary approach is necessary to make an accurate diagnosis because it can be complicated and related with other diseases. Diagnosis also should not solely rest on the observation and reporting of others; it must be a comprehensive evaluation that uses standardized strategic tools, including testing to establish cognitive ability or functioning levels. While there has been much progress in ASD research recently, however, certain areas have yet to be fully explored. When assessed and treated correctly, it can improve the quality of life for people with ASD and their families.

The timely and appropriate intervention in children who have developmental disabilities from the time of birth through their early years is important to increase both planning for future development support, as well implementation strategies. This paper aims to first lay out a detailed definition of Autism Spectrum Disorder (ASD), and then it offers an historical review of the construction, tracing its early usage down through modern times. In addition, we will analyze the psychometric instruments for assessing ASD showing their importance to assist in an authentic and quick diagnose based on a generous readout evaluation. In a following post we will discuss some of the more com-

mon psychometric tools used in practice, and detail what dimensions they are suitable for. The paper then also ends noting some of the broader lessons from our research, as well as highlighting further necessary investigations.

2. WHAT IS AUTISM SPECTRUM DISORDER?

The term "spectrum" refers to the wide range of symptoms characteristics of pervasive developmental disorders that focus on problems affecting behavior, use language and communication skills. Autism spectrum disorders are complex developmental and brain-based disorders, which is no longer listed in the Diagnostic & Statistical Manual (DSM). Autism Spectrum Disorder was introduced in the DSM-5 as a single, inclusive diagnosis that replaced previous diagnoses of Autistic Disorder and Asperger Syndrome. Autism, originally an adjective and meaning "towards self" or withdrawal to one's own inner life (Frith 2009), is derived from the Greek word for Ego plus the suffix -ism. At present the term "spectrum" is used simply because it appears that the symptoms and clinical expression of autism can range greatly. The severity of the symptoms and types of deficits vary on a person to person basis.

It is possible today to diagnose the symptoms and make a diagnosis valid in itself or from birth (in Italy it was after three years). On the other, this means that starting from about three years of life it is possible to impersonate these deficits so as you get a diagnosis early and in time for suitable help was able ways popular child. As per the latest 5th version of DSM, these deficits can been categorized in to two main types. The first involves "social communication" – deficits in social interaction and communication skills. The second includes repetitive behaviors and stereotypical patterns of behavior (APA, 2013).

Please note – autism spectrum disorder is NOT a disease, and cannot be "treated" in the traditional sense. Instead, it tends to be an unbroken progression with no periods of remission (Amihăesei & Ştefanachi, 2013). Nonetheless, early diagnosis along with a team of professionals to strategize an appropriate intervention program can greatly assist the person's quality of life.

3. HISTORY OF THE DISORDER

The term of "autism" was first used in the 1912 by a Swiss psychiatrist, Eugen Bleuler to describe asocial children among other symptoms he noticed when looking at schizophrenia on children. These children displayed an absence of empathy, indifference to their milieu and isolationism as well as verbal communication impairments.

Beginning in the early 1940s, two scientists did influential work on autism. The series of 11 cases that first interested the American child psychiatrist, Leo Kanner and other

findings? According to Kanner, the features of these children were their inclination toward social isolation, desire/insistence for sameness and rigid behaviors; a tendency towards echolalia/preferred speech patterns. It wasn't until 1944 that Austrian pediatrician Hans Asperger employed the term "autism" to describe a group of children who demonstrated relatively strong verbal skills, yet also displayed noticeable weaknesses in social interaction. Asperger also mentioned some dysplasia of motor functions and narrow range of interests in these children, which sometimes occluded other abilities. Ironically, Asperger's work was published a year after Kanner but he had no prior knowledge of it.

General Specific Diagnostic recognition of autism was clearly established in the third edition of the DSM with greatly simplified diagnostic criteria compared to later publications; It was not until after Kanner and Asperger published their work in the 1940s that autism!was still considered under a similar perspective, despite its been included on the continuity of childhood schizophrenia. On the basis of this narrower construction, it is likely that much if not all children studied as suffering from childhood schizophrenia at the time would nowadays be placed in a different category and consequently diagnosed with autism (Hillman et al., 2007).

4. ASSESSMENT - PSYCHOMETRIC TOOLS

It is an iterative process to try to get a complete picture of the patient from just a single snapshot. This gives us insights in emotional, cognitive, psychological and social related features. There are multiple tools and scales to evaluate these areas but it should be considered that psychometrics instruments must not be used for diagnostic purposes. Instead, they are designed to align with clinical assessments of children that include all the various ways individual kids may present (Seretopoulos et al., 2020).

5. FEATURES TO BE REVIEWED

5.1. Cognitive-Intellectual Level

Already mentioned it, if so then you have read the problem associated with identifying in this model is very hard due to lack of language. Research suggests that 30% of people with autism possess intellectual capabilities falling within or even exceeding the normal spectrum. The remaining 70–80% experience some form of cognitive impairment, reflecting the heterogeneity of this disorder (Dossi & Mytilineli, 2017). Autism Spectrum Disorder (ASD) sufferers typically have a very advanced vocabulary and memory, for example. Easily able to make numbers, or remember numerical and factual details (Stasinos 2020). They may also very talented in the arts, such as painting and music (Dossi & Mytilineli, 2017).

5.2. Communication Development

One of the measurable areas of behavior is communication, which is further divided into verbal and nonverbal parts, whose development stages may vary by numerous factors, including the child's age, proficiency in the language, and cognitive level. Over time, this symptom has also been described in different manifestations – from the complete absence of speech to mild delays, echolalia, and other receptive-language deficits (APA,2013 Stasinos 2020). In some instances, language abilities are present per se; however, the ability to use language in social communication is heavily understated (Blume et al., 2021). However, similar symptoms can also be found in nonverbal communication that has the same manifestations during people's communication with one another. Studies of autistic children reveal that they often have difficulties in understanding spoken language and some its components. This often means they miss out on what is being asked from them due to loss of the topic's context (Nuske & Bavin, 2011). Furthermore, such individuals also have a trait of interpreting spoken language literally. As such, they fail to understand a humorous remark or irony as the linguistic subtlety seems to be an obstacle in effective communication (Sun et al.,2017). Some other studies also suggest that children with autism use fewer words and speak in less complex ways. Additionally, they make unclear deictic references and have a lack of narrative competence. Conversely, some data also proves that children with autism use the same number of words and mean sentence lengths as normal children do. As for literacy abilities, these seem to be linked with the disorder size. While children with high-functioning ASD can usually decode and recognize word, they have greater difficulty understanding what the words mean (Huemer & Mann 2010). Westerveld & Bysterveldt (2017) showed that these children are detail sensitive, as a result of which they look at the trees and not to see through them. This can lead to communication difficulties or social participation problems.

5.3. Social Interaction

It is necessary to be evaluated in a social development. People with autism also have trouble sharing objects or events, i.e. showing an interested human being toys and dolls etc., so that he shares the enjoyment of them; or giving him information on interesting subjects (if only as a means to instigate social talk) without attempting any kind of cooperation in play situations. The latter trait is called "joint attention," a basic ability that children without autism learn in the first few months of life. Children with ASD frequently have serious delays in joint object attention (and this can be measured, for example, by the Communication and Symbolic Behavior Scales Developmental Profile [CSBS-DP]) scoring below a 3% or less on a typical standardized test of pediatric development (Blume et al., 2021). This deficit is often combined with a complete disinterest in looking other people and making social eye contact, showing that the child may

demonstrate deaf or otherwise impaired by their inability to seemly register anything else around them (Stasinos. Studies show that children with autism feel little interest in their peers, and cannot establish the type of relationships between people as friendship. Hence, they are not likely to engage in social interactions (Shulman et al. Compounding this, they typically have difficulty behaving in a way that is expected of them for different social circumstances e.g. displaying inaccurate facial expressions (Stichter et al., 2021).So this research ultimately shows that social development is such an essential part of b eing a human and when you have these deficits like we see in children with autism, it completely disrupts the quality [of life] they live every night (Hess et al., 2021).

5.4. Emotional Interaction

Psychometrics also allows for the assessment of emotional development. According to Neuhaus et al. According to Nowell et al. (2019), children with autism have behavioral challenges that may involve physical or verbal aggression, destruction of objects, or attempts to harm others are an expression of frustration because their needs and wants have not been met. On the other hand, these behaviors can be rooted from certain scenes that result in emotional confusion – causes of immediate frustration accompanied by strike out illnesses like hitting, sudden movements and yelling. Triggers of such reactions might be: a) changes or interruptions in their routines, b) demands to communicate and c) separation from special items.

There is a deficiency of facial expression, trouble to show that they are happy even if asked(expressed joy) and also difficulty in recognizing or reacting on the joy /affection of another individual(Dossi & Mytilineli, 2017). People with Autism do not feel empathy – they are unable to identify the emotions of others, and never show signs of sympathy. These behaviors create bricks in the wall that protect them from developing significant relationships with others (Stasinos, 2020).

5.5. Panic Behavior

The assessment of children on the autism spectrum also generally identifies significant deficits in creativity and symbolic play. This lack – feels them from peers, at times leaving ш opportunities to socialise (Hess et al., Output › 2021). Whenever he needs to move his body and head, or even adjust a object in the environment from one point of contact with another, it is always possible for you hear him mentally arrange objects that would most definitely be perfectly symmetrical; sreadcring. This constant behavior also applies to their need compulsive attachment to disarrange objects, as well of the fact they prefer wearing the same clothes over and over everyday. These acts are quasi-rituals, and the person becomes angry or frustrated if one of his habits is disrupted (Stasinos 2020; Faras et al.

Some stimuli trigger strong fixations and tension, to the point where children with ASD start obsessively interested in it, maybe more than that should be anticipated. They

may engage in self-soothing with items that they can touch and interact with sensorially using a stereotyped repetitive rather exercitant behaviour (Hong&Matson, 2021). The existence of stereotypes as to how children with ASD behave while playing and relating the toys can slow down creative development. Research has found that these children show almost no interest in playing with functional toys except those who have been able to develop language and were capable of playacting (Thiemann-Bourque et al., 2012)

5.6. Physical Condition

It can also help assess the physical health of people with ASD. Physical Characteristics stiffness in the lower body and problems with movement coordination reduced cardiovascular endurance decreased muscle strength (Pan et al., 2016. Finally, children with ASD also demonstrate a preference for sedentary activities like screen time due to both their behavioral challenges and motor skill deficits (Must et al., 2015).

5.7. Psychometric Tools

Alfred Binet invented the first twentieth-century tools of psychometrics. What are psychometric tools? Psychometric tool refers to a test or quiz type surveys used for human based traits detection & evaluation. As time went by and the field progressed, these critical considerations gained acceptance in assessment practice and new theoretical frameworks have improved upon their validity and reliability (Stalikas et al. With regard to recent clinical practice, psychometric tools are very popular and collectively common in Greek society (Stalikas et al., 2012). The final chapter offers a plethora of assessment mechanisms to appraise the mentioned domains. These generally fallinto 2 categories: those that assist with screeningthe CSID disorder, and tools used in the diagnosis of Csindrome.

5.8. Autism Behavior Checklist (ABC)

The Autism Behavior Checklist (ABC) is a 53-questionnaire on five different domains; according to Osborne and Reed (2011). These domains are self-help skills, communication, social interaction and sensory processing (related to using the objects in the environment as well as their own body). The ABC is often used in classrooms because it easily administered and does not require extensive training. It also shows the results in a very high reliability.

5.9. Autism Diagnostic Observation Schedule (ADOS-2)

The Autism Diagnostic Observation Schedule (ADOS-2) is a semi structured standardized diagnostic method created in order to observe and assess the behavior of subjects suspected with autism. Performed by a trained professional, it evaluates social function and communication, imagination used while playing with objects. The examiner arranges the environ-

ment such that specific behaviors characteristic of autism can be elicited. The annotated behaviors are then rated using an algorithm that assigns scores from 0 to 28, with increased numbers representing the most serious manifestations (Stichter et al.,2021). In practice, the ADOS-2 assessment is often administered with either of four modules–each takes approximately 30 minutes–and can be used for individuals at different levels language proficiency (Heward, 2011).

5.10. Childhood Autism Rating Scale (CARS)

The Childhood Autism Rating Scale (CARS) is an exam that enables the detection of specific behaviors in children, which facilitates assuring whether they are a victim or have another developmental disorder. It also evaluates impairment severity and limitations of activity or participation. The scale consists of 15 items, each using a four-point severity rating format. Scores of 1 are for things that are normal, and scores of 4 indicate severe dysfunction. Overall score indicates the stage of the disorder under evaluation (Kotsifa & Krina, 2016). Q2: Since the validity of this instrument has been reported to be high (Seretopoulos et al., 2020), I would not doubt about it.

5.11. Modified Checklist for Autism in Toddlers (M-CHAT)

Modified Checklist for Autism in Toddlers (M-CHAT) is a yes or no 23 point questionnaire the community can use as screening. The questions mainly deal with the social and communication skills of the person, as they are looking to get people on board who may be diagnosed in a spectrum for autism. The instrument targets toddlers from 18 to 30 months of age (Toh et al.,2018). The test is designed so that if a person answers one or two on key questions incorrectly, regardless of which ones it does not pass the screening and should be sent to specialist immediately. However, the predictive accuracy of M-CHAT is lower than that at 18 months (Kamio et al. (2014) recommend repeating the questionnaire between 24- and–36 months due to both technical issues as well as psychosocial considerations, but only in order for a negative status at baseline can be confirmed.

5.12. Social Communication Questionnaire (SCQ)

Social Communication Questionnaire (SCQ) – often this is administered in the interview process for parents or, if possible, a caregiver of the child. It is a 40-closed questions based test language and motor skills, gaze communication (eye-like) activities for the child ansd finally relations with objects or people around them! It exhibits good stability for four or younger kids to find the illnesses (Heward, 2011). Moreover, the SCQ is developed to be easy-to-administer and thus can normally take as few as 10 minutes (Barnard-Brak et al., 2016).

6. CONCLUSIONS

Autism Spectrum Disorder (ASD) has been extensively studied among different developmental disorders. The symptoms of this disorder appear throughout life, although in varying forms that increase over the years and individual differences. ASD is a multisystemic disorder and has symptoms common to many other disorders so diagnosis can only be done by a comprehensive multidisciplinary assessment. An accurate diagnosis demands a thorough evaluation both with psychometric tools and inputs from the professionals, in addition to parents/teachers of child on even heated symptoms when seen over time.

Although a great deal of progress worldwide has been achieved in ASD research the past decade, certain aspects and areas need further exploration. This will require the development of research methodologies with high validity and reliability that transcend current diagnostic practices, in turn enabling better treatment options for the disorder (Seretopoulos et al., 2020). It is worth noting that this one should be combined with a continued need of at least basic training in fields directly relevant to people with ASD for more coherent and complete interventions.

Finally, it is also important to note several of these traits will continue even in adulthood and following the diagnosis with an autistic spectrum condition. Still, you can reduce the effect of these deficits using evidence-based assessment tools combined with precision diagnostic methods and individualized intervention program to improve life-skills for those diagnosed, in term easing family burden.

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3. Literature Review on Bipolar Disorder in Children and Adolescents

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ABSTRACT

Bipolar disorder (BD) is a chronic, recurrent disease characterized by periods of mania, depression and mixed states. According to DSM-5, there are four categories of BD: Bipolar I with or without psychotic features (Takekita R.,2010); the mania could include only an elevated mood such as in Musical by Robert Altman; depression during a depressive episode must last at least 2 weeks before and after):Bipolar II hypomanic episodes plus depressive ones(Akiskal HS, et al.); unspecified bipolar disturbance; cyclothymia.

There is also a sub-type of the disorder for rapid cycling (4 or more episodes per year). Bipolar I is associated with significant suffering among large numbers of individuals who meet this criterion, as it has been estimated from a number of studies that the worldwide prevalence ranges somewhere between 1 and 3%, and these patients generally experience multiple comorbid psychosocial impairments. Indeed, the typical lifetime onset of a full-fledged mania and hence the ultimate title BD is in adolescence but – there are pre-puberty cases featuring 1 mood phase (key term) or more! Tourette can be difficult to diagnose, especially when its symptoms resemble those of other psychiatric problems such as Attention Deficit Hyperactivity Disorder (ADHD). Irritability (also displayed as aggression in a child) and outright overt dynamism is the primary presentation, very commonly for adolescents. In contrast, depressive episodes typically start later in adolescence or early adulthood – generally by 30 years old; mania or hypomania is more likely to come before age 25.

KEYWORDS: Bipolar Disorder, Adolescents

1. INTRODUCTION

A diagnosis required both strict criteria, and extreme cases led to hospital confinement. In the past several decades, enormous numbers of research studies have been performed to elucidate various aspects of BD development. Although the disorder is obviously based on a genetic predisposition, environmental influences also play an important role in its development. Bipolar Disorder (BD) is a multifactorial mental disease where genetic, neurological and bio-psychosocial factors synergistically interface. A diagnosis of BD in a parent is probably the best predictor for almost any mental disorder you can

think of. Moreover, offspring of BD parents had significantly heightened prevalence for other anxiety disorders while adolescents were differentially impacted to experience any affective disorder and panic disorder. For those who also have genetic vulnerability to depression, depressive episodes are frequently preceded by stressful life events such as a personal failure or the death of significant others.

Significant correlation is found between family support and lower onset of BD. The childhood ties to bitchy siblings and uncaring parents existing with her have made it easy for them to discount all she is doing, while hiding behind a. It kept BD at bay upon its not revealing health issues about family side yang outlets. Peer relationships, specifically in school-based settings, seem to be protective for many as well. Whole girls can encourage greater network of support from peers, boys may produce tougher dilemmas due to comparative pressures in these surrounds.

As there is no cure for BD, treatment targets the symptoms and prevents complications. The first thing to do would be an exhaustive clinical examination by specialized practitioners wherein their performance in day-to-day living is tested and followed up regularly so that a relapse does not take over. Supplement 1 Because the rate of suicidal behavior is markedly increased in people with BD, pharmacotherapy should be a mainstay of treatment. This is followed by two phases of treatment: the acute stabilization and long-term maintenance, targeting to reduce or prevent future episodes (Gerhardt et al., 2006). The most well-known mood stabilizer in use today, lithium can cause nausea and weight gain. Acute mania: Antipsychotic (most often), sedation This kind of psychotherapy is necessary for long-term stability, just like medication therapy. Cognitive Behavioral Therapy (CBT): CBT provides the tools to patients so they can manage these thought distortions and emotional states.

The benefits of family therapy on support functions, and better living environment (30) with psycho education lead towards the improved awareness about their condition helping them in understanding symptoms better that aids early detection to improve monitoring management. In extreme cases, such as when the risk of suicide is high, a patient can be hospitilized with-involuntary treatment and electroconvulsive therapy (ECT) an even final resort option. In terms of quality of life, intra-relationship CBT and mindfulness can have beneficial effects in BD patients: they could reduce relapse risk, improve overall function. Bipolar disorder (BD) is a severe, neuropsychiatric illness with relapsing course and has been considered to be challenging from diagnosis point of view based on its overlapping features with other relatively commoner disorders like ADHD that are more commonly seen in clinical practice. Stabilization usually requires both medication therapy and psychotherapy, with an especial focus toward children and adolescents. Social exclusion or social stigma are other challenges faced by people living with BD that result in mental health-related problems to an extent where this can be

a leading factor causing suicidal ideations. The stigma further causes misunderstanding from the rest of society, which just helps make these patients grow even lonelier except for those few who provide help and support.

2. DEFINITION

Bipolar Disorder (BD) is defined as a long-lasting and recurrent mood disorder, which is accompanied by episodes of manic-depression, i.e. with intense mood changes (Mavrikaki, et. al., 2013). A child with bipolar disorder may experience depressive episodes, which have symptoms such as absence of good mood, weakness, no feeling of pleasure, strong mood changes, insomnia, etc., as well as highly opposite symptoms such as a lot of energy, drowsiness, etc. (Phillips & Kauffer, 2013). In a broader context, sufferers suffer from symptoms that are tiring for them, resulting in psychological and social fluctuations due to relapses (Miklowitz & Johnson, 2008).

2.1. Types of Bipolar Disorder and DSM-5

According to the American Psychiatric Association's DSM-5 (Diagnostic and Statistical Manual of Mental Disorders), the types of mental illness are: **Bipolar I Disorder Type I (Bipolar I Disorder), Bipolar II Disorder Type II (Bipolar II Disorder), Bipolar Disorder Not Otherwise Specified (BP-NOS), and Cyclothymia or Cyclothymic Disorder.** In more detail:

i. **Bipolar I Disorder (Bipolar I Disorder), which is accompanied by episodes of** mania or mixed episodes (mania-depression) lasting at least 7 days, or severe episodes of mania that require hospital or clinic admission. There are also episodes of depression, lasting at least 14 days or more.
ii. **Bipolar II Disorder, which consists of a combination of depressive** episodes and mild mania, not necessarily accompanied by severe bouts of mania or mixed episodes. Sufferers with this type usually have problems socially, professionally or personally because they are in a state of hypomania. In addition, the relatives of the sufferer with type II of the disorder tend to get sick with mental illness and/or depression at a higher rate than those of type I sufferers (DSM-V, 2013).
iii. **Bipolar disorder not otherwise specified (BP-NOS), which** is associated with the onset of the typical symptoms of mental illness, without the sufferer necessarily being diagnosed as Type I or II. Of course, as far as the individual's behaviour is concerned, it is not consistent with normal reactions or patterns.
iv. **Cyclothymic Disorder** is a mild form of bipolar disorder. Cyclothymic individuals experience episodes of sub-mania (mild mania) and mild episodes of depression for at least 2 years. Other than that, the symptoms do not fall under any of the above definitions of bipolar disorder.

It is worth mentioning a severe form of the disorder, called **Rapid-cycling Bipolar Disorder**. This form refers to people who have had at least four episodes of major depression, mania, sub-mania or mixed episodes within a year.

2.2. Epidemiological data

The World Health Organization and the American Psychiatric Association have conducted research on the mental illness of bipolar disorder, targeting the gender and age-related occurrence of the disorder. Based on these, it was found that in the year 2004, more than 29 million people around the world developed PD (Miller et. al., 2014), and at the same time it was estimated that 1-3% worldwide tend to develop the disorder, which according to Strakowski, et. al., 2015, takes the sixth place among the causes of disability worldwide. According to Fajutrao, et. al., 2009, it was emphasized that often the diagnosis of AD, due to similar symptoms with other disorders, is not clear, resulting in altered epidemiological rates.

Regarding the racial segregation of the occurrence of the disorder, it is found that the occurrence affects both sexes equally, but frequent episodes of psychosis occur more in females compared to males (Patel et. al., 2015). In the male population the occurrence of the disorder is associated with manic episodes, while in the female population it is associated with depressive episodes of concomitant manic episodes. In conclusion, females present with AD at twice the rate of males.

According to Miklowitz & Johnson, 2018, the age range of onset of the disorder is varied. The most likely age of onset is adolescence, but in many cases the initial onset affects children. The most common age of onset is prepuberty (approximately 12-13 years) with increasing trends in the 15 to 25 year age range. Usually, adolescents experience an episode of major depression, where it is classified as type I AD. Beyond that, if there is the presence of aggressive tendencies, it is more likely that the onset of AD has an onset with manic episodes. In addition, based on studies, the onset of depression in adult individuals occurs at the onset of 30 years, while chronic depression is found in the middle of this decade (33 years), and bipolar disorder around 25 years. In conclusion, at ages 50 years and older, it is almost impossible for DM to be present, as possible substance use acts as a negative factor (Katon et. al., 2009).

2.3. Diagnosis of DM according to DSM-5

In order for a child to be diagnosed with AD, specifically type I, according to the DSM-5 diagnostic criteria (APA, 2015), a manic episode must be criteria for a child to be diagnosed with AD. Subsequently, there is a possibility of Hypomania and/or Major Depressive Disorder episodes or even the pre-existence of these.

2.3.1. Maniac Episode

A) According to the DSM-5 (American Psychiatric Association, 2013), those who experience manic episodes, at different times, have unusual and intense behavior, persistence, increased mood, and are irritable throughout the day. The duration of this mood lasts for at least a week.

B) Intense "behavior" is followed by symptoms such as megalomania, feelings of superiority, excessive self-esteem, constant and incessant talkativeness, lack of need for rest, insomnia, distraction, desire or even sexual desire, involvement in activities, aggressive behavior and defiant attitude.

C) In relation to the social environment, the person shows aversion, and in the professional field he/she has reduced performance, so much so that sometimes hospitalization is necessary in order not to harm himself/herself**.**

D) Manic episodes are not related to the use of drugs or substances and are not related to the person's physical health. Note that for a Type I diagnosis, it is necessary to have had at least one previous manic episode throughout one's life.

2.3.2. Hypomanic Episode

In the occurrence of Hypomanic Episode, there is a clear difference in the duration of the first criterion compared to the Manic Episode, because the duration is up to four days. For the second criterion, there are common characteristics of Hypomanic and Manic Episode. The most common symptoms of a Hypomanic Episode are megalomania, a feeling of constant energy without feeling tired, constant talking, distraction, constant activity, irritability and uncoordinated thoughts. Regarding the third criterion, in Submanic Episode, daily functions are affected, but not to the extent that the condition is associated with harm, and therefore hospitalization is not necessary. In conclusion, with regard to the fourth criterion, hypomanic episodes do not have a background of taking drugs and other substances. Therefore, in type I of PD, submanic episodes are present but their existence is not considered necessary for the diagnosis of the disorder.

2.3.3. Major Depressive Episode

A) The duration of symptoms in this condition is a minimum of 14 days, every day and all day long, and the person shows reduced mood and functioning, almost depressed, disinterested in any activity, and does not enjoy anything. In addition, the sense of sadness increases, the person is depressed, hopeless, feels internally empty, and the whole condition is externalized so that it is obvious to those around him/her. As far as children and people in adolescence are concerned, there is no interest in any activity, they are irritable and do not enjoy anything. They feel depressed, without

energy, often there is weight fluctuation and eating disorders. Symptoms are more easily observed in children, as the ideal weight is linked to an age-dependent curve. In addition to this, there are alarming symptoms such as sleep disturbances, delay in response to stimuli, scattered thoughts, lack of concentration, constant feelings of guilt, thoughts of death, and "flirting" with suicide.

B) In other areas of everyday life, such as their social and professional environment, they are greatly affected.

C) The intake of drugs, substances and physical condition are not related to the occurrence of the specific episode. In order to conclude that a child or adolescent has Major Depression, the first and third criteria must be met. Also, these episodes occur frequently in Type I AD, but are not considered prerequisites for diagnosis.

2.4. Clinical characteristics based on age

The presence of clinical features, varies with age in terms of the occurrence of DM.

2.4.1. Principle of PPD in children and adolescents

According to Findling et. al., 2001; Biederman et. al., 2005, AD is a lifetime disorder. Depending on the age of onset, the mode of manifestation of AD differs, and the symptoms have a duration and progression in later life. Research does not generalize the claim, as there are certain factors that influence them (Ryles et.al., 2017). In more detail:

1) The grouping of different ages into a general set, for example, the Blader & Carlson (2007) survey includes children aged 5-13 years, the Perlis et. al. (2004) survey was conducted on 13-year-old children, and the Masa et. al. (2006) survey is on 12-year-old children.

2) The choice of tools for assessment and the use of different diagnostic criteria, e.g. the consistency of DMS or the use of structured interviews.

3) The use of exclusive clinical samples in surveys or surveys that make use of a clinical sample outside the general population (Wilsmhurst, 2011).

Also, it should be taken into account that the characteristics that children display are identical to those of ADHD, whereas they are different when it comes to adolescents. The onset of AD in childhood is associated with irritable behaviour in the child, while in adolescence an erratic behaviour occurs. In addition, the onset of AD in children usually coexists with other disorders (e.g. ADHD) at a rate of more than 38%, whereas in adolescence the rate is markedly lower at 9%. Finally, in children, enantiomic provocative disorder accounts for 36%, while in adolescents it accounts for almost 11% (Biederman et. al., 2005).

Finally, the occurrence of AD in children is more common in boys, who have violent outbursts at other people. According to Kakuros & Maniadaki, 2006, and other studies it is concluded that adolescents are more irritable and exhibit mixed manic episodes.

2.4.2. Beginning of DD in early childhood and childhood

Research by Wilens and colleagues (2003), demonstrated that the symptoms of bipolar disorder seen in children and pre-toddlers have similarities. The study involved 44 affected children aged 4-6 years, and 29 affected children aged 7-9 years. Through the research it was shown that the symptoms were almost identical with an average of 5.3% in preschool and 5.1% in childhood. With regard to manic episodes, the percentage of the first group was 7.7% and 11% for the second group. In addition, the rates of comorbidity with ADHD in the samples were 95% in preschool and 93% in childhood.

3. CAUSES OF PATHOGENESIS

In recent decades, science has made leaps and bounds in studies of the pathogenesis of DM. While this disorder has an inherited background, one model demonstrates that there is a correlation of the disorder genetically and interactively with the environment (Grande et al., 2016).

According to Frey et. al., 2013, AD is a mental illness caused by genetic, neurological, psychological and social factors that influence the child's and adolescent's living and social environment, but at the same time there are protective factors.

3.1. Risk factors

3.1.1. Parents suffering from AD

According to Papageorgiou, 2005, children whose parents (either one or both parents) suffer from AD, have an increased chance of developing AD themselves. Therefore, having AD in the parents is a risk factor for developing the disease in the same, unlike a child with healthy parents (Hirshfeld-Becker et. al., 2007). Studies conducted on children from 6-12 years of age, who initially developed Major Depressive Disorder, over a period of a decade developed AD at a rate of almost 50%. So their family history played a crucial role (Geller et. al., 2002; DeFillipis & Wagner, 2013). According to Akiskal et. al., 1985, when parents of children suffer from AD, even if they do not develop the same disorder themselves, they have an increased chance of developing other anxiety disorders. Also, several children and pre-adolescents have several chances of developing ADHD, or even suffering from anxiety disorders, phobias, feelings of separation, etc., unlike adolescents who more often have AD and panic disorders (Henin et. al., 2005).

3.1.2. Stressful situations in adolescence

The affected adolescent with AD has clear dysfunctions with the main impact being reduced school performance, which tends to be increasingly lower. At a high rate (85%), adolescents suffering from Monopolar Disorder manage to complete compulsory education successfully, whereas in contrast only 58% of adolescents with PD successfully complete high school (Kutcher, 2005). Experiences associated with the feeling of sadness, e.g. exam failure, loss of a close friend, separation, etc. in an adolescent lead to guilt, sleep disturbances, intense sadness, etc. In conclusion, any situation of anxiety, stress, psychological pressure, etc. is associated with biological reactions that once initiated are very difficult to eliminate and result in depression syndrome, especially in people who are naturally vulnerable and with heightened sensitivity (DSM-5, 2013).

3.2. Protection factors

The most important protective factor is the family. When the family has developed strong bonds, is surrounded by love and care for its members, is loving and strong, it acts as a wall against depression or negative thoughts (e.g. suicide) experienced by the child member (Borowsky et al., 2001). The medical history of the family is an equally decisive factor, i.e. if the family is made up of healthy individuals, and neither of the parents has a mental disorder, or has a history of suicidal tendencies - moods etc., the chances of the disorder developing in children are significantly reduced (Fergusson et al., 2003).

Another crucial protective factor is the child's friends (especially in the school environment). There is a significant difference between girls and boys in terms of friendships. The girls develop a protective circle in their groups in order to avoid situations of depression or thoughts of suicide, etc. On the contrary, boys' groups are more prone to negative situations, because there is often a feeling of superiority and competition ("I can do it, you can't"), which leads them to participate in 'group' suicide actions, etc. (Bearman & Moody, 2004).

4. THERAPEUTIC INTERVENTIONS FOR DM

There is no total cure for DM, but there are treatments and medical care that provide stasis of the disease while avoiding death.

First of all, the disease must be clinically assessed by qualified health professionals to determine the patient's functional level, and then decide on the appropriate interventions for treatment. With the contribution of the physician (psychiatrist), the basic objectives are set, the psychiatric condition of the patient is monitored, the possibility of not taking medication is eliminated and the physician and patient are companions and allies in the treatment. Through this tactic, the physician is close to the patient, counsels the patient, avoids relapse incidents and identifies future episodes while minimizing further damage

to the sufferer's functioning (Association, 2002). The main purpose and goal for a child suffering from AD is the prevalence of positive thoughts and well-being to have a better later life.

4.1. Medication

The criticality of starting medication is the fact that people with DM are mostly suicidal. However, taking medication cannot eliminate the disease, but it can "keep" the symptoms stationary without worsening them, so that the sufferers can be functional and have a good and normal daily life. The treatment consists of two phases. The first involves acute stabilization, where manic, hypomanic and depressive episodes are treated, bringing the sufferer back to stability. The second phase concerns maintenance, with the aim of preventing relapses (Fountoulakis & Vieta, 2008). Sufferers with DM who do not receive any treatment increase the chances of manic and depressive episodes beyond ten in number (Vacheron-Trystram et al., 2004).

Administered drugs have an active substance lithium, since it is a mood stabilizer and thus relapses are avoided. Lithium has been administered in this disease for more than 60 years, so there is an inextricable link with the treatment of DM (Alda, 2015). Of course, there are clearly side effects (as with all active substances in the drugs). Some of them are the tendency to vomit, nausea, stomach upset, overeating and thus increasing one's weight, limb tremor, acne, etc. In affected children with acute mania, the class of drugs administered are antipsychotics, with the active substances Risperidone and Olanzapine (Biederman et al., 2005).

According to Wilsmhurst, 2011, the small number of studies in children and adolescents contributes to an unsafe conclusion about the dosages of drugs administered and therefore their effect. It is worth noting that people suffering from renal failure or cardiovascular problems are prohibited from taking lithium and should be monitored frequently through diagnostic tests so that the treating physician has an overview of blood levels of creatinine, urea, sodium and potassium. With regard to acute mania, medication includes taking Carvamazepine and Valproic Acid.

4.2. Psychotherapy interventions

Once the diagnosis has been made and the medication has been started for the affected person, psychotherapy must be started. As mentioned in the previous section, AD is accompanied by relapses so there must be a combination of treatment and therapy in the long term. Psychotherapy contributes to a 50% reduction in relapse rates and helps to maintain the patient's stable condition and functions. The psychotherapist, through the process of discussion, manages to "build" a relationship of trust with the child, therefore the child confides experiences, and in this way the factors (psychological, social) that caused the disorder are identified. An important point is that the sufferer must under-

stand that the problems he/she is experiencing are due to the disease and that he/she is not responsible for them, and that whatever arises the therapist should be close to him/her and will be successfully treated (Chatzicharalambous, 2018).

Psychotherapeutic approaches include psychoeducation, cognitive behavioural therapy, family therapy, electroconvulsive therapy, psychoanalytic therapy, etc. For example:

4.2.1. Cognitive behavior therapy (CBT): through this therapy, personal skills development is provided, avoiding the recurrence of negative thoughts and is used in combination with medication. It aims to provide the right way of dealing with their distorting thoughts, while re-structuring techniques are used to support the sufferer to create positive images and isolate the past bad thoughts that have become embedded in their minds (Chatzicharalambous, 2018).

4.2.2. Family focused therapy (FFT): the family should support the affected person and be involved in the process. It is necessary that its members have received knowledge about the disease (Morris et. al., 2007), as well as about the episodes of onset, relapses in order to approach and behave properly with the patient. Through treatment, the family environment acquires skills to deal with possible situations that their child will find themselves exposed to. Therefore, family therapy also contributes to the patient's compliance to take his/her medication and prevents potential relapses.

4.2.3. Psychoeducation: psychoeducation aims at the patient's compliance with his/her treatment, the management of the disease and the recognition of possible relapses by the patient himself/herself in order to be able to cope with the symptoms. Also, the purpose of psychoeducation is to improve the patient's standard of living, minimize the risk of suicidal tendencies and develop and improve his/her professional and social activities (Cakir, 2010). Through it, the sufferer himself/herself is educated, recognizes the symptoms and stabilizes his/her self-control.

4.2.4. Electroconvulsive therapy (ECT): this treatment is used in very severe depressive cases, accompanied by mania, where taking antidepressant pills has not brought improvement and suicidal tendencies are put into practice. It is an unavoidable treatment but only in quite severe and unavoidable situations (Perugi et al., 2017).

5. CONCLUSIONS

To summarize, we conclude that Bipolar Disorder is a mental illness that is not fully cured, it is called incurable, where the sufferers are debilitated and their peace of mind is shattered.

DM, is multidimensional and extensive, with causes and causation not fully defined and in many cases undefined, as scientific studies are incomplete. The presence of symptoms similar to those of ADHD make it even more difficult to diagnose.

In addition, risk factors are not easily managed and in many cases remain unresolved. For these reasons, it is considered crucial and necessary to provide medication in combination with appropriate psychotherapy and monitoring in affected children and adolescents, in order to maintain a proper and stable level of disease maintenance with the aim of restoring balance and normal mental health in these individuals.

In conclusion, a child suffering from AD is often targeted and stigmatized by the social environment, considered a one-off and a risk, due to the social stereotypes and prejudices that have been plaguing people from generation to generation for several centuries. Social exclusion has an aggravating effect on sufferers, since they believe that they are a burden on society, and therefore 'death' seems like a redemption in their minds. Not being informed or even wrongly informed, not being supported, not being accepted and finally not personalizing the problem (when it does not concern one's own family) results in the reproduction of all these patterns that should have been buried many years ago.

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4. Use of AI in Differentiated Instruction

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ABSTRACT

This study explores the application of Artificial Intelligence (AI) in differentiated instruction (DI) classrooms, focusing on how AI enhances the learning experience by catering to individual student needs. The integration of AI in education has demonstrated significant advancements in personalized learning, offering solutions to many of the challenges associated with DI, such as class size and limited resources. AI's role in education extends beyond content delivery, as it also improves administrative functions and the quality of teaching through adaptive learning environments. Through a review of current literature and case studies, this research provides insights into the benefits, challenges, and future potential of AI in education, emphasizing the need for teacher training, proper implementation, and ongoing research into AI-driven educational strategies.

KEYWORDS: AI, Education, Differentiated Instruction

1. INTRODUCTION

The academic importance of this study lies in its investigation of a relatively new and fast-developing field–the use of AI in education. Artificial intelligence (AI), a branch of computer science, focuses on creating machines that can perform tasks typically requiring human intelligence, such as object recognition, language understanding and processing, decision-making, and translation between languages. AI aims to develop machines that can learn autonomously and improve their performance over time. Modern AI systems process large datasets and complex instructions to help machines comprehend information, derive knowledge from their actions, and enhance their efficiency through learning. Significant progress across various domains, including healthcare, finance, and autonomous driving, highlights AI's potential to revolutionize industries and influence many aspects of daily life.

It is crucial to explore how AI's advancements can be effectively incorporated into diverse educational settings, such as differentiated instruction classrooms (Johler & Krumsvik, 2022). Integrating AI in education promotes personalized learning by tailoring lesson content to individual student needs, thereby enhancing the learning experience. This study contributes to the expanding body of research on AI in education and offers valuable insights for educators, policymakers, and researchers.

Considerable evidence supports the positive impact of AI on the quality of teaching and learning. For example, Chen et al. (2020) found significant improvements in the efficiency and effectiveness of administrative tasks managed by educators due to AI. Similarly, Seo et al. (2021) highlighted that AI systems significantly assist in online education by facilitating personalized learning experiences, organizing routine tasks for instructors, and enabling adaptive assessments. Additionally, research by Kim and Kim (2023) revealed that most STEM educators have had favorable experiences with AI, particularly in its role as a sophisticated support tool for learning.

2. LITERATURE REVIEW

2.1. Conceptual approach to Artificial Intelligence

Clearly different scholars around AI technology have given different definitions and that is why it is not easy to have a clear definition of artificial intelligence. Anthropologists, biologists, psychologists, neuroscientists and computer scientists have dealt with this particular science and each emphasizes and attributes their own perspective and philosophy around the subject (Russell & Norvig, 2016).

John McCarth in 1956 was the first to propose the term Artificial Intelligence through the investigation of the basic characteristics of machines. Since then until today the term has been differentiated. Primarily Artificial Intelligence (A) refers to computing technologies that allow computers to make decisions by imitating human intelligence (McCarthy, 1998).

Some definitions of artificial intelligence are:

- It is a form of intelligence that solves complex problems through artificial entities such as computers or machines. It is created through the integration of the science of computers on the one hand and physiology on the other. Simply put, intelligence is about the ability to think, imagine, remember, understand, recognize, adapt through change and learning from experience (Borana, 2016).
- It is an intelligent being which as a system can perform activities. As such, man today uses it in daily business operations. Examples include HR, healthcare, accounting, finance, sports. Positive results emerge through the continuous use of Artificial Intelligence by businesses (George & Thomas, 2019).
- It is a computer system that performs intelligent thinking and rational judgment similar to human work. The recognition of external visual or auditory information through an algorithm that analyzes the most ideal approach to the target taking into account all the data in front of it, constitutes artificial intelligence (Luckin et al., 2016).
- It is a human-like intelligent agent or an intelligent computer system with the ability to recognize the environment, understand human language and remember

knowledge (Huang, 2018).Further, Artificial Intelligence is divided into strong Artificial Intelligence and weak Artificial Intelligence. On the one hand, strong AI equates to a general-purpose system that thinks and acts in the same way as humans and refers more to machines that can reach human-level intelligence, and on the other hand, weak AI has limitations and is computer-based and refers to in software as useful tools for humans (Russell & Norvig, 2016).

Obviously Artificial Intelligence presents some advantages and disadvantages in its application. The major advantage of artificial intelligence seems to be that the decision-making it makes is based on facts rather than emotions. Also, since they are machines, there is no fatigue and reduction of their energy unlike humans. Easy dissemination of knowledge is another equally important advantage as AI reduces the time of knowledge transfer through copying and training. On the other hand, the lack of creativity and the inability to explain the reasoning for a particular answer and decision is a key disadvantage. In addition, any malfunctions can lead to wrong solutions, while blind dependence and "trust" in artificial intelligence can cause problems (Borana, 2016).

2.2. Artificial Intelligence in Education System

The role of Artificial Intelligence in the context of education has been explored at an academic level for the last 30 years. The effort to approach and combine the two fields lies in combining the learning sciences with adaptive learning environments and artificial intelligence tools in order for these environments to be effective, engaging and personalized. The process of learning is in itself special as it is influenced by the characteristics of each student but at the same time by socio-economic factors and for this reason artificial intelligence is considered a powerful tool for it (Luckin et al., 2016).

Artificial intelligence as conceptualized above involves computer software that is programmed to interact with individuals in such a way that human intelligence is required. In simple words, artificial intelligence through a combination of algorithms processes knowledge about the world and in education has been integrated with the use of computers.

More generally, computer-based education was and is the evolution of the educational and learning career of the educational system for the next few years. It is predicted that teachers of the future will provide personalized and student-paced instruction using videos, lectures, and artificial intelligence-based educational programs (Dutton et al., 2018).

Through the use of artificial intelligence in education, the aim is to improve the interaction of people with computers. The application of artificial intelligence has grown beyond simply knowing and reporting it and explaining it through embedded computing systems built into a supercomputer (Chen et al., 2020).

Education is future-oriented with a desire to explore the relationship between technology and artificial intelligence and the adaptation of individuals to these approaches. Today the education system is oriented towards the imperatives of the industrial revolution and offers defined academic and professional skills. With the development of technology, this orientation tends to change in order to utilize capabilities corresponding to today's needs (Chalkiadaki, 2018).

The educational policy must emphasize the design of an educational program that will prepare students for jobs that may not exist today. In fact, a challenge is the fact that future working citizens will have to have qualifications and abilities that machines will not be able to replace (Chalkiadaki, 2018).

Therefore, more general learning skills and abilities such as collaboration, metacognition and critical thinking are future requirements that an educational system must cover. Even the field of Artificial Intelligence needs to move in this direction if it wants to maintain its relevance and increase its impact. Anyway, all educational theories confirm the influence of guidance and personalization towards both students and teachers (Roll & Wylie, 2016).

The main models of artificial intelligence in education are three:

- Pedagogical model - artificial intelligence must have knowledge of more effective approaches to teaching
- Domain model (Domain model) - the artificial intelligence must have knowledge of the object being learned
- Learner model - artificial intelligence must know the learner (Luckin et al, 2016).

Student perceptions of artificial intelligence vary by age. So for example, elementary school students tend to be excited about the idea of artificial intelligence in school as a smart and exciting idea (Ryu & Han, 2018) in contrast to high school students who mostly express a negativity towards it. in replacing human teachers with artificial intelligence teachers. The difference in perceptions had more to do with the students' age-related emotional structure and awareness and fear that AI could dominate over humans (Park & Shin, 2017).

One of the most proclaimed goals of sustainable development is quality and equal education. Artificial Intelligence is a tool which, through its proper utilization, is able to serve the above purpose so that all learners in all countries and societies are able to share equal opportunities in learning and in education in general (Akgun & Greenhow, 2022).

The forms and manner of the educational process are expected to change in the coming decades with the integration of Artificial Intelligence applications in education. The

main goal of innovative education methods, such as in this case the application of Artificial Intelligence, is on the one hand for the learner to learn more effectively and on the other hand for teachers to use tools that support the teaching of the course (Akgun & Greenhow, 2022).

The application of Artificial Intelligence in education has brought significant and positive results and the advantages are obvious. Nevertheless, reservations and improper use of it can have a negative effect on the educational system in general.

Interest in the application of Artificial Intelligence (AI) in education has grown considerably among researchers over the years. Chen et al. (2020) conducted a systematic review that demonstrated AI's notable improvements in the efficiency and effectiveness of administrative tasks performed by instructors, such as grading and reviewing students' assignments. The study also emphasized that AI systems have been effective in personalizing curriculum and content based on students' needs, enhancing both the learning experience and the overall quality of education.

Essel et al. (2022) found in an experiment that students responded positively in terms of academic performance when interacting with a chatbot, compared to interacting with the course instructor. The students also showed a favorable reaction to the chatbot's integration into the course. Similarly, a qualitative study by Kim and Kim (2023) on STEM teachers' perceptions of using AI for scientific writing revealed that most STEM teachers had positive experiences with AI as a tool for enhanced scaffolding. However, they also identified challenges, such as shifts in the teacher's role and concerns about transparency in AI decision-making.

Celik (2023) conducted a survey of 428 teachers to assess their knowledge of integrating AI into education. The study concluded that as teachers increase their familiarity with AI-based tools, they gain a better understanding of the pedagogical benefits of AI. However, the study also stressed that technological knowledge alone is insufficient for integrating AI into education effectively; it must be paired with pedagogical expertise.

A systematic review by Chichekian and Benteux (2022) underscored the need for further empirical evaluation and design of learning experiences to understand the impact of AI-driven technologies on students' academic outcomes. Additionally, Seo et al. (2021) found that AI systems provide effective support for online learning by personalizing learning experiences, automating routine tasks for instructors, and enabling adaptive assessments. Despite the benefits, including improved communication, personalized support, and enhanced feelings of connection in large-scale learning environments, concerns about responsibility, agency, and surveillance were raised.

Lai et al. (2023) studied the influence of AI on adolescent social adaptability and found that AI in education (AIEd) can negatively impact adolescents' social adaptability, with family support serving as a mediator between AIEd and social adaptability.

2.3. Differentiated Instruction Classroom

Differentiated Instruction (DI) is a teaching method that enables educators to address the diverse needs of students by adapting the content, process, product, and learning environment to match individual students' learning styles, readiness, and interests (Van Geel et al., 2019). Ismail and Abdul Aziz (2019) found that while teachers recognize DI as an effective strategy to meet academic needs, they face challenges in its implementation, such as difficulties in creating differentiated lesson plans, time constraints, and a lack of funding.

Similarly, Nayman and Altun (2022) reported that teachers often do not use DI due to unfamiliarity with the approach, central exams, a lack of resources, and large class sizes. However, some teachers still adopt DI because they believe students have diverse learning styles and because of administrative support for the instructional model. Krishan and Al-Rsa'i (2023) found that technology-based DI can boost students' motivation, especially in learning science.

Shareefa (2023) highlighted that longer teaching experience does not necessarily lead to better use of DI; successful implementation depends on a deliberate effort, adequate knowledge, and a strong intention to engage with the approach. Sulistianingrum et al. (2023) noted that teachers with more extensive educational backgrounds and experience were better at incorporating students' sensory learning styles into differentiated content, which helped in effective classroom management. However, Smets et al. (2020) pointed out that teachers still face challenges in assessing the individual differences among students.

These findings underscore the need for professional development and support to help teachers effectively use DI in their classrooms. Pozas et al. (2021) found that DI positively impacts students' well-being, social inclusion, and academic self-concept, although teachers do not use it as frequently as needed because it is demanding and challenging. Zakarneh et al. (2020) revealed that teachers struggle to balance the needs of weak, average, and fast learners in mixed-ability classrooms. Bidari (2021) further reported that DI had not been fully implemented, citing issues such as large class sizes, rigid syllabi, time constraints, insufficient professional development, and digital challenges, particularly during the COVID-19 pandemic.

In conclusion, while DI holds great potential for addressing diverse student needs, its implementation remains challenging. Teachers require training, resources, and administrative support to successfully integrate DI into their classrooms.

2.4. Technological Pedagogical Content Knowledge (TPACK)

The TPACK framework is a key model that helps explain the intricate relationship between technology, pedagogy, and content knowledge required for effective teaching. It emphasizes that successful integration of instructional technology demands not only

knowledge of the technology itself but also an understanding of how it intersects with pedagogical methods and subject matter content. Brianza et al. (2022) highlight the importance of context in TPACK development, advocating for a comprehensive approach that accommodates diverse educational settings. Expanding on this, Zhang and Tang (2021) review TPACK literature and propose adaptations to the model that promote experiential learning for pre-service teachers.

The practicality of the TPACK framework is further supported by Juhaevah and Kaliky (2023), who explore its implementation in microteaching scenarios within mathematics education, including online platforms. Similarly, a case study from Australia by Gromik et al. (2023) examined the integration of TPACK within teachers' professional practice. Çoklar and Özbek (2017) stress the role of innovativeness, arguing that teachers' readiness for innovation significantly influences their technological competencies and their intentions to adopt TPACK.

Tondeur (2018) advocates for a personalized approach to developing digital competencies in pre-service teacher education, challenging the effectiveness of one-size-fits-all strategies. Mishra (2019) revised the TPACK framework to more accurately reflect the contextual knowledge needed for technology integration, calling for semantic consistency in the model to align with its evolving interpretation.

The TPACK framework is vital for guiding educators in effectively integrating technology into their teaching practices. As education continues to evolve, TPACK assists teachers in navigating the complexities of digital learning and meeting the diverse needs of students. Furthermore, TPACK's adaptability makes it well-suited for incorporating AI into classrooms that use differentiated instruction, supporting personalized learning pathways for individual students.

3. CONCLUSIONS

In conclusion, AI has the potential to significantly enhance differentiated instruction by offering personalized learning experiences and easing the burden of administrative tasks for educators. However, the successful implementation of AI in the classroom requires a combination of technological and pedagogical knowledge. While the benefits of AI integration in education are apparent, challenges such as teachers' unfamiliarity with the technology, time constraints, and lack of resources must be addressed. Teacher training, administrative support, and access to adequate resources are critical to overcoming these obstacles. As AI continues to evolve, it holds great promise for transforming education, particularly in addressing the diverse needs of students in differentiated learning environments. Further research and development are necessary to ensure that AI is used ethically and effectively in the classroom, allowing both teachers and students to fully benefit from its capabilities.

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5. Electronic Health in The European Union

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ABSTRACT

The rapid development of technology has led to significant advancements in eHealth and mHealth. These advancements encompass electronic prescriptions, medical records, and patient medication reminders. The European Union (EU) plays a crucial role in promoting eHealth to create a more integrated healthcare system across its member states. However, challenges such as interoperability between healthcare systems, data privacy concerns, and the digital divide must be addressed. The EU's eHealth policies aim to facilitate the adoption and effective use of digital healthcare tools and technologies. Despite challenges, the future of eHealth in the EU holds promise, with emerging technologies like AI and blockchain poised to transform healthcare and ensure equitable access for all citizens. This paper is a literature review that explores eHealth's current landscape, challenges, and future prospects in the EU. The study discusses the progress of eHealth in the European Union, highlighting the integration of digital technologies like electronic health records, telemedicine, and mobile health apps. It acknowledges the improvements in healthcare delivery and patient outcomes but also notes challenges such as interoperability, privacy concerns, and infrastructure limitations. The European Commission's policies, including the GDPR and EHDS, are praised for promoting innovation while protecting patient data. Collaboration among member states, stakeholders, and policymakers is emphasized to address remaining barriers. The future of eHealth holds promise with emerging technologies like AI and blockchain expected to further transform healthcare. Overcoming challenges can position the EU as a global leader in digital health innovation, ensuring equitable access to healthcare for all citizens.

KEYWORDS: eHealth, digital health, European union

1. INTRODUCTION

eHealth refers to healthcare services supported by information and communication technology (ICT), such as computers, mobile devices, and satellite communications, to deliver health services and information. mHealth, a subset of eHealth, specifically involves the use of mobile or smart devices for health-related purposes. Both eHealth and mHealth cover a wide range of services, including electronic prescriptions, medical

records, and reminders for patients to take medications. To ensure these digital health solutions are safe, effective, and valuable, the EAHP emphasizes the need for their development in close collaboration with healthcare professionals, including hospital pharmacists, as well as patients (Moss et al., 2018).

The EU plays a pivotal role in promoting eHealth, aiming to create a more integrated healthcare system across its 27 member states. Through policies like the eHealth Action Plan and the European Health Data Space, the EU seeks to enable seamless cross-border healthcare, improve data sharing, and foster innovation. With COVID-19 accelerating the adoption of digital health tools, eHealth has gained a more significant focus. This paper explores the evolution, key components, and challenges of eHealth in the EU, emphasizing its importance in modernizing healthcare systems. By improving efficiency, reducing costs, and enhancing patient care, eHealth represents a vital step toward a healthier and more interconnected European society (Toscano et al., 2018).

The relevance of eHealth solutions to healthcare issues is particularly decisive within the European context, where the rapidly aging population, growing demand for healthcare, and cross-border integration into their healthcare systems challenge the entire EU. As populations age, the incidence of chronic diseases and the need for long-term care rise, straining traditional healthcare systems. EHealth offers solutions through telemedicine, remote monitoring, and mobile health (mHealth) applications, enabling elderly patients to manage their health at home and reducing the burden on healthcare facilities (Sannino et al., 2019).

Additionally, the rising demand for healthcare services requires systems that can operate efficiently and cost-effectively. By digitizing health records and administrative processes, eHealth reduces redundancy, speeds up decision-making, and enhances resource allocation. This contributes to both cost savings and improved patient outcomes (Sannino et al., 2019).

Among the most important roles for eHealth in the EU is that of enabling cross-border healthcare. Thus, because more and more EU citizens are seeking some kind of medical intervention in other member states, it becomes crucial for continuity of care to be buttressed by the secure sharing of patient data across borders.EAHP's member associations urge European governments and health systems to implement electronic prescribing and medical records, barcode medicines for bedside scanning, and regulate mHealth apps for safety and data protection. They emphasize providing eHealth/mHealth training to healthcare professionals, promoting digital literacy, and involving hospital pharmacists in the design and evaluation of ICT in medication processes. These steps aim to enhance patient safety and improve the effectiveness of digital healthcare(Moss et al., 2018).

This paper aims to answer the following questions about eHealth in the European Union. First, how has eHealth developed in the EU? Second, what are the main EU

policies shaping eHealth and third, what are the main policy drivers for eHealth? And third, what are the major challenges and opportunities? The paper will address barriers such as data security, interoperability, and resistance to adoption, while highlighting future trends and opportunities for growth. By answering these questions, the paper will provide a comprehensive understanding of eHealth's transformative role in European healthcare systems (Sannino et al., 2019).

2. BACKGROUND AND EVOLUTION OF EHEALTH IN THE EU

The evolution of eHealth in the European Union has progressed significantly in recent years, with the adoption of digital health tools and services across many member states. However, the implementation remains fragmented, as healthcare facilities often choose individual systems without coordination. To address this, the EU aims to link national eHealth projects through policies like the eEurope Action Plan. The focus is on improving cross-border healthcare, enhancing data sharing, and ensuring high healthcare standards for citizens moving between member states, with the European Commission leading these efforts. This shift has been shaped by EU initiatives, technological advancements, and policy developments (Ardielli, 2020).

ICT adoption in healthcare began in the mid-20th century, primarily for administrative tasks such as managing patient records. By the 1980s and 1990s, tools like electronic health records (EHRs) gained popularity, allowing healthcare providers to store and access patient data more efficiently. However, healthcare lagged behind other industries in terms of digitalization, with non-interoperable systems limiting care coordination. The rise of the internet and broadband in the 1990s marked a turning point, enabling telemedicine and remote healthcare delivery, thus initiating a broader digital transformation in healthcare (Cipriani, 2013).

3. THE ROLE OF THE EUROPEAN COMMISSION

The European Commission (2012) defines eHealth as the use of information and communication technology (ICT) in healthcare products, services, and processes, combined with organizational changes and new skills in healthcare systems. The goal is to improve citizens' health, enhance efficiency and productivity in healthcare delivery, and increase the economic and social value of health. eHealth encompasses interactions between patients and providers, the exchange of data between institutions, and communication among patients and healthcare professionals (Dymyt, 2020).

The eHealth Network, established by the Commission in collaboration with EU member states, has played a key role in facilitating cooperation and knowledge sharing. This network supports the implementation of EU-level policies and promotes the adoption of

interoperable eHealth systems across Europe. Additionally, the General Data Protection Regulation has provided a legal framework to address privacy and security concerns associated with the use of health data in digital formats, ensuring that patient information is handled securely across all member states (Ronchi, 2019).

While the EU provides a framework for eHealth development, individual member states have progressed at different paces due to varied healthcare systems, digital infrastructures, and political priorities. For instance, Estonia is often regarded as a leader in eHealth, having implemented a nationwide EHR system and e-prescription services that allow seamless sharing of health information across the country. Similarly, Denmark and Finland have made significant strides in digitalizing their healthcare systems (Ronchi, 2019).

On the other hand, countries with less developed digital infrastructures or more fragmented healthcare systems, such as Greece and Bulgaria, have struggled to implement comprehensive eHealth solutions. In these cases, a lack of investment in digital infrastructure, resistance from healthcare professionals, and concerns about data privacy have slowed progress. This disparity highlights the need for continued EU support and coordination to ensure that all member states can benefit from the digital transformation of healthcare (Bente et al., 2024).

Despite the progress made in the EU, several challenges remain in the widespread adoption of eHealth. One of the main barriers is the lack of interoperability between healthcare systems in different countries, which hinders the seamless sharing of health data. Additionally, concerns about data privacy and the security of personal health information remain significant obstacles, particularly as eHealth technologies become more advanced and rely on large datasets for AI and machine learning applications (Bente et al., 2024).

Moreover, the digital divide–the gap between regions with advanced digital infrastructures and those that are lagging behind–further exacerbates inequalities in healthcare access. Remote and rural areas often lack the infrastructure needed to support telemedicine and other digital health services, limiting the reach of eHealth in those regions (Bente et al., 2024).

The rapid advancement of digital technologies presents significant opportunities to enhance healthcare, particularly in patient safety. The World Health Organization (2016) highlights the critical role of electronic tools in improving safety. Key areas include: using electronic health records for more accurate patient information, enabling timely sharing of health data, supporting disease diagnosis and management, promoting behavior change to reduce health risks, and engaging patients in their own care. These technologies also improve professional communication, reduce errors, minimize unnecessary consultations and hospitalizations, and increase access to health knowledge for both specialists and patients(Dymyt, 2020).

4. KEY COMPONENTS OF EHEALTH IN THE EU

eHealth in the European Union (EU) is based on a range of digital solutions to support patient care. Areas of focus include Electronic Health Records (EHRs), ePrescriptions, mHealth applications, AI and other disciplines that work around Big Data applicable principles(Ammenwerth & Hoerbst, 2010).

EHRs (Electronic Health Records) are a foundational component of eHealth, enabling the digital storage and retrieval of patient information across healthcare systems. EHRs track patient histories, diagnoses, treatments, and lab results, ensuring that healthcare providers have real-time access to critical health data. It thus solidifies the continuity of care and significantly enhances the quality and safety of healthcare through the reduction of medical errors and the evasion of repetitive treatments (Ammenwerth & Hoerbst, 2010).

A significant benefit of EHRs in the EU is their role in cross-border healthcare. Through initiatives like the European Health Data Space, the EU aims to create interoperable systems that allow patient records to be shared seamlessly between member states. For example, the MyHealth@EU portal facilitates the exchange of patient data, enabling EU citizens to receive healthcare in any EU country while ensuring their medical records are accessible by local doctors. Estonia is a leading example, with nearly 100% of its citizens having EHRs that are accessible across its healthcare system, allowing for efficient care management and data sharing (Ammenwerth & Hoerbst, 2010).

Telemedicine has become increasingly important in improving healthcare access, especially in remote and underserved areas. It enables patients to consult with healthcare professionals remotely via video calls, online chats, or phone consultations. Telemedicine reduces the need for patients to travel to medical facilities, making healthcare more accessible and affordable, particularly for those living in rural areas or those with mobility issues. Countries like Finland and Denmark have widely adopted telemedicine to address healthcare disparities in remote regions. For example, Finland uses telemedicine to provide remote mental health services, allowing patients in remote areas to access therapy and psychiatric care. During the COVID-19 pandemic, telemedicine also proved essential in reducing the strain on healthcare facilities, enabling continued patient care while minimizing physical contact (Perednia, 1995).

E-Prescriptions allow healthcare providers to electronically prescribe medications, which patients can fill at pharmacies without needing a paper prescription. This system improves the accuracy of prescriptions by eliminating handwriting errors, reduces the time patients spend waiting for medications, and ensures cross-border recognition of prescriptions within the EU. Sweden and Estonia are leading examples of countries that have implemented e-prescription systems. Estonians, for instance, can retrieve their e-prescriptions from pharmacies across the EU, enhancing convenience and access to medications when traveling (Odukoya & Chui, 2012).

Mobile health (mHealth) refers to the use of mobile apps, wearable devices, and other digital tools to monitor and manage health. These tools empower patients to take control of their health by tracking vital signs, monitoring chronic conditions, and providing real-time data to healthcare providers. Wearable devices such as smartwatches can track heart rates, physical activity, and sleep patterns, allowing individuals to manage conditions like diabetes or hypertension more effectively. Countries like Germany, for example, are now using or experimenting with digital healthcare in their healthcare ecosystem. One of Germany's digital healthcare schemes, for example, involved proposing 'apps on prescription' to help people cope with depression or diabetes. Currently and in the face of the coronavirus pandemic, the German government has allowed health insurance companies in the country to meet the costs of regulation-compliant products that can help users cough more easily and soothe fever(Fiordelli et al., 2013).

AI and Big Data have revolutionized diagnosis and personalized medicine. AI algorithms may analyze large masses of patient data in prediction of diseases, recommendation on treatments, and even assist in the interpretation of images in medicine. Big Data analytics provide insight into epidemiological trends, which can drive the development of personalized treatment plans. In The Netherlands, AI is being used to facilitate higher accuracy in diagnostics in radiology, while Germany is using Big Data to predict a patient\'s outcome and optimize resource allocation. Such technologies would be transformative in terms of furthering the medical community towards predictive, personalized, and efficient care(Cohen et al., 2020).

5. EU POLICIES AND LEGAL FRAMEWORKS

The European Union's eHealth policies are aligned with recommended eHealth regulations, data protection, and data security measures. The following initiatives and regulations aim to facilitate the adoption and effective use of digital healthcare tools and related technologies, so that EU patients and healthcare systems continue to adapt and incorporate new technologies.AppCompatActivityData and more efficient(Fernandes & Chaltikyan, 2020).

The General Data Protection Regulation (GDPR), implemented in 2018, is a critical element in regulating how sensitive health data is handled within the EU. With the increasing reliance on eHealth technologies that involve data sharing and processing, GDPR ensures that privacy and security are top priorities. The regulation requires that patients give explicit consent for the collection and processing of their health data. It also enforces strict penalties for data breaches and non-compliance, compelling eHealth systems to maintain high standards of data protection. GDPR fosters trust in digital health services by ensuring that patient data is secure, which is essential for encouraging the widespread use of eHealth technologies (Fernandes & Chaltikyan, 2020).

The European Health Data Space (EHDS) aims to reduce administrative burdens for researchers, allowing them to concentrate on addressing scientific challenges and developing innovative solutions. Over the coming years, EHDS will drive digital transformation and enhance data utilization within the health sectors across EU Member States. Its primary focus is on enabling efficient sharing of health data for both healthcare delivery and secondary purposes, such as research, innovation, and decision-making. Additionally, EHDS will support the creation of a unified market for digital health services and facilitate the integration of artificial intelligence into healthcare, further advancing innovation and improving healthcare outcomes across Europe (Hendolin, 2021).

"The European Health Data Space (EHDS) will be a key pillar of the strong European Health Union and is the first common EU data space in a specific area to emerge from the European strategy for data. In spring 2024, the European Parliament and the Council reached a political agreement on the Commission proposal for the EHDS. The EHDS will: empower individuals to take control of their health data and facilitate the exchange of data for the delivery of healthcare across the EU (primary use of data) foster a genuine single market for electronic health record systems provide a consistent, trustworthy, and efficient system for reusing health data for research, innovation, policy-making, and regulatory activities (secondary use of data) By doing so, the EHDS will enable the EU to fully benefit from the potential offered by a safe and secure exchange, use and reuse of health data to benefit patients, researchers, innovators, and regulators. Trust is a fundamental enabler for the success of the European Health Data Space. EHDS will provide a trustworthy setting for secure access to and processing a wide range of health data. It builds further on the: General Data Protection Regulation (GDPR) Data Governance Act Data Act Network and Information Systems Directive As horizontal frameworks, they provide rules that apply to the health sector. However, the European Health Data Space will provide specific sectoral rules, considering the sensitivity of health data. The EHDS will also include opt-out rules for: primary use, Member States can offer a complete opt-out from the infrastructures to be built under the EHDS; secondary use, the text includes rules on opting out that build a good balance between respecting patients' wishes and ensuring that the right data is available to the right people for the public interest. Building the European Health Data Space will require significant development work. The Commission supports these efforts by co-financing projects such as: the HealthData@EU pilot project; the Xt-EHR Joint Action, providing direct grants to Member States; building on existing infrastructures" (European Commission, 2024).

6. CHALLENGES AND BARRIERS

The adoption and implementation of eHealth solutions across the European Union (EU) face several challenges and barriers, despite the potential benefits of digital health

technologies. These barriers are often categorized into individual, environmental, organizational, and technical factors, each of which plays a significant role in hindering the widespread integration of eHealth services. One of the primary challenges to eHealth adoption in the EU is individual resistance, driven by cognitive, motivational, and trust-related issues. Many patients, especially older populations, are not familiar with digital technologies and may have difficulty understanding and using eHealth tools. This lack of digital literacy often leads to fear or reluctance to engage with such technologies, compounded by concerns over privacy and data security. Patients may not fully trust eHealth services, fearing that their sensitive health information could be misused or inadequately protected, thereby reducing their willingness to adopt these tools(Schreiweis et al., 2019).

Accessibility is another individual barrier, as some patients may not have access to the necessary technology or internet services to utilize eHealth tools. This digital divide, often between rural and urban areas or between different socioeconomic groups, further hampers the equitable distribution and use of eHealth services across the EU. Moreover, Environmental and organizational factors also pose significant challenges. These include financial issues, political barriers, and entrenched organizational structures that resist change. Many healthcare systems in EU member states face budget constraints, making the investment in new eHealth technologies difficult. This can be further complicated by the political landscape, where inconsistent policies or a lack of regulatory support can hinder the implementation of digital health solutions(Schreiweis et al., 2019). Additionally, healthcare organizations are often slow to change due to rigid hierarchies and the complexity of integrating new systems into existing workflows. The absence of clear guidelines for the adoption and use of eHealth tools, as well as insufficient training for healthcare professionals, limits the efficiency and effectiveness of eHealth applications. Without proper institutional support and investment in training, healthcare providers may struggle to adopt and use these tools effectively. Technical barriers are perhaps the most significant obstacle to eHealth adoption in the EU. These include issues related to system design, usability, and compatibility. Many eHealth systems are not tailored to the specific needs of users, both patients and healthcare providers. For example, the design of the service might not be user-friendly, leading to a poor user experience. Furthermore, there is a lack of standardization across eHealth platforms, making interoperability between systems difficult. This means that different systems often cannot communicate or exchange data seamlessly, reducing the overall effectiveness of eHealth solutions(Schreiweis et al., 2019).

Also, security concerns are another critical technical barrier. Many eHealth systems, especially those involving network-enabled medical devices, fail to meet the required security standards, leaving them vulnerable to cyberattacks. Patients and healthcare

professionals alike are concerned about the protection of personal health data, which further undermines trust in these systems. Inadequate system support, such as a lack of customer service or unclear troubleshooting guidelines, also discourages users from adopting eHealth tools(Schreiweis et al., 2019).

To overcome these barriers, a coordinated effort across the EU is necessary. Investments in improving digital literacy, increasing access to the internet and necessary devices, and developing standardized eHealth systems are crucial. There is also a need for more robust regulatory frameworks to ensure the security and privacy of health data, as well as policies that support the integration of eHealth into healthcare systems. Collaboration between healthcare providers, governments, and technology vendors will be key to ensuring the successful adoption and widespread use of eHealth in the EU(Schreiweis et al., 2019).

7. FUTURE TRENDS AND OPPORTUNITIES

The future of eHealth in the EU offers numerous promising trends and opportunities as healthcare systems undergo digital transformation. A key priority is improving interoperability across national healthcare systems to enable efficient cross-border exchange of health data. This development will foster a more integrated European Health Data Space (EHDS), supporting both research and patient care through seamless data sharing (Koumpouros & Georgoulas, 2019).

Emerging technologies, including artificial intelligence (AI), big data, and cloud computing, are poised to play a pivotal role in advancing healthcare. These innovations will help drive personalized medicine, allowing for more tailored treatments, as well as improving remote diagnostics and disease prevention. Additionally, the growing adoption of mHealth solutions, such as mobile applications and wearable devices, presents new opportunities for continuous patient monitoring and chronic disease management. These tools also enhance patient involvement in managing their health, providing them with real-time data and insights (Koumpouros & Georgoulas, 2019).

Cybersecurity and data privacy are becoming increasingly crucial as eHealth expands, with a strong emphasis on safeguarding sensitive patient information. Ensuring robust data protection will be essential for maintaining trust in digital health solutions. At the same time, the EU is working towards establishing a unified digital health market. This effort aims to stimulate innovation and create more opportunities for small and medium-sized enterprises (SMEs) and startups in the healthcare technology sector, thereby accelerating advancements in eHealth solutions. The future of eHealth in the EU is characterized by enhanced interoperability, technological innovation, patient empowerment, and a focus on data security, all of which will drive the evolution of healthcare and improve patient outcomes (Ramos et al., 2020).

8. CONCLUSION

The paper concludes that eHealth in the European Union (EU) has made significant strides in modernizing healthcare through the integration of digital technologies, such as electronic health records (EHRs), telemedicine, and mobile health applications. These advancements have improved healthcare delivery, facilitated cross-border medical services, and enhanced patient outcomes. However, challenges remain, particularly in ensuring interoperability among healthcare systems across member states, addressing privacy and data security concerns, and overcoming infrastructure limitations, especially in rural areas.

The European Commission's policies, such as the General Data Protection Regulation (GDPR) and the European Health Data Space (EHDS), have played a critical role in promoting innovation while safeguarding patient data. Looking forward, continued collaboration between member states, healthcare stakeholders, and policymakers is essential to address the remaining barriers. The future of eHealth in the EU holds promise, with emerging technologies like artificial intelligence (AI) and blockchain poised to further transform healthcare, enabling predictive diagnostics and secure data sharing. By overcoming existing challenges, the EU can establish itself as a global leader in digital health innovation, ensuring equitable access to healthcare for all its citizens.

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6. Teachers' Treatments of Student Delinquency in Primary Education

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ABSTRACT

In today's learning environments globally, delinquency is making its presence felt even in primary school classrooms; therefore, the role of the teacher is considered crucial in addressing this phenomenon. The teacher, as a person directly involved in the learning environment, has to manage the delinquent behaviour of students by using strategies and corresponding methods that will prevent and help in dealing with the problem in order to create an appropriate climate of two-way communication between students and students and students and teachers.

The identification of the causes of problematic behaviour and the subsequent finding of appropriate solutions must be included in every teacher's plan for dealing with offending behaviour in learning environments, even in primary education. This article aims to provide comprehensive suggestions for prevention and management of student misbehaviour problems in primary school environments.

KEYWORDS: Delinquency, learning environment, teacher, students, prevention, coping, strategies, methods, primary education

1. DELINQUENCY IN THE SCHOOL ENVIRONMENT OF PRIMARY EDUCATION

1.1. Introduction

Globally, delinquency in school environments with overt behaviours of aggression among students is a daily occurrence whose consequences devalue the learning environment and lead to the marginalization of the essential role of learning by reinforcing the isolation of students due to the acceptance of abusive behaviours.

In particular, it has been observed in recent years in the media that students who physically and mentally abuse their classmates have taken centre stage.

The form of offending behaviour among pupils varies and needs to be addressed directly by teachers, who are the direct stakeholders in learning environments at all levels of education.

1.2. Forms of Delinquency

According to scientific views, delinquency corresponds to non-socially acceptable behaviours that lead the individuals who appropriate them to failure, isolation, and lack of respect for human rights, resulting in their violation (Papageorgiou, 2005, p.338).

The majority of educators have formed a view that attributes students' delinquent behaviour as obstruction of teaching, assimilation of knowledge and smooth communication between teachers and students in the school environment Kalantzi-Azizi & Zafeiropoulou, 2004, p.256). Several scholars such as Farrington (1993) and Olweus, (1991), focus on the following forms of delinquent behaviour:

- Verbal assaults aimed at discrediting the student
- Intimidation involving direct or indirect threats
- Physical abuse with direct or indirect verbal or physical abuse
- Distraction without apparent aggression
- Challenging attitude and behaviour towards the teacher
- Distancing from the learning environment with lack of participation in activities or speech, refusal to cooperate, choice of a silent attitude
- Use of violence against persons (students - teachers) and objects in the learning environment

The use of violence is part of aggressive behaviour verbal and physical, overt and covert (Loeber & Stouthamer-Loeber, 1998).

1.3. Causes of delinquency

1.3.1. Pathological - Social factors

Pathological factors include organic behaviours such as hyperactivity, emotional disorders, and low intelligence. As far as social factors are concerned, problematic behaviours arising from the family environment such as domestic violence, problematic relationships between family members (between parents, between parents and children).

Social factors also include problems arising from the school environment, such as lack of flexibility due to inhomogeneity in the cognitive level, social background, cultural background, interests and skills of pupils. (Papathemelis, 2005; Miller, 2002).

1.4. Ways of tackling delinquency and the role of the teacher

The teacher, as a person directly involved in the learning environment, is called upon, in addition to teaching and facilitating the assimilation of knowledge, to be able to manage the prevention as well as the response to delinquent behaviour of the student community.

The teacher primarily has to ensure two-way communication in the learning environment because according to scientific studies, the normality of interpersonal re-

lationships in school environments contributes to the development of the student's cognitive background and to the enhancement of their school consistency (Lambert & McCombs, 1998.

It is important that the teacher has to manage inappropriate behaviours in the classroom in a different way and this depends on the heterogeneity of the sometimes problem, therefore for the most effective management of the problem the necessary basic principles (Kourkoutas, 2007) listed below should be followed:

- Creation of a positive climate in the school environment
- Formation and cultivation of individualized trusting relationships of students with de inquent behavior
- Avoiding stigmatisation and marginalisation of pupils
- Establishing clear boundaries and rules involving the whole learning environment
- Reminders with constant references to rules
- Planned rewards
- Use of alternative methods appropriate to each situation
- De-escalation of difficult situations
- Strengthening the skills - interests and interpersonal relationships of the child with behavioural problems
- Understanding the personality and psychology of children
- Informing the family about the child's delinquent behaviour.

In conclusion, in order to enhance proper behavior management as well as cognitive development, it is necessary to know and implement successful Strategies - Methods (Behets, 1997; Siedentop, 2002; Slavin, 2003).

1.5. Establishing rules

At the beginning of the school year, always with the cooperation of the students, the teacher draws up rules of behaviour and the corresponding consequences of non-compliance in the learning environment with the main objective of strengthening self-control and preventing misbehaviour.

The consequences recorded in the rules do not include sanctions in the form of punishment but in the form of deprivation of privileges of students in the school community and this is because in primary education with article 13 and the P.S. 201/98 there is no entry in the register and progress book of any characteristic of the conduct of the student with offending behaviour and, in addition, no corporal punishment is approved. Therefore, the teacher is required to manage the problematic behaviour of the students by applying the deprivation of privileges and the corresponding logical consequences.

2. TEACHER INTERVENTION STRATEGIES IN THE CLASSROOM

2.1. Method of intervention to modify behaviour

According to this method, the teacher makes interventions to change the problematic behaviour of students based on learning pedagogies such as that of birthing. According to this pedagogical approach, changing problematic behaviour is rewarded with praise as opposed to static delinquency which is rewarded with approval and deprivation of privileges.

In the implementation of this pedagogical method, certain stages are implemented on the basis of which there is control and two-way communication between teacher and students. In particular, the first stage involves the identification and thorough observation of the offending behaviour in order to determine its characteristics and then take appropriate measures.

In the second stage, the teacher is called upon to identify the causes, the circumstances under which the offending behaviour occurred and the impact it had on the school environment.

In the third stage the teacher has at his disposal enough information obtained from the previous stages (first and second) , and defines the objective in terms of changing the problematic behaviour.

In the fourth stage the teacher selects the ways of intervention to change the problematic behaviour, and makes the necessary changes that may concern the school environment, the learning object, the teaching method, the social organisation of the class, or even the way of teaching if necessary.

The teacher in the following year and after his/her initial intervention studies the results of the intervention and according to their evaluation adjusts the new ways of intervention.

Indicative plan for mapping and modifying behaviour - The table below lists the behaviour change targets every week.

Table 1

Objective	Monday	Tuesday	Wednesday	Thursday	Friday
Active participation					
Completion of activities					
Smooth communication with students					
Cooperation					
Constructive use of time					

On days when the student has mastered the target with a noticeable change in behaviour, the teacher places a reward logo in the corresponding cell of the table as listed in the table below.

Table 2

Objective	Monday	Tuesday	Wednesday	Thursday	Friday
Active participation					
Completion of activities					
Smooth communication with students					
Cooperation					
Constructive use of time					

A copy of Table 2 is sent to parents so that they can see the change (improvement) in the student's behaviour and have the opportunity to reward their child for this change.

Several scholars take the view that rewarding is a bribe and should therefore be omitted, contrary to Miller who argues that recognising the change in the offending behaviour of the pupil in the form of a reward is a positive incentive. 2.1 Ensuring basic operating principles in the learning environment.

2.2. Ecosystem Method

This method is based on the change of any part of the ecosystem which has the potential to alter the whole ecosystem. Key features of the method are described below:

- Focus on changing the student's problematic behavior by ignoring the necessary diagnosis of students with problematic behavior.
- Does not target complex implementations involving changes to the existing school environment.

- Enables the teacher to address delinquent behavior to the best of his or her ability.
- In terms of the realisation of the same offending behaviour, it accepts multiple interpretations.
- Promotes emotional tolerance as well as broad perceptions in cases of chronic problems.
- Builds on the positive aspects and potential of students while ignoring weaknesses.
- The practices of the method have the potential to be implemented by teachers who may not have acquired specific knowledge on the subject.
- The practices of the ecosystem method are regeneration practice and backyard practice.

2.2.1. The practice of reframing

This practice concerns the formation of a positive interpretation of offending behaviour, and its main characteristics are:

– Perception of the current account of offending behaviour
– Shaping the positive view of offending behaviour
– Shaping the positive view of offending behaviour
– Selection of a positive view of offending behaviour
– Putting together sentences that a) reflect a positive perspective
– Implementation of a new way of behaviour

In order to apply the practice of reframing, the teacher perceives the problem from a different perspective which leads to a positive interpretation of the problem.

2.2.2. The practice of the backyard

This practice focuses mainly on the behaviour, characteristics and perspectives of the learner, his/her relationships and not at all on the problem. In this way the practice focuses on a part of the ecosystem that may not be directly relevant to the offending problem. Key features of the practice are listed below:

- Identification of non-problematic elements in the ecosystem in which the student with problem behavior operates.
- Highlighting positive characteristics of the student with delinquent behaviour
- Identification of positive attitudes or behaviours of the student with offending behaviour
- Making positive reference to the positive characteristics of the student with offending behaviour

2.3. Drafting a contract

Contract writing is a method of intervention based on which a contract is drawn up between the teacher, the classroom, and the student with problem behaviour. The contract states the desired attitude - behaviour that the problem student is required to have, as well as the actions that the teacher is required to take with detailed descriptions in order to make clear what changes need to be made to the student's problem behaviour. By writing the contract, the interpersonal relationships in the learning environment and, by extension, the ecosystem in which the problem behaviour occurred are strengthened.

3. CONCLUSIONS

Delinquency at all levels of education worldwide is a fact and the education system is therefore required to implement strategies and methods to help manage problematic behaviours in learning environments. The role of the educator is therefore crucial and is the facilitator of the necessary changes required to ensure normalcy in the relationships between members of the learning community.

This article aims to highlight suggestions on how to address problematic behaviours in primary school environments by the teacher whose role is decisive.

There are several pedagogical methods that apply and corresponding practices described previously and are important management tools for the primary school teacher who is called upon daily to deal with problematic student behaviors in the respective school environment.

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7. The Situation of Information Systems in the Greek Public Administration

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ABSTRACT

In the 21st century, the role of information systems in public administration has become fundamental to the effective functioning of governments around the world. The digital transformation of the public sector is now seen as essential for improving the efficiency, transparency, and accountability of government services. Countries with advanced digital infrastructures have demonstrated that robust information systems can significantly reduce bureaucracy, streamline operations, and provide better services to citizens. As a result, governments globally are investing heavily in information technology to support the transition toward fully digitalized public administrations.

KEYWORDS: information systems, public administration

1. INTRODUCTION

In Greece, the digitalization of public administration has been a long and complex process, often hindered by institutional inertia, fragmented systems, and budgetary constraints. Despite these challenges, significant strides have been made over the past two decades to modernize the country's public sector through the implementation of information systems. The goal of these systems is to enhance the delivery of public services, improve communication between government agencies, and create a more citizen-centered approach to governance.

In Greece, the digitalization of public administration has been a long and complex process, often hindered by institutional inertia, fragmented systems, and budgetary constraints. Despite these challenges, significant strides have been made over the past two decades to modernize the country's public sector through the implementation of information systems. The goal of these systems is to enhance the delivery of public services, improve communication between government agencies, and create a more citizen-centered approach to governance.

The importance of information systems in public administration extends beyond improving internal efficiency. They play a crucial role in fostering transparency by providing citizens with direct access to government decisions, policies, and services. Platforms such as the Greek government's "Diavgeia" initiative, which mandates the publication of all government decisions online, represent a critical step toward building trust between

the government and its citizens. Additionally, the integration of information systems is vital for addressing the inefficiencies caused by Greece's traditionally bureaucratic and paper-based processes.

The development of information systems in the Greek public administration has been largely driven by European Union initiatives, as well as the country's own need to modernize in the face of economic and social challenges. EU-funded programs, such as the European Structural and Investment Funds (ESIF), have played a significant role in supporting Greece's digital transformation. However, the full realization of these systems has been slower than anticipated, with many public services still relying on outdated and inefficient processes.

This chapter will explore the current state of information systems in Greek public administration, examining both the successes and the challenges that have defined the digital transformation process. It will provide an overview of key initiatives that have shaped the country's digital landscape, analyze the obstacles that continue to hinder progress, and discuss the impact of recent developments, including the COVID-19 pandemic, on the acceleration of digital services. Furthermore, the chapter will highlight the potential role of the "Digital Transformation Bible 2020-2025" in shaping the future of public sector information systems in Greece.

As Greece continues to navigate its path toward full digitalization, understanding the successes and shortcomings of current information systems is crucial for the country's future. By addressing the technological and organizational challenges that remain, Greece has the potential to build a more efficient, transparent, and citizen-friendly public administration.

2. HISTORICAL DEVELOPMENT OF INFORMATION SYSTEMS IN GREECE

The journey toward the digitalization of Greece's public administration has been long and marked by both progress and setbacks. Greece's first significant steps in modernizing its public sector through information systems began in the early 2000s, driven by a combination of internal policy decisions and external pressures from the European Union. The primary goals of these efforts were to reduce bureaucracy, improve service delivery, and promote transparency across government institutions. However, despite the early promise of these initiatives, the process has been slow, with progress hampered by bureaucratic inertia, limited financial resources, and technological fragmentation.

2.1. Early Digitization Efforts and Initiatives

The first wave of Greece's public sector digitalization can be traced back to the early 2000s, when the government began implementing several key projects aimed at mod-

ernizing its administrative functions. One of the earliest and most significant of these was the **Syzefxis** project, launched in 2006. The Syzefxis project sought to create a unified national telecommunications network that would enable secure, fast, and reliable communication between government agencies. This project was designed to facilitate the exchange of information between ministries, public bodies, and local government authorities, laying the groundwork for a more interconnected public sector. Despite its potential, however, Syzefxis was plagued by delays and implementation issues, with the network still not fully operational more than a decade after its launch.

Another important initiative during this period was the creation of **TAXISnet**, a system that transformed the way tax filings were handled in Greece. Launched in the early 2000s, TAXISnet allowed citizens and businesses to file their taxes electronically, reducing the need for in-person visits to tax offices and streamlining the entire process. TAXISnet is widely regarded as one of the more successful examples of public sector digitalization in Greece, and it continues to serve as a key platform for tax administration to this day. The success of TAXISnet demonstrated the potential benefits of digitalization and set a precedent for further investments in information systems.

2.2. The Influence of the European Union and the Digital Agenda

Greece's progress in developing its information systems has been significantly influenced by its membership in the European Union. The EU has long promoted digital transformation across its member states as part of its broader economic and social development strategies. In particular, the **Digital Agenda for Europe**–an initiative launched by the European Commission in 2010–encouraged member states to adopt e-governance practices and enhance their digital infrastructures. Greece, as an EU member, was required to align its digital policies with this agenda, which included targets for expanding broadband access, improving digital literacy, and increasing the availability of online public services.

To support these objectives, Greece received substantial financial assistance from the EU through various funding mechanisms, including the **European Structural and Investment Funds (ESIF)**. These funds were instrumental in supporting key digitalization projects, such as the development of the **Diavgeia** platform, which was launched in 2010. Diavgeia, also known as the "Clarity" program, required all government decisions, including contracts, budgets, and other official acts, to be published online. This initiative was a major step forward for transparency and accountability in Greek public administration, making government activities more accessible to citizens and the media.

Despite these efforts, the implementation of many information systems was often slow and uneven. While platforms like TAXISnet and Diavgeia represented significant achievements, other projects, such as Syzefxis, struggled to gain momentum. Fragmentation between ministries and public bodies, combined with a lack of coordinated leadership, con-

tributed to delays and inefficiencies. The absence of a unified digital strategy during the early stages of Greece's digital transformation further hindered progress, with different government departments adopting different approaches and technologies.

2.3. Post-2008 Financial Crisis and the Push for Reform

The global financial crisis of 2008 and Greece's subsequent debt crisis had a profound impact on the country's public sector and its digitalization efforts. The economic downturn led to severe austerity measures, which included cuts to public sector spending and widespread layoffs in government departments. These cuts delayed many planned investments in digital infrastructure, as the government prioritized immediate financial stability over long-term modernization projects.

However, the crisis also highlighted the need for reform. The inefficiencies in Greece's public administration became more apparent during this period, as the lack of integrated information systems contributed to delays in processing welfare payments, tax collections, and other critical services. In response to these challenges, Greece's international creditors, including the European Union and the International Monetary Fund (IMF), began to pressure the government to modernize its public administration as part of its bailout agreements.

As a result, the post-crisis period saw a renewed focus on the development of information systems, particularly in areas related to financial management and public sector efficiency. Several new initiatives were launched during this period, including the **ERGANI** system, which was introduced in 2013 to digitize labor relations and employment data. ERGANI enabled businesses to electronically submit employment contracts and declarations, reducing paperwork and simplifying compliance with labor laws.

2.4. Recent Developments: Digital Transformation and the «Digital Transformation Bible 2020-2025»

In recent years, Greece has accelerated its efforts to modernize its public administration through the use of information systems. One of the most significant developments in this regard has been the launch of the **"Digital Transformation Bible 2020-2025"**, a comprehensive strategic plan aimed at overhauling the country's digital infrastructure and services. The plan outlines key priorities for the digital transformation of public administration, including the expansion of e-government services, the integration of information systems across different ministries, and the enhancement of digital skills among public sector employees.

The **COVID-19 pandemic** also played a crucial role in accelerating Greece's digital transformation. The crisis forced the government to rapidly expand its online services to meet the needs of citizens during lockdowns. Platforms like **gov.gr**, which centralizes access to a wide range of public services, were launched during the pandemic and have

become essential tools for citizens and businesses. The success of gov.gr has demonstrated the potential of information systems to improve public service delivery and has provided momentum for further digitalization efforts.

3. CURRENT STATE OF INFORMATION SYSTEMS IN THE GREEK PUBLIC SECTOR

Despite notable efforts over the past two decades, the current state of information systems in the Greek public sector presents a mixed picture. While certain aspects of Greece's public administration have successfully transitioned into the digital age, large parts of the system remain fragmented and underdeveloped. Several key platforms have brought efficiency and transparency to specific sectors, yet the broader integration of digital systems across ministries and public bodies still lags behind many other European nations. In this section, we will examine the most important systems currently in place, assess their effectiveness, and highlight the ongoing challenges.

3.1. Key Information Systems in Place

Several information systems have become cornerstones of the Greek public administration, playing a crucial role in delivering public services more efficiently. Among the most significant systems are:

1. **TAXISnet**: TAXISnet, launched in the early 2000s, remains one of the most successful examples of digital public services in Greece. The platform allows Greek citizens and businesses to file taxes, make payments, and manage their tax-related obligations entirely online. TAXISnet has dramatically reduced the need for in-person visits to tax offices, streamlining a previously cumbersome process. Despite some early challenges, the system is now widely used and regarded as one of the most efficient aspects of Greece's public sector.
2. **ERGANI**: Another critical system is ERGANI, which digitizes labor relations and employment data. Introduced in 2013, this platform allows businesses to electronically submit employment contracts, declarations, and other related documents. The introduction of ERGANI reduced the administrative burden on both businesses and government agencies, improving compliance with labor laws and ensuring better oversight of employment practices.
3. **Diavgeia**: The Diavgeia (Clarity) platform, launched in 2010, is a transparency initiative that requires all government decisions to be published online. This includes contracts, budgets, and other official acts, making it easier for citizens to access government documents and hold public officials accountable. Diavgeia has been praised for its role in promoting transparency in Greek governance, although

challenges remain in ensuring that all decisions are published promptly and comprehensively.

4. **gov.gr**: One of the most recent and comprehensive developments in Greece's digital transformation is the gov.gr portal, launched during the COVID-19 pandemic. This centralized platform offers access to a wide range of public services, including the issuance of certificates, legal affairs, and public health-related services. Gov.gr has quickly become a vital resource for citizens and businesses, providing a single point of access to government services that were previously dispersed across multiple platforms.
5. **KEP (Citizen Service Centers)**: While not fully digitized, the Citizen Service Centers (Κέντρα Εξυπηρέτησης Πολιτών or KEP) play an important role in bridging the gap between citizens and government services. These centers allow citizens to access a variety of services–such as document certifications and applications for public benefits–through in-person assistance. Over time, KEPs have integrated more digital tools, allowing some services to be processed faster and more efficiently.

3.2. Fragmentation and Lack of Interoperability

Despite the success of individual platforms, one of the most persistent issues in Greece's public administration is the fragmentation of information systems across different ministries and agencies. Many departments operate their own, isolated digital systems, leading to a lack of interoperability between platforms. This fragmentation creates inefficiencies, as public employees and citizens alike often have to interact with multiple, disconnected systems to complete a single process.

For example, while TAXISnet efficiently handles tax filings, other financial services, such as social security or pension-related issues, often require interaction with separate systems that do not communicate with TAXISnet. This forces citizens to submit the same information multiple times across different platforms, increasing the administrative burden and causing delays in service delivery.

The lack of interoperability is also evident in the healthcare sector. While some hospitals and healthcare institutions have implemented digital patient records, there is no unified system that allows the seamless sharing of health data across the public healthcare network. This fragmentation can lead to delays in patient care, as health records are not easily transferable between institutions.

3.3. Uneven Progress Across Public Services

Another characteristic of the current state of information systems in the Greek public sector is the uneven pace of digital transformation across different areas of governance. While some ministries and agencies have embraced digital tools, others continue to rely

heavily on outdated, paper-based processes. This inconsistency in digital adoption is particularly evident in local government and municipal services.

In many municipalities, essential services such as the issuance of building permits, the registration of businesses, and even the processing of social benefits still involve substantial in-person interaction and paper documentation. These delays frustrate citizens and contribute to perceptions of inefficiency within the public sector. Efforts to modernize these processes have been slow, largely due to financial constraints and a lack of coordinated leadership across government levels.

3.4. Citizen Access and User Experience

From the citizen's perspective, access to digital public services has improved significantly in recent years, but challenges remain in terms of usability and ease of access. Platforms like gov.gr and TAXISnet have been widely praised for their user-friendly interfaces and the convenience they provide to citizens. However, not all systems have been designed with the end-user in mind.

Many platforms are difficult to navigate, especially for older citizens or those with limited digital literacy. Additionally, some services require users to visit multiple websites or make in-person visits to complete what should be a simple digital transaction. For example, certain applications on gov.gr still require final approval from a Citizen Service Center (KEP) or another government office, undermining the convenience of the online service.

In terms of accessibility, digital literacy remains a key challenge. Although broadband coverage in Greece has expanded in recent years, there is still a digital divide between urban and rural areas. Citizens in remote regions may have limited internet access, making it more difficult for them to use online government services. To fully realize the potential of digital public administration, efforts must be made to increase digital literacy and improve internet infrastructure, particularly in underserved areas.

3.5. Assessment of the Overall System

The current state of information systems in the Greek public sector is best described as a work in progress. While key platforms like TAXISnet, ERGANI, and gov.gr have proven their value in streamlining government services and improving transparency, the broader system is still hampered by fragmentation, inconsistent adoption of digital tools, and gaps in digital literacy among both citizens and public employees.

The government has recognized these challenges and has taken steps to address them, particularly through the **Digital Transformation Bible 2020-2025**, which aims to build a more unified, interoperable system of public services. However, the success of these initiatives will depend on sustained investment in technology, the development of a comprehensive digital infrastructure, and a commitment to improving the digital skills of public sector employees.

4. CHALLENGES FACING INFORMATION SYSTEMS IN GREEK PUBLIC ADMINISTRATION

While Greece has made significant strides in digitizing its public administration, numerous challenges remain that hinder the full realization of a modern, efficient, and integrated public sector. These challenges stem from a combination of institutional, financial, and cultural factors, many of which have been persistent barriers to reform for decades. In this section, we will explore the most pressing obstacles that continue to impede the development and optimization of information systems in the Greek public sector.

4.1. Fragmentation of Systems and Lack of Interoperability

One of the most critical challenges facing Greece's public administration is the fragmentation of its information systems. Ministries, public bodies, and local government authorities often operate independent systems that are not designed to communicate or share data effectively. This lack of interoperability results in inefficiencies, duplicated work, and delays in service delivery, as citizens and public employees are forced to navigate multiple platforms to complete what should be simple transactions.

For example, while systems like TAXISnet and ERGANI function well within their respective domains, there is no unified platform that integrates services related to employment, taxation, social security, and healthcare. This forces citizens to submit the same information to different agencies and platforms, leading to increased administrative burden. Moreover, the lack of seamless communication between these systems hinders the government's ability to deliver coordinated services.

The problem is further exacerbated at the local government level, where many municipalities still rely on outdated, paper-based processes. The inability to integrate local services with national platforms creates bottlenecks in areas such as business registration, issuance of permits, and provision of social services. Achieving interoperability across all levels of government remains a key priority for the country's digital transformation strategy, but progress has been slow due to the absence of a comprehensive digital architecture that connects different systems.

4.2. Budgetary Constraints and Limited Resources

Financial limitations have long been a significant challenge for Greece's public sector, particularly in the wake of the 2008 financial crisis and subsequent austerity measures. The fiscal constraints imposed on the government have restricted its ability to invest in the large-scale technological infrastructure necessary for digital transformation. While European Union funding has provided critical support for many projects, such as the Diavgeia platform and parts of the Syzefxis network, these funds have not been sufficient to address the broader needs of the public sector.

Many ministries and public bodies operate on tight budgets, limiting their ability to upgrade outdated systems or implement new, more efficient platforms. As a result, much of the public administration still relies on legacy software and hardware, which are costly to maintain and difficult to integrate with modern technologies. Without sustained investment in new infrastructure, the progress made in some areas of public administration will remain isolated, rather than contributing to an overall system-wide improvement.

Budget constraints have also impacted the hiring and training of skilled IT professionals within the public sector. Greece's public administration suffers from a shortage of personnel with the expertise needed to manage and maintain complex information systems. This skill gap limits the ability of public bodies to effectively implement and operate new technologies, creating a reliance on external contractors and private-sector partnerships, which may not always be sustainable or cost-effective in the long term.

4.3. Bureaucratic Resistance to Change

Bureaucratic inertia is another major obstacle to the successful implementation of information systems in Greek public administration. The public sector has historically been slow to adopt new technologies, with many civil servants resistant to changes that disrupt established workflows and require significant adaptation. This resistance is often rooted in a deeply ingrained bureaucratic culture, where traditional paper-based processes and manual decision-making are the norm.

Implementing new digital systems requires not only technical upgrades but also a shift in organizational culture. Public employees must be willing to embrace digital tools, and managers must lead by example in promoting the use of these systems to streamline operations. However, many government departments remain reluctant to adopt digital practices, preferring to stick to familiar methods, even when they are less efficient.

The lack of digital literacy among public employees further compounds this issue. Many civil servants lack the necessary training to use new digital systems effectively, which can lead to mistakes, inefficiencies, and frustration. Without a comprehensive training program to improve digital skills across the public sector, the adoption of information systems will remain inconsistent and uneven.

4.4. Data Privacy and Cybersecurity Concerns

As more government services move online, the issue of data privacy and cybersecurity has become increasingly critical. Greek public administration, like many other governments, holds vast amounts of sensitive information on its citizens, including personal data, financial records, health information, and more. Ensuring that this data is protected from unauthorized access, breaches, and cyberattacks is essential for maintaining public trust and safeguarding national security.

Unfortunately, cybersecurity infrastructure in Greece has not kept pace with the rapid expansion of digital services. Many government platforms lack robust security mea-

sures, making them vulnerable to hacking attempts and data breaches. In recent years, there have been several high-profile cases of data leaks and security vulnerabilities in government systems, raising concerns about the public sector's ability to protect sensitive information.

Additionally, Greece's public sector has not yet fully implemented the **General Data Protection Regulation (GDPR)**, a European Union law that mandates strict rules on data protection and privacy. While steps have been taken to align government practices with GDPR requirements, many public bodies still struggle with compliance, particularly when it comes to ensuring that data-sharing practices between ministries are secure and transparent.

Improving the cybersecurity capabilities of public institutions is a pressing priority, especially as more services are digitized and more data is stored online. Without addressing these vulnerabilities, the expansion of information systems in public administration could lead to serious risks for both the government and the citizens it serves.

4.5. Inconsistent Digital Literacy Among Citizens

While the focus of digital transformation efforts is often on government employees and systems, the success of these initiatives also depends on the digital literacy of the general population. In Greece, there is a significant disparity in digital literacy levels between different demographic groups. Older citizens, rural populations, and those with lower levels of formal education are less likely to be familiar with digital platforms, which creates a barrier to accessing online public services.

This digital divide limits the effectiveness of many government initiatives aimed at improving service delivery through online platforms. Even though platforms like gov.gr and TAXISnet have made it easier for citizens to interact with the government, those who lack the necessary digital skills may still rely on in-person visits to public offices or Citizen Service Centers (KEP). As a result, the full potential of these systems remains untapped, and the burden on traditional service channels continues.

Addressing this issue requires a dual approach: improving access to digital services and increasing digital literacy among the population. The government must invest in educational programs that teach citizens how to use online services effectively, while also ensuring that broadband internet access is widely available, particularly in rural and remote areas.

5. RECENT DEVELOPMENTS: THE DIGITAL TRANSFORMATION BIBLE 2020-2025

In recent years, Greece has recognized the need for a more coordinated and comprehensive approach to digital transformation across its public administration. The country's earlier efforts to modernize government services through isolated projects and fragment-

ed systems, while yielding some successes, were insufficient to address the deep-rooted inefficiencies in the public sector. To tackle this, the Greek government introduced the **Digital Transformation Bible 2020-2025**, a strategic roadmap aimed at overhauling the country's digital infrastructure, enhancing e-governance, and improving the interoperability of information systems across all levels of government.

This five-year plan outlines a vision for the future of Greece's digital public administration, emphasizing the need for more integrated, accessible, and secure digital services for citizens and businesses. The Digital Transformation Bible is a key component of Greece's broader goal to catch up with other EU member states in terms of digital readiness and e-governance, making digital tools a central pillar of public service delivery. This section will examine the main objectives of the plan, its early successes, and the challenges that lie ahead.

5.1. Main Objectives of the Digital Transformation Bible

The Digital Transformation Bible 2020-2025 is built on four main pillars: **connectivity, digital public services, digital skills, and cybersecurity**. Each of these pillars is critical to creating a cohesive and modern digital ecosystem that can support the needs of the public administration and its citizens.

1. **Connectivity**: The first pillar of the plan focuses on improving the country's digital infrastructure to ensure widespread, high-speed internet access. One of the key goals is to expand broadband coverage to rural and underserved areas, reducing the digital divide between urban centers and more remote regions. The plan also calls for the development of 5G networks and the deployment of fiber optic infrastructure to boost internet speeds and reliability. These improvements are seen as essential for supporting the growing demand for digital public services and ensuring that all citizens have access to the tools they need to engage with the government online.
2. **Digital Public Services**: The second pillar of the Digital Transformation Bible emphasizes the importance of delivering high-quality, accessible digital public services to citizens and businesses. The plan calls for the expansion and improvement of the **gov.gr** platform, which centralizes access to hundreds of government services, such as the issuance of documents, handling of legal affairs, and public health services. By increasing the number of services available online and improving the user experience, the government aims to reduce the need for in-person visits to government offices and streamline interactions between the public and the state.

   Another major focus is **interoperability**, with a goal of integrating digital platforms across different ministries and government agencies. The plan calls for the development of a unified architecture that allows seamless communication and

data exchange between systems, thereby reducing duplication of information and speeding up service delivery. For example, systems like TAXISnet (tax administration) and ERGANI (labor relations) are expected to be better integrated, allowing for a more cohesive and efficient public sector.

3. **Digital Skills**: Recognizing that digital transformation is not just about technology but also about people, the third pillar of the plan focuses on improving the **digital skills** of both citizens and public employees. For citizens, the government plans to invest in digital literacy programs to ensure that all members of society, regardless of age or background, are equipped to use digital public services. Special emphasis is placed on helping older citizens and those in rural areas develop the skills they need to access online services and engage with the government digitally.

   For public sector employees, the plan includes extensive training programs designed to enhance the digital competencies of civil servants. This is a critical element of the strategy, as the successful implementation of new digital tools depends on the ability of public employees to effectively use and manage these systems. By upgrading the skills of the public workforce, the government hopes to reduce resistance to digital transformation and foster a culture of innovation within the public administration.
4. **Cybersecurity**: The final pillar of the Digital Transformation Bible focuses on strengthening **cybersecurity** measures to protect government systems and citizens' data. As more public services move online, safeguarding sensitive information becomes a top priority. The plan calls for the creation of a national cybersecurity strategy that includes modernizing the security infrastructure of public institutions, establishing protocols for responding to cyber threats, and ensuring compliance with European data protection regulations such as the **General Data Protection Regulation (GDPR)**.

   The government is also investing in the development of a national cybersecurity center, which will serve as a hub for monitoring threats, coordinating responses, and providing guidance to government agencies on best practices for data security. By building a more resilient cybersecurity framework, Greece aims to mitigate the risks associated with digital transformation and foster greater trust in online public services.

5.2. Early Successes of the Digital Transformation Bible

Since its launch, the Digital Transformation Bible has already yielded several tangible results. One of the most visible successes has been the **expansion of the gov.gr platform**, which now offers more than 1,300 services online. Citizens can access services related to healthcare, education, taxation, and more through a single, user-friendly portal. This has dramatically reduced the need for in-person visits to government offices,

which were previously a major source of frustration for citizens due to long wait times and bureaucratic inefficiencies.

Another early success is the progress made in expanding high-speed internet access across the country. The rollout of 5G networks in major cities and the expansion of fiber optic connections in rural areas are helping to close the digital divide, ensuring that more citizens can benefit from digital public services. These infrastructure improvements are also critical for supporting the growing demand for remote work and online education, both of which have become more important in the wake of the COVID-19 pandemic.

The government has also made significant strides in **training public employees** to use digital tools. Thousands of civil servants have participated in digital skills training programs, improving their ability to manage and operate new information systems. This has helped to reduce resistance to digital transformation within the public sector and has enabled the faster rollout of new digital platforms.

6. CHALLENGES AND FUTURE PROSPECTS

Despite the early successes of the Digital Transformation Bible, several challenges remain. One of the biggest obstacles is the **fragmentation of legacy systems**, which continue to hinder interoperability between different government platforms. While efforts are being made to integrate existing systems, the complexity of the task and the lack of a unified digital architecture have slowed progress. Achieving full interoperability will require sustained investment and close coordination between different ministries and agencies.

Another challenge is the **digital literacy gap** that persists among certain segments of the population, particularly older citizens and those living in remote areas. While the government has made progress in expanding internet access, ensuring that all citizens can effectively use online services remains a significant hurdle. Addressing this issue will require continued investment in education and outreach programs to ensure that no one is left behind in the digital transition.

In terms of cybersecurity, while the government has outlined ambitious plans to improve its defenses, the growing sophistication of cyber threats means that the public sector must remain vigilant. Implementing the necessary security measures across all government platforms will require ongoing investment, particularly as more services move online and the volume of sensitive data grows.

Looking ahead, the success of the Digital Transformation Bible will depend on the government's ability to maintain momentum and address these challenges. By building on the early successes and continuing to invest in digital infrastructure, skills development, and cybersecurity, Greece has the potential to create a more efficient, transparent, and citizen-friendly public administration. The next few years will be critical in de-

termining whether the goals outlined in the Digital Transformation Bible can be fully realized, but the early progress suggests that Greece is on the right path toward digital modernization.

7. CONCLUSION

The digital transformation of Greece's public administration has been a long and complex journey, shaped by both successes and persistent challenges. Over the past two decades, key information systems such as TAXISnet, ERGANI, and Diavgeia have revolutionized certain aspects of public service delivery, offering citizens greater convenience and increasing transparency in government operations. However, these isolated successes are contrasted by widespread fragmentation across ministries, a lack of interoperability between systems, and limited digital literacy among both public employees and citizens.

The introduction of the **Digital Transformation Bible 2020-2025** marks a turning point in Greece's approach to modernizing its public administration. By setting clear goals for connectivity, digital services, skills development, and cybersecurity, the government has laid out an ambitious roadmap for the future. Early successes, such as the expansion of the **gov.gr** platform and the rollout of high-speed internet infrastructure, indicate that Greece is beginning to make meaningful progress toward achieving a more integrated and efficient digital public sector.

Despite this progress, significant challenges remain. Fragmented legacy systems continue to impede the seamless flow of information across different government departments, and the digital divide still limits access to online services for many citizens. Budgetary constraints and cybersecurity risks also pose ongoing threats to the successful implementation of the government's digital strategy.

Looking ahead, the next few years will be crucial in determining whether Greece can fully realize the vision outlined in the Digital Transformation Bible. By addressing the challenges of fragmentation, improving digital literacy, and investing in cybersecurity, Greece has the opportunity to transform its public administration into a modern, efficient, and citizen-centric system. The country's ability to maintain momentum, ensure sustained funding, and foster collaboration across all levels of government will be key to the success of its digital transformation efforts.

In conclusion, while Greece has made significant strides in developing its information systems, the path toward a fully digitalized public administration is far from complete. With the right investments and strategic initiatives, the country can overcome its remaining challenges and build a public administration that leverages the full potential of digital technology to serve its citizens effectively and transparently. The groundwork has been laid, and the future of digital public administration in Greece holds great promise.

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8. The role of mentoring in shaping effective leaders in education

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ABSTRACT

Mentoring is a developmental relationship in which a more experienced individual, the mentor, provides guidance, knowledge, and support to a less experienced individual, known as the mentee, to facilitate their personal and professional growth. It is a dynamic, often long-term process characterized by mutual trust and respect, where the mentor acts as a role model, advisor, and motivator. The ultimate goal of mentoring is to empower the mentee to achieve their goals, improve their skills, and navigate challenges effectively.

Mentoring has been recognized as a critical tool in leadership development, particularly in the field of education, where effective leadership directly impacts institutional performance and student success. It fosters the transmission of tacit knowledge, builds professional networks, and enhances the mentee's self-confidence and decision-making abilities.

KEYWORDS: Mentoring, Leadership Development, Education

1. WHAT IS MENTORING?

The term "mentoring" originates from Greek mythology, where Mentor, a trusted advisor, was tasked with guiding Odysseus's son, Telemachus, during his father's absence. This historical concept has evolved into a structured and purposeful interaction between individuals across diverse fields. Modern mentoring extends beyond mere advice-giving to include personalized support, skill-building, and fostering the mentee's independence.

Mentoring involves both formal and informal approaches. Formal mentoring often takes place within organizational structures, with defined goals, timelines, and objectives. Informal mentoring, on the other hand, arises spontaneously through personal connections and shared interests. Both approaches contribute significantly to personal and professional development.

2. DIFFERENCES BETWEEN MENTORING AND COACHING

While mentoring and coaching share commonalities, such as their focus on individual growth and development, they differ in several key aspects. Understanding these distinctions is crucial for effectively applying mentoring in leadership development within education.

2.1. Focus

Mentoring focuses on long-term development, addressing both personal and professional growth. It emphasizes building a holistic relationship that enables the mentee to develop broader perspectives and competencies.

Coaching, in contrast, is goal-oriented and often short-term. It targets specific skills or objectives, such as improving performance in a particular area or solving a defined problem.

2.2. Relationship Dynamics

In mentoring, the relationship is typically non-hierarchical, with the mentor serving as a trusted advisor who shares their experience and insights. The emphasis is on fostering a supportive, collaborative bond. Coaching, however, tends to be more structured, with the coach taking an authoritative role in guiding the individual toward achieving measurable results.

2.3. Knowledge Transfer

Mentoring involves sharing accumulated knowledge, wisdom, and experiences. It is often seen as a pathway for transferring tacit knowledge within an organization. Coaching focuses on unlocking the coachee's potential through questioning, active listening, and problem-solving techniques, often without requiring the coach to have direct expertise in the subject area.

2.4. Approach

Mentoring encourages self-discovery and personal growth through ongoing dialogue and support. It is less prescriptive and adapts to the evolving needs of the mentee. Coaching follows a structured methodology with a clear agenda, employing specific tools and frameworks to achieve desired outcomes.

3. THE ROLE OF LEADERSHIP IN EDUCATION

3.1. The Importance of Leadership in the Educational Community

Leadership in education is a cornerstone for creating a positive and effective learning environment. Educational leaders, such as school principals, department heads, and senior administrators, play a critical role in shaping the vision, culture, and direction of educational institutions. Their influence extends beyond operational management to include inspiring teachers, fostering innovation, and addressing the diverse needs of students and staff.

Effective leadership ensures that educational institutions remain adaptive to changing societal needs and technological advancements. It encourages collaboration among educators, motivates staff to achieve their potential, and ultimately enhances student

outcomes. Furthermore, educational leaders are responsible for maintaining equity, inclusivity, and high standards within their institutions, thus contributing to the broader development of society.

Research highlights that schools with strong, transformational leaders are more likely to achieve high levels of academic performance, teacher satisfaction, and student engagement. Such leaders cultivate an environment where continuous learning and professional development are prioritized, laying the foundation for long-term success.

3.2. Challenges and Demands of Leadership in Education

Educational leadership is not without its challenges. Leaders in this field face a complex array of demands that require a multifaceted skill set and the ability to balance competing priorities. Key challenges include:

3.2.1. Resource Constraints

Educational leaders often operate within tight budgets and limited resources, which can hinder their ability to implement necessary programs and innovations.

3.2.2. Evolving Educational Policies

Frequent changes in educational policies and regulations require leaders to stay informed and adapt their strategies accordingly. Navigating bureaucratic processes while maintaining institutional goals is a persistent challenge.

3.2.3. Diverse Stakeholder Expectations

Leaders must address the needs and expectations of various stakeholders, including students, parents, teachers, and governing bodies, often with differing priorities.

3.2.4. Technological Integration

With the rapid advancement of technology, leaders must ensure that their institutions embrace digital tools to enhance teaching and learning while providing adequate training for staff.

3.2.5. Emotional and Social Challenges

The mental health and well-being of both students and staff are growing concerns. Leaders must create supportive environments while addressing issues such as stress, burnout, and bullying.

To meet these demands, educational leaders need robust interpersonal, strategic, and decision-making skills. This highlights the importance of effective leadership development programs, such as mentoring, which provide aspiring leaders with the tools and support needed to navigate these complexities.

4. PURPOSE AND OBJECTIVES OF THE STUDY

4.1. What the Study Will Examine

This study explores the role of mentoring in shaping effective leaders within the educational sector. It seeks to examine how mentoring relationships contribute to the development of essential leadership qualities, such as decision-making, communication, and emotional intelligence. Additionally, the study aims to investigate successful mentoring models and identify best practices that can be applied in the educational context.

The study will also address the broader implications of mentoring on institutional performance and professional satisfaction among educators. Through a review of theoretical frameworks and practical examples, it will highlight how mentoring fosters the growth of capable leaders who can respond effectively to the challenges of the educational environment.

4.2. The Significance of the Mentoring-Leadership Relationship

The relationship between mentoring and leadership is particularly significant in education, where the quality of leadership has a direct impact on teaching standards, student success, and institutional sustainability. Mentoring serves as a vital mechanism for transferring knowledge, building confidence, and enhancing the leadership capacity of individuals at various stages of their careers.

Mentoring provides aspiring educational leaders with access to experienced professionals who can guide them through complex decision-making processes, share insights from their own experiences, and offer constructive feedback. This relationship not only accelerates the professional growth of mentees but also contributes to the development of a collaborative and resilient educational community.

By fostering a culture of mentorship within educational institutions, leaders can create a ripple effect, encouraging a new generation of educators to embrace leadership roles and contribute meaningfully to their organizations. This study aims to emphasize the strategic importance of mentoring in developing effective educational leaders and its potential to drive systemic improvements in education.

4.3. THEORETICAL FRAMEWORK OF MENTORING

4.3.1. Historical Evolution of Mentoring

The concept of mentoring has its roots in ancient Greek culture, where it was first introduced through Homer's epic, *The Odyssey*. In the story, Mentor, a trusted friend of Odysseus, was entrusted with guiding and educating Telemachus, Odysseus's son, during his father's absence. This origin established the fundamental idea of mentoring as a relationship centered on guidance, wisdom, and personal growth.

The practice of mentoring has evolved significantly over centuries, expanding beyond its classical origins. In medieval times, the concept of apprenticeship mirrored mentoring, where skilled artisans provided hands-on training and knowledge transfer to their apprentices. This relationship ensured the continuity of specialized skills and trade knowledge, reflecting an early form of structured mentoring in professional settings.

During the Industrial Revolution, mentoring took on a more formal role as industries grew and the need for skilled labor increased. Senior workers often guided and mentored younger, less experienced colleagues, ensuring a seamless transfer of technical knowledge within organizations. This period marked the integration of mentoring into workplaces, emphasizing its practical benefits for organizational growth and employee development.

In contemporary times, mentoring has become an essential strategy for personal and professional development across diverse sectors, including education, business, healthcare, and technology. Its evolution has been shaped by the growing complexity of workplaces, the rapid pace of technological change, and the increasing emphasis on leadership development.

4.3.1.1. From Informal to Formal Mentoring Programs

While traditional mentoring was often informal, arising from personal connections, modern organizations have institutionalized mentoring through structured programs. These programs are designed with clear objectives, timelines, and metrics for success. Formal mentoring initiatives are especially prominent in industries that prioritize leadership pipeline development and employee retention.

4.3.1.2. Diversification of Mentoring Models

The development of different mentoring models has expanded the applicability of the practice. For instance:

a. **Reverse Mentoring:** Introduced in the late 20th century, this model allows younger employees to mentor senior colleagues, often on topics like technology and digital trends.
b. **Group Mentoring:** A single mentor guides multiple mentees, fostering collaboration and shared learning experiences.
c. **Peer Mentoring:** Colleagues at similar career stages support each other's development, emphasizing mutual growth.

4.3.1.3. Mentoring in the Digital Age

The rise of digital tools has revolutionized mentoring by breaking geographical barriers and introducing virtual mentoring platforms. Online mentoring programs now enable professionals worldwide to connect, share insights, and collaborate, making mentoring more accessible and inclusive than ever before.

4.3.1.4. Focus on Diversity and Inclusion

Modern mentoring initiatives increasingly aim to address diversity and inclusion challenges within organizations. By providing support to underrepresented groups, such as women, minorities, and individuals from disadvantaged backgrounds, mentoring helps create equitable opportunities and promotes a culture of inclusivity.

4.3.1.5. Mentoring in Education

Within the education sector, mentoring has become a cornerstone for leadership development and teacher training. Aspiring educational leaders benefit from the guidance of experienced mentors who help them navigate the complexities of managing institutions, fostering innovation, and promoting student success.

5. MENTORING MODELS

5.1. Classical Mentoring Model

The classical mentoring model is the most traditional form of mentoring, characterized by a one-on-one relationship between a mentor and a mentee. In this model, the mentor serves as a guide, advisor, and role model, sharing their experience and knowledge to help the mentee grow personally and professionally. The relationship is typically long-term, emphasizing trust, mutual respect, and the development of the mentee's skills and competencies.

- Personalized guidance tailored to the mentee's needs.
- Focus on career development and leadership skills.
- Emphasis on the transfer of tacit knowledge and expertise.
- Best suited for fostering deep, meaningful professional relationships.

The classical model is widely used in professional settings where individual growth is prioritized, such as leadership development programs in education.

5.2. Reverse Mentoring

Reverse mentoring flips the traditional mentoring relationship, with a younger, less experienced individual guiding a senior colleague. This model emerged in the late 20th century, primarily in response to rapid technological advancements. It allows senior professionals to learn about emerging trends, technologies, and contemporary practices from younger generations.

- Focus on mutual learning and breaking generational barriers.
- Senior mentees gain insights into digital trends, social media, and cultural shifts.
- Younger mentors develop confidence and leadership skills.
- Encourages inclusivity and adaptability in organizations.

Reverse mentoring is especially relevant in educational settings, where seasoned educators and administrators can benefit from fresh perspectives on technology integration and innovative teaching practices.

5.3. Group Mentoring

Group mentoring involves a single mentor guiding multiple mentees simultaneously. This model fosters collaboration, shared learning, and peer support among the mentees. It is particularly effective in environments where common goals or challenges exist.

- Encourages teamwork and collective problem-solving.
- Allows mentees to learn from each other's experiences and perspectives.
- Enhances the mentor's ability to address diverse needs in a single session.
- Useful for fostering community and networking within educational institutions.

Group mentoring is increasingly used in education to support aspiring leaders, offering them a platform to share ideas and collaboratively tackle challenges under the guidance of an experienced mentor.

6. LEADERSHIP IN EDUCATION

6.1. Types of Leadership

Leadership in education can take various forms, each reflecting different philosophies, approaches, and goals. Effective leaders often combine elements from multiple styles to address the specific needs of their institutions.

6.1.1. Participative Leadership

Participative leadership, also known as democratic leadership, emphasizes collaboration and shared decision-making. Leaders in this style actively involve teachers, staff, and other stakeholders in the decision-making process, fostering a sense of ownership and accountability.

- Encourages open communication and feedback.
- Promotes team cohesion and trust.
- Values the contributions of all stakeholders.
- Particularly effective in fostering innovation and problem-solving.

In education, participative leadership can enhance teacher satisfaction, student engagement, and overall institutional performance by creating a sense of community and collective responsibility.

6.1.2. Transformational Leadership

Transformational leadership focuses on inspiring and motivating individuals to achieve their full potential and exceed expectations. Transformational leaders prioritize vision, innovation, and personal development, creating an environment of continuous improvement.

- Establishes a compelling vision for the future.
- Encourages creativity, innovation, and adaptability.
- Prioritizes professional growth and empowerment of staff.
- Builds strong emotional connections with the team.

In educational settings, transformational leaders can drive systemic change, foster a culture of excellence, and inspire teachers and students to strive for higher standards.

6.1.3. Institutional Leadership

Institutional leadership, also known as bureaucratic leadership, emphasizes structure, policies, and accountability within educational institutions. Leaders operating under this style focus on maintaining order, ensuring compliance with regulations, and achieving institutional objectives.

- Focus on organizational stability and efficiency.
- Strict adherence to policies and protocols.
- Emphasis on roles, responsibilities, and accountability.
- Effective for managing large-scale institutions with complex structures.

While institutional leadership may lack the dynamism of other styles, it is essential for maintaining consistency and ensuring the smooth functioning of educational systems, particularly in large or highly regulated environments.

6.2. Characteristics of an Effective Leader in Education

6.2.1. Communication Skills

Effective communication is a cornerstone of successful leadership in education. Educational leaders must be able to articulate their vision clearly, listen actively to stakeholders, and facilitate open dialogues among staff, students, and parents. Strong communication skills enable leaders to build trust, resolve conflicts, and foster transparency. **Key Aspects of Communication:**

- **Active Listening:** Understanding the concerns and suggestions of stakeholders to make informed decisions.
- **Clarity:** Articulating objectives and expectations in a way that is easily understood.

- **Feedback:** Providing constructive feedback to support professional growth.
- **Empathy:** Demonstrating understanding and compassion in interactions.

6.2.2. Emotional Intelligence

Emotional intelligence (EI) refers to the ability to recognize, understand, and manage one's emotions and the emotions of others. In educational leadership, EI is essential for building strong relationships, managing stress, and creating a positive institutional climate. Components of EI in Leadership:

- **Self-awareness:** Recognizing one's emotions and their impact on decision-making.
- **Empathy:** Understanding and addressing the emotional needs of others.
- **Self-regulation:** Managing stress and maintaining composure in challenging situations.
- **Social Skills:** Building and sustaining collaborative relationships.

Leaders with high emotional intelligence inspire trust and loyalty, foster a supportive environment, and navigate interpersonal dynamics effectively.

6.2.3. Crisis Management Skills

Educational leaders frequently face crises, ranging from sudden policy changes to unexpected disruptions like natural disasters or health emergencies. An effective leader must remain calm, assess the situation critically, and implement solutions that minimize negative impacts. Key Crisis Management Skills:

- **Decisiveness:** Making prompt and informed decisions under pressure.
- **Problem-Solving:** Identifying root causes and developing practical solutions.
- **Resilience:** Maintaining morale and focus during challenging times.
- **Communication:** Providing clear and consistent information to stakeholders.

Crisis management not only ensures stability but also strengthens the leader's credibility and the institution's ability to adapt.

7. THE ROLE OF THE LEADER IN THE DEVELOPMENT OF THE EDUCATIONAL COMMUNITY

7.1. Teacher Engagement

A key responsibility of educational leaders is fostering the engagement and motivation of teachers. Engaged educators are more likely to innovate, collaborate, and deliver high-quality instruction, contributing to the overall success of the institution. Strategies for Teacher Engagement:

- Providing opportunities for professional development.
- Recognizing and rewarding excellence in teaching.
- Encouraging autonomy and creativity in instructional methods.
- Involving teachers in decision-making processes.

7.2. Creating a Collaborative Environment

Collaboration is essential for achieving shared goals in education. Leaders must create an inclusive and cooperative atmosphere where all stakeholders feel valued and empowered to contribute. Ways to Promote Collaboration:

- Facilitating team-building activities and shared projects.
- Encouraging cross-departmental communication and cooperation.
- Establishing a culture of mutual respect and trust.
- Providing resources and support for collaborative initiatives.

By fostering collaboration, educational leaders enable their institutions to address challenges collectively and achieve sustained success.

8. THE ROLE OF MENTORING IN LEADERSHIP DEVELOPMENT. THE IMPACT OF MENTORING ON PERSONAL AND PROFESSIONAL GROWTH

Mentoring is a powerful tool for nurturing leadership potential by providing tailored guidance and support to aspiring leaders. It enables individuals to gain insights, overcome challenges, and develop essential skills.

Mentoring helps mentees build self-confidence by offering encouragement, constructive feedback, and opportunities to tackle challenges under the mentor's guidance. Through this supportive relationship, mentees gain the assurance needed to take initiative, make decisions, and embrace leadership roles.

- Reduced fear of failure through mentor support.
- Increased self-awareness and understanding of strengths.
- Empowerment to handle responsibilities and take risks.

Mentors play a critical role in equipping mentees with the skills necessary for effective leadership. Through personalized coaching, role modeling, and knowledge sharing, mentors help mentees refine competencies such as strategic planning, communication, and decision-making. Skills Gained Through Mentoring:

- **Strategic Thinking:** Learning to develop and implement long-term visions.

- **Conflict Resolution:** Managing interpersonal disputes and maintaining harmony.
- **Delegation:** Distributing tasks effectively to optimize team performance.
- **Adaptability:** Navigating changing circumstances with flexibility.

By enhancing these skills, mentoring prepares individuals to step into leadership roles with confidence and competence.

9. SUCCESSFUL EXAMPLES OF MENTORING IN EDUCATION

9.1. Case Studies from International Examples

9.1.1. The National College for Teaching and Leadership (NCTL) – United Kingdom

The NCTL in the UK has implemented mentoring programs aimed at developing school leaders through structured guidance and support. One notable initiative is the "Headteacher Mentoring Program," which pairs experienced headteachers with aspiring leaders. This program emphasizes real-world problem-solving, leadership skill development, and creating a support network for mentees.

Impact:

a. Increased retention of school leaders.
b. Improved leadership confidence among mentees.
c. Enhanced school performance through innovative leadership practices.

9.1.2. Teach for America (TFA) – United States

Teach for America integrates mentoring into its teacher development program by pairing new teachers with seasoned educators. This approach supports early-career teachers in navigating classroom challenges and fosters leadership potential for broader educational reforms.

Impact:

a. Higher job satisfaction among mentees.
b. Stronger leadership pipelines within participating schools.

9.1.3. Singapore's Leadership Development Framework

Singapore's education system is renowned for its mentoring practices, particularly through its "Principalship Preparation Program." Senior school leaders mentor potential principals, focusing on strategic planning, decision-making, and stakeholder management.

Impact:

a. Consistent development of competent leaders.
b. Seamless transitions in leadership positions.

9.2. Practical Applications of Mentoring in Greece

9.2.1. Mentoring for Newly Appointed Principals

In Greece, some pilot programs within educational institutions offer mentoring to newly appointed school principals. Experienced educators guide them through administrative, pedagogical, and leadership challenges, ensuring smoother transitions into their roles.

9.2.2. University-Based Mentoring Initiatives

Greek universities, such as the University of Athens, have implemented mentoring programs for teacher training students. These initiatives pair students with experienced professors to provide insights into effective teaching strategies and classroom management.

9.2.3. Challenges in Greece

While mentoring programs are gaining traction, issues such as limited funding, lack of institutional support, and inconsistent implementation hinder their widespread adoption.

10. THE CONNECTION BETWEEN MENTORING AND LEADERSHIP

10.1. Transforming Mentees into Future Leaders

Mentoring is a key driver in transforming mentees into competent leaders by offering personalized support and hands-on learning opportunities. Through exposure to leadership practices, mentees develop critical skills such as strategic thinking, team management, and adaptability. Steps in the Transformation Process:

a. **Knowledge Transfer:** Mentors share insights and experiences that mentees can apply in their leadership roles.
b. **Skill Development:** Continuous guidance helps mentees refine decision-making and problem-solving abilities.
c. **Empowerment:** Mentees gain confidence to take on leadership responsibilities and innovate within their organizations.

10.2. Fostering Teamwork and Collaboration Through Mentoring

Mentoring not only benefits individual growth but also enhances collaboration within the educational community. By creating networks of mentorship, institutions promote shared learning and teamwork among educators. Key Outcomes:

a. Stronger professional relationships between mentees and mentors.
b. Development of a collaborative culture where educators support each other.
c. Enhanced problem-solving through collective expertise.

Mentoring thus acts as a catalyst for building cohesive teams, fostering innovation, and strengthening institutional performance.

11. CHALLENGES AND LIMITATIONS OF MENTORING

11.1. Problems in Mentor-Mentee Relationships

Despite its benefits, mentoring is not without its challenges. Issues in the mentor-mentee relationship can undermine the effectiveness of the process.

a. **Lack of Trust** Trust is the foundation of successful mentoring. When mentees doubt the mentor's intentions or expertise, or when mentors perceive mentees as unmotivated, the relationship becomes strained. Impact:
   - Reduced communication and openness.
   - Ineffectiveness in achieving mentoring goals.

b. **Inadequate Guidance** Not all mentors possess the skills or commitment required to effectively guide their mentees. Some mentors may lack the ability to provide constructive feedback or dedicate sufficient time to the relationship.

Impact:
   - Mentees feel unsupported or frustrated.
   - Limited professional growth for mentees.

11.2. Addressing Challenges

To overcome these limitations, organizations and institutions must:

a. Provide training for mentors to enhance their skills and commitment.
b. Establish clear objectives and expectations for both parties.
c. Foster an open and supportive environment to build trust and communication.

By addressing these challenges, mentoring programs can maximize their impact on leadership development in education.

11.3. Organizational Constraints

11.3.1. Lack of Time and Resources

One of the most significant organizational challenges to implementing effective mentoring programs is the scarcity of time and resources. Educational leaders and teachers often face demanding schedules, leaving little room for mentoring activities. Additionally, the financial resources required to support formal mentoring programs, such as training sessions, monitoring tools, and incentives, may be unavailable or insufficient. Impacts:

a. Reduced participation in mentoring programs due to overburdened schedules.
b. Limited opportunities for mentees to engage in meaningful interactions with mentors.

c. Inability to sustain long-term mentoring initiatives due to funding constraints.

11.3.2. Structural Weaknesses in the Educational System

The rigidity of some educational systems poses barriers to effective mentoring. Hierarchical structures, lack of support for innovation, and inadequate frameworks for professional development hinder the integration of mentoring into organizational practices. Examples of Structural Weaknesses:

a. Absence of institutionalized mentoring policies.
b. Lack of alignment between mentoring programs and broader educational goals.
c. Insufficient recognition of mentoring as a critical component of leadership development.

11.4. Impacts

a. Fragmented and inconsistent mentoring practices.
b. Reduced effectiveness of mentoring due to misalignment with institutional priorities.

12. PROPOSALS FOR IMPROVING MENTORING IN EDUCATION

12.1. Establishing Institutional Frameworks

Creating robust institutional frameworks for mentoring can address many of the challenges faced by educational organizations. These frameworks should outline clear goals, roles, and responsibilities for mentors and mentees while ensuring alignment with broader institutional objectives. Recommendations:

a. Develop policies that mandate mentoring for new leaders and educators.
b. Allocate specific time slots within professional schedules for mentoring activities.
c. Ensure consistent funding for mentoring programs through public or private partnerships.

12.2. Training for Mentors

Effective mentoring requires skilled and committed mentors. Providing specialized training equips mentors with the tools they need to guide mentees effectively and address challenges in their professional development.

a. Communication and active listening skills.
b. Conflict resolution and problem-solving techniques.
c. Strategies for fostering trust and motivation.

12.3. Benefits of Training

a. Enhanced mentor-mentee relationships.
b. Improved outcomes in leadership development programs.
c. Greater satisfaction for both mentors and mentees.

13. CONCLUSIONS

13.1. Summary of Findings

This study has explored the vital role of mentoring in the development of effective educational leaders. Key findings include:

a. Mentoring enhances leadership competencies such as decision-making, emotional intelligence, and communication.
b. Effective mentoring fosters professional confidence and prepares mentees to navigate complex challenges.
c. Mentoring programs contribute to a collaborative and inclusive culture within educational institutions, benefiting all stakeholders.

Mentoring is a cornerstone of leadership development in education. It provides aspiring leaders with the guidance, support, and skills needed to address the dynamic challenges of modern educational systems. By fostering a culture of continuous learning and collaboration, mentoring strengthens the capacity of educational institutions to achieve their goals and improve outcomes for students.

13.2. Recommendations for the Future

To maximize the impact of mentoring in education, several key steps are recommended:

a. **Government Support for Mentoring Programs**
   – Provide funding and resources to expand mentoring initiatives.
   – Recognize mentoring as a formal component of professional development.
b. **Promotion of Research Initiatives**
– Invest in studies that evaluate the effectiveness of mentoring in education.
– Explore innovative models and technologies to enhance mentoring practices.
c. **Integration of Mentoring into Leadership Development**
– Make mentoring a mandatory part of leadership training programs for educators.
– Encourage peer and group mentoring to build supportive professional networks.

By addressing current challenges and implementing these recommendations, mentoring can continue to play a transformative role in shaping the next generation of educational leaders, fostering innovation, and promoting excellence in education.

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9. Mentoring - Coaching as a form of Educational Consulting

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ABSTRACT

Mentoring and coaching are increasingly recognized as vital forms of educational consulting that contribute significantly to personal and professional development in various educational settings. This paper explores the integration of mentoring and coaching within the context of educational consulting, emphasizing their potential to enhance learning outcomes and facilitate continuous professional development among educators and learners. By adopting a qualitative research approach, this study examines case studies and theoretical frameworks that elucidate the roles and impacts of mentoring and coaching as distinct yet complementary strategies in education.

Mentoring, traditionally seen as a relationship-based process, involves an experienced mentor providing guidance, support, and feedback to a less experienced mentee. This form of developmental interaction is pivotal in transmitting institutional knowledge and professional norms, thus fostering the professional growth and integration of newer educators or students into their respective fields. Coaching, on the other hand, is often more goal-oriented and performance-focused, emphasizing the development of specific competencies or the achievement of set objectives within a shorter time frame. Coaches work with individuals or groups to unlock potential, improve performance, and enhance skill acquisition through structured and purposeful interactions.

KEYWORDS: Mentoring, Coaching, Consulting

1. THEORY

The synthesis of mentoring and coaching in educational consulting represents a dynamic approach to professional development that addresses diverse learning needs and preferences. Educational consultants utilizing these methods can provide targeted support, tailored learning experiences, and strategic advice, thereby optimizing educational outcomes. This paper presents a conceptual framework that identifies the key characteristics, methodologies, and benefits of mentoring and coaching within educational consulting. It highlights how these approaches can be effectively integrated into educational practices to support lifelong learning and adaptability.

Furthermore, the paper discusses the practical implications of mentoring and coaching for educational consultants, including the development of effective communication

skills, the importance of establishing trust, and the need for flexibility in approach. It also explores the challenges consultants might face, such as maintaining professional boundaries, recognizing and managing conflicts of interest, and ensuring that the interventions are culturally and contextually appropriate.

Through an extensive review of literature and empirical data, this study demonstrates that when effectively implemented, mentoring and coaching can significantly enhance the educational landscape. These practices not only support the acquisition of knowledge and skills but also promote reflective practice, resilience, and a positive learning environment. The paper concludes with recommendations for educational stakeholders on optimizing the benefits of mentoring and coaching, suggesting areas for further research, and discussing potential developments in the field of educational consulting.

In summary, this paper argues that mentoring and coaching are essential components of educational consulting that can profoundly impact educational practices and outcomes. By fostering an environment of support, targeted learning, and professional excellence, these approaches contribute to the cultivation of well-rounded, competent, and reflective educators and learners.

2. THE INSTITUTION OF THE MENTOR

The importance of the institution of the mentor is evident in international literature, where the frequency of its discussion and reference has been particularly high in recent years (Stravakou, 2007:441). The institution of the mentor was first applied in many fields outside of education, such as in industries and businesses (Colley, 2008; Onchwari & Keengwe, 2008; Collinson et al., 2009; Gardiner, 2010). From the mid-1970s, it was considered a way for businesses to train their executives to ensure their retention in the profession, to create conditions for further advancement and career development, and to shape leadership characteristics (Onchwari & Keengwe, 2008).

In education, interest in the transition of novice educators into the profession became prominent in the mid-20th century (Pasiardis, 2004), and the processes of applying the institution are the subject of international discussion and investigation (Hargreaves & Fullan, 2000). Today, around the world, induction programs for new educators are designed with the aim of developing their confidence, ensuring their continuous professional development, and laying the groundwork for lifelong learning so that societies, through education, become competitive (Collinson et al., 2009). In these programs, support is provided to novice educators through someone, usually a more experienced educator, called a Mentor.

Etymologically, the word “Mentor” comes from classical Greek mythology, from the name of one of the characters in the Homeric epic “The Odyssey.” Mentor, the faithful friend and companion of Odysseus, the king of Ithaca, was the person who stayed behind

during the Trojan War to raise his son, Telemachus (Stravakou, 2007:440). Thus, before Odysseus departed for the Trojan War, he entrusted Mentor with the responsibility for the care of his family affairs, the upbringing, the education, and the preparation of Telemachus to be able to succeed him worthily on the throne (Hansman, 2002). Consequently, Mentor had the role of guardian, teacher, and guide for Telemachus (Stravakou, 2007:440). The impact of Mentor on the life of Telemachus, who became a wise advisor for the latter and effectively contributed to his intellectual, emotional, and social maturation, is easily understood (Jonson, 2008:7). Therefore, the story of Telemachus and Mentor can be read as an allegory for the initiation into adult life and the search for an individual's role in life. In Greek mythology, the goddess Athena also appears to Telemachus in the form of Mentor in order to guide him in his conflict with the suitors, as well as to protect him and push him towards autonomous and empowered action (Green-Powell, 2012).

Mentor, as its etymology suggests, is the individual who assists in the positive development of another person. Acting with the qualities of a paternal figure, a teacher, a role model, an accessible and trustworthy advisor for not only professional issues but also life matters, it is synonymous with supporter, ally, helper, and professional guide of the individual it undertakes to accompany (Gabel-Dunk & Craft, 2004). In such a framework, the Mentor is "the paternal figure, the advisor, the supporter, the instructional model, the coach, and the guide." Deligianni & Matthaioudaki (2008) argue that the Mentor is called upon to help trainees connect new knowledge with their personal experiences and perceptions with the goal of gaining a new perspective and reconstructing existing knowledge. Furthermore, the institution of the Mentor is defined as one of the stages of an individual's professional career (Gabel-Dunk & Craft, 2004).

3. DEFINITIONS OF THE TERM «MENTORING»

The concept of Mentoring has appeared in many scientific fields, such as in pharmacology, in law, and according to the literature, there are a plethora of related definitions (Strong & Baron, 2004). Most definitions suggest a hierarchical relationship, in which the Mentor is either more experienced than the mentee or possesses or can provide knowledge and skills that the mentee needs or desires (Ambrosetti & Dekkers, 2010). In other words, it expresses a form of relationship where the Mentor is the "expert" who offers, and the apprentice is the "beneficiary" of this relationship (Frykholm, 2005:12).

As indicated by the acronym of the English word Mentor, it concerns an individual who:

a. **M**anages the relationship
b. **E**ncourages

c. **N**urtures
d. **T**eaches
e. **O**ffers mutual respect
f. **R**esponds to the mentees' needs (Clutterbuck, 2004:53-54).

Stock & Duncan (2010) define mentoring as a process followed to provide assistance, advice, feedback, and guidance to individuals with less experience in an effort to help them in both their personal and professional development. Although the ultimate goal is to assist the less experienced individual, the Mentor also benefits, as both their satisfaction and knowledge increase (Stock & Duncan, 2010). Similarly, Russell & Russell (2011) present advisory guidance as a relationship based on mutual trust, which benefits both parties' professional, and not only, development. Perhaps the most apt description of Mentoring is "a collaborative and reciprocal relationship that supports learning and develops between two or more individuals who share the same responsibilities and have the duty to help the mentee work towards achieving clear and commonly accepted learning goals" (Zachary, 2002:28). Therefore, Mentoring is a process of negotiation and development that is mutually beneficial both for the Mentor and the mentee.

In the educational and pedagogical field, the stereotypical definition of a Mentor is that of an educator who is wiser, more experienced, and older than the newly appointed educator they undertake to train, who is called a "protégé" (Ambrosetti & Dekkers, 2010). The Mentor is considered an experienced teacher who helps the future educator enter the profession (Fischer & Andel, 2002). As seen from the definition, the Mentor represents the experienced educator who accepts either a prospective educator or a first-year newly appointed educator, who actively participates in the educational process (Iancu-Haddad & Oplatka, 2009:45-46). Traditionally, a Mentor is defined as an individual with advanced experience and knowledge who commits to providing upward mobility in their protégé's professional career (Bozeman & Feeney, 2007:723). It is usually an experienced colleague from the school where the novice educator serves, acting to facilitate the newcomer's entry into the profession (Ganser, 2002; Gotovos & Mavrogiorgos, 1996).

The Mentor is the professional educator who invests time and expertise with the aim of enhancing the knowledge and skills development of the future educator and provides assistance wherever and whenever needed during their introduction to the professional field (Feiman-Nemser & Parker, 1993; Fischer & Andel, 2002). This individual, with special care and guidance, aims to remove the apprentice from isolated environments, helps them integrate into the educational surroundings, and contributes both to the learning of their profession and to their professional development (Stravakou, 2007:441).

4. THE ROLE OF THE MENTOR

Opinions on the role of the Mentor vary depending on the educational context, which is why there is a wide variety of terms that describe it (information provider, guide, orientation advisor, supporter, mediator, role model, ally, advocate, coach, creator of learning situations, evaluator, organizer, leader) (Feiman-Nemser & Parker, 1993). Due to different institutional, social, and cultural frameworks, a Mentor can take on many roles, which depend on the nationality, gender, social, economic status, and education of the Mentor (Packard, 2003).

According to Williams, Butt, Gray, Leach, Marr & Soares (1998), the role of the Mentor is categorized into three areas: personal support, teaching, and assessment. In terms of personal support, the Mentor provides recognition and support to the novice, reassuring them that what they are feeling is normal. The Mentor is a good listener and discusses personal issues with them. In terms of teaching, the Mentor acts as a role model and informs, offers practical strategies, provides feedback on learning, and gives opportunities for learning and reflection. Regarding assessment, the Mentor must balance praise with pointing out mistakes and emphasize the mentee's strengths.

Feiman-Nemser & Parker (1993) also distinguish three approaches to the role of the Mentor depending on the work conditions. First, the Mentor can function as a guide to the policies and regulations to facilitate the entry of new educators into teaching. Their main concern is the cultivation of an appropriate climate that makes the novice feel comfortable, and for this reason, they explain the policies and practices of the school, decode the curriculum, exchange methods and teaching aids, resolve emerging problems promptly, and try to teach the new educator to teach with the least possible disruption in order to achieve a successful first school year. Additionally, through observation within the classroom and direct teaching, they emphasize the performance of the educators. As a capable and experienced individual, they use new skills and strategies, offer advice when asked, aim to gain the trust of the new educators, and maintain control over them. Second, the Mentor can function as an educational companion, as an ally and co-researcher with the novices for the achievement of constructive teaching. They form study groups, enhance the way of thinking and the level of understanding of the new educators, and help them develop a moral perception of teaching aimed at their professional development. Third, the Mentor can act as an agent of change in the educational culture. They aim to eliminate the isolation of educators and strive to promote collaboration, build communication bridges between new and older educators, facilitate conversations about teaching, contribute to the socialization of the newcomers, familiarize them with observation tools, and help them adapt to the school framework and culture.

Among the most common descriptions of the roles of the Mentor (Odell & Ferraro, 1992; Feiman-Nemser & Parker, 1993; Gold, 1996) include those of the Teacher, Positive Role Model, Supporter, Coach, Developer of Talent, Sponsor, Protector, Guide,

Counselor - Advisor, Encourager, Confidant, Befriender, and Successful Leader. It is noteworthy that the role of the Evaluator is absent from the functions of the Mentor, as it is associated with actions of authority, such as those of a judge and authority figure. For many researchers, the role of the Mentor and the role of the Evaluator are two heterogeneous and incompatible actions that cannot be productively performed by the same person (Vonk, 1993; Abell, Dillon, Hopkins, & McInerney, 1995). The role of the Evaluator undermines the level of trust, which is essential to be achieved between the partners of the relationship so that the mentee feels secure enough to boldly seek help in covering their professional and personal needs. Conversely, emphasis is given to the role of the Mentor in the development of self-respect, autonomy, and responsibility of the new professional and highlights the help needed by the newly appointed to utilize all their capabilities and to understand the culture of their work environment (Odell & Ferraro, 1992; Achinstein & Athanases, 2005; Achinstein, 2006).

According to Cameron (2007), the primary duty of the Mentor is to strengthen the new educator regarding their practice and professional development. With a collaborative disposition, the Mentor is obligated to provide educational opportunities, as well as feedback in cases of mistakes or omissions. Various studies have highlighted the value of the Mentor's role as it contributes to the long-term and continuous success of educators (Ambrosetti & Dekkers, 2010; Fullick, Smith-Jentsch, Yarbrough & Scielzo, 2012) by extending their pedagogical knowledge and skills needed in the practical exercise of the profession (Garza, 2012). The Mentor listens to the new educator, stands by them, shows the required understanding, but also continuously sets higher goals without causing them stress, discouragement, or disappointment (Achinstein & Athanases, 2005). Additionally, the Mentor helps the inexperienced educator to smoothly integrate into the school environment, to face the difficulties of the profession, to manage large groups of students, and supports them with the demanding management of the classroom by developing together strategies for organizing the lesson and guiding the students, and addressing their problematic behaviors (Smith & Ingersoll, 2004). The Mentor helps novice educators familiarize themselves with the culture of the educational organization, to acquire the necessary professional knowledge and skills required by the organization, to develop their critical thinking, and to lay the foundations for their subsequent professional career (Bradbury, 2010; Riebschleger & Cross, 2011). Norman & Feiman-Nemser (2005) link counseling guidance with the vision of good teaching and a developmental perspective of learning about teaching. Additionally, the Mentor significantly influences the novice educator by providing them emotional and professional support (Kardos & Johnson, 2010; Crasborn et al., 2011).

The Mentor helps the new educator to face the difficulties of the profession at an early stage, to form a strong professional identity, and thus to remain in the workplace. As a good connoisseur of the subject, the Mentor identifies the newcomer's deficiencies in

the subject matter and provides the appropriate information to cover them. They propose new teaching systems and contribute to their implementation. The Mentor informs and guides the novice regarding the learning process of the educational program, answers questions, resolves doubts, and clarifies concepts of the subject matter (Phillips & Fragoulis, 2010). As a proper guide, the Mentor guides the apprentice on every issue related to classroom management and planning, ensuring the effective connection between theory and practice (Phillips & Fragoulis, 2010). They help the apprentice understand the needs of the students, activate them, make them open and capable in communication, and assist them in applying new teaching approaches (Chval, Arbaugh, Lannin, Van Garderen, Cummings, Estapa & Huey, 2010). As an educator, the Mentor introduces new pedagogical methods in learning teaching, helps the new one to detect, understand, interpret, and utilize the prerequisites for effective teaching, in order to intervene transformationally in the school (Chval et al., 2010). Therefore, the Mentor aims to address the high rates of attrition observed among new educators and to ensure the provision of quality education to students (Stanulis, 1995; Smith & Ingersoll, 2004; Tang & Choi, 2005; Athanases, Abrams, Jack, Johnson, Kwock, McCurdy, Riley & Totaro, 2008). Thus, the Mentor encapsulates the following roles: a) as a teacher, who will inspire and make suggestions, b) as a sponsor, who will put their knowledge at the service of the trainee, c) as a supporter, who will be present to offer opportunities, and d) as an educator, who will contribute to the achievement of educational goals (Deligianni & Matthaioudaki, 2008).

5. THE SKILLS OF A SUCCESSFUL MENTOR

Since the institution of the Mentor is considered a fundamental element in the development of effective educators, the issue of the skills they must possess is particularly important (Bullough, 2012). The Mentor should be an effective educator, capable of shaping good professional practice. Equally important is that the mentees should have "professional respect" for their Mentor, implying that in the eyes of the mentee educators, the Mentor is a person with sufficient knowledge and experience in teaching and their area of expertise (Hobson, Ashby, Malderez & Tomlinson, 2009).

According to Caldwell & Carter (1993), the Mentor must possess the appropriate academic background, namely deep pedagogical knowledge. They should be familiar with various strategies and practices, which they should use appropriately depending on the educators they address, and demonstrate them when necessary. Moreover, they should understand the nature of teaching, be open to different approaches and the diverse ways that newcomers learn, and be knowledgeable about the curriculum so as to properly organize teaching for each class. They must also assist educators, especially new ones, taking into account that they struggle to identify the existing knowledge of students, that

they do not know the material of all grades, and do not have the experience to properly manage time during the school year.

Particularly, the Mentor should be able to provide psychological and emotional support to the newly appointed educator, as in the new era, rapid changes create even greater concerns, anxiety, and insecurity among educators. The Mentor, based on their experience and knowledge, must listen to and understand the problems and concerns of the newcomer, boost their morale, support their plans, back them up, and help them manage the disappointments of their profession (Hargreaves & Fullan, 2000). The Mentor is called upon to enhance the self-confidence and self-esteem of the new educator and to awaken their interest in the school, after first forming an opinion about their capabilities and personality (Katsoulakis, 1999). A good Mentor, according to Stravakou (2007:441), should exert a positive influence on the new educator and help them achieve high goals. They need to inspire credibility, be approachable, and be a good listener to their mentee (Batty, Rudduck & Wilson, 1999). They should have the ability to listen to and observe their mentee in a non-judgmental relationship to help them find their own solutions and directions (Southworth, Clunie & Somerville, 1994). The qualifications of the Mentor, as well as their motivations to serve their role correctly, lead to successful or unsuccessful guidance and create satisfied or dissatisfied educators (Fantilli & McDougall, 2009).

According to Simpson, Hastings & Hill (2007), an effective Mentor should be able to publicly present their work. They should be open to new ideas and critically examine the practices of other educators (Brooks & Sikes, 1997). Simultaneously, when they are a constant source of help and support, they constitute a good listener who allows for reflection and creates opportunities by creating a supportive and comfortable environment for the new educator to develop (Rippon & Martin, 2006; Löfström & Eisenschmidt, 2009). This means that the Mentor of novice educators is obligated to respect the mentees as adult learners, taking into account their individual learning styles and ensuring that the strategies they use to support their learning respond to their concerns and developmental stage (Hobson et al, 2009).

Furthermore, for a Mentor to be effective, it is important to possess characteristics such as generosity with time, willingness to learn, the ability to demonstrate and inspire absolute trust, to praise, to encourage, to be enthusiastic and positive about their role, to exhibit discretion and transparency in recognizing the limitations of educators, to be approachable, to listen, to maintain their integrity, and to be honest (Madison, Watson & Knight, 1994). Additionally, they must be open to new data and experiences, to be flexible so as, if necessary, to revise their own views and practices. It would also be beneficial if they are not prejudiced against the new and are receptive to their ideas and proposals because it can be particularly useful. According to Hobson et al. (2009), it is important for the relationship between the Mentor and the trainee to be reciprocal and to include

self-criticism, so as to integrate new practices into the work of both sides, improve old methods, provide feedback, and ensure continuous development.

However, to be suitable, a Mentor must be a credible professional with a good reputation and good interpersonal relationships. It is of primary importance that they are a good listener, listen carefully, show interest, encourage the educator to speak in more detail, understand their deeper motivations, analyze and comment objectively on their strengths and weaknesses (Gardiner, 1998). They should be careful about how they give advice so as not to make the new educator a passive listener, to guide them on the path of reflection and change without imposing their own beliefs and value system (Hobson et al., 2009). In this way, the new educator is encouraged to speak, to express their concerns and anxieties, feels that they have the other's attention, and sees the Mentor as a support, a critical friend, and a role model to emulate (Gardiner, 1998).

Equally important is the Mentor's ability to provide constructive criticism, carefully noting the weaknesses and shortcomings of their mentees. Using proper observations and encouraging their initiative, the Mentor helps them learn to address their learning needs on their own and find the appropriate pedagogical solution, thus becoming independent, self-sufficient, and improving while maintaining their self-confidence (Hargreaves & Fullan, 2000). Another essential skill of the Mentor should be the understanding and emotional and psychological support of the educator. Cultivating a relationship of trust, respect, and solidarity, where both can share their expectations, hopes, and fears is important for the educator to feel that the Mentor understands them, shares their anxieties and problems, does not judge them, but stands by them as a supporter (Hargreaves & Fullan, 2000; Langdon, 2011). In addition to the above skills, for a Mentor to be effective, they must also exhibit significant leadership abilities, a desire and capacity for lifelong learning, the ability to function as a member of a team, and strive for continuous self-improvement, in order to improve the individuals who depend on them (Feiman-Nemser & Parker, 1993).

6. THE BENEFITS OF A SUCCESSFUL MENTORING RELATIONSHIP

The mentoring relationship essentially helps new educators with the aim of promoting their professional development and preventing their departure from the profession (Anthopoulou, 1999). Guidance contributes to effective integration, as mentors are able to provide answers to emerging problems, observe classes, provide security, cover initial needs, and most importantly, converse confidentially with new educators (Bush & Coleman, 1996).

International educational research has documented the benefits of mentoring for novice educators, especially in their first year of entry into the professional school environment (Ehrich, Hansford, & Tennent, 2004; Andrews & Quinn, 2005). The mentor

plays a significant role for the new educator, as they assist both the individual in the teaching process and the entire educational unit, into which the new educator integrates more quickly and easily (Hobson, et al., 2009). In addition to pedagogical guidance, the mentor also takes on the role of motivating the educator because new educators face challenges related to various levels such as the educational system, planning, organization and management of teaching, classroom organization, use of effective teaching methods, adaptation to the educational environment, collaboration with other educators, communication with parents, successful integration of students with special needs, assessment of student progress, and psychological support (Monk & Dillon, 1995; Gordon & Maxey, 2000; Roehrig, Bohn, Turner & Pressley, 2008; Russell & Russell, 2011).

According to many studies, the newly-appointed educator also gains personal benefits from the relationship with the mentor (Evertson & Smithey, 2000; Feiman-Nemser, 2003; Lindgren, 2007; Hobson, et al., 2009). These include the reduction of feelings of isolation, increased self-confidence and self-esteem, and the ability to solve classroom problems in combination with increased capacity for critical reflection. Furthermore, through the provision of emotional and psychological support, the morale is boosted and personal satisfaction from the educational work is increased.

Mentors, therefore, are essential at the beginning of an educator's career because with their advice, support, and encouragement, they help the educator cope with teaching and issues related to communication with colleagues, students, and parents (Anthopoulou, 1999). Specifically, they stand by the educator, support them, advise them, and make them feel like there is someone in their new work environment who is personally connected to them, and contribute to enhancing their self-confidence and self-esteem, their positive attitude towards teaching, and reducing feelings of isolation (Bush & Coleman, 1996; Darling-Hammond, 2003; Langdon, 2011). They also help them become familiar with the norms and rules of the school community, while simultaneously understanding and effectively contributing to its expectations and goals.

More specifically, through the mentoring relationship, psychological support is provided to the educator, who can more effectively handle the stress of classroom responsibility, understand the demands of their role, and respond more effectively to the daily challenges of their profession (Gold, 1996; Evertson & Smithey, 2000; Feiman-Nemser, 2001; Roehrig, et al., 2008; Hobson et al., 2009; Russell & Russell, 2011). Additionally, the educator receives professional support in the sense of a smooth introduction to the teaching profession, as well as a gradual familiarization with "practical knowledge" (Gold, 1996), which is knowledge acquired through daily practice, as a deliberate and metacognitive learning, a type of "tacit knowledge," where professionals make judgments and decisions without articulating rules and manifest it through spontaneous performance of their duties (Fischer & Andel, 2002).

The mentoring relationship should be considered a network of collaborative actions, which brings positive results not only to the educator but also to the mentor themselves, as various studies point out (Smylie, 1994; Evertson & Smithey, 2000; Gordon & Maxey, 2000; Holloway, 2001; Wilson, Darling-Hammond & Berry, 2001; Fischer & Andel, 2002; Darling-Hammond, 2003; Feiman-Nemser, 2003). The mentoring process enhances the mentor's self-esteem. The experience of being a mentor strengthens experienced educators by giving them a greater sense of the importance of their profession. Therefore, mentors derive satisfaction from helping prospective educators, while describing their contribution as a way to give back to the teaching profession they serve (Gold, 1996).

By guiding the novice educator, the mentor benefits as it leads them to re-examine aspects of their professional identity, reflect on their own teaching practices, and constantly question their pedagogical and scientific views, often leading to changes and development of their teaching skills (Nilsson & Driel, 2010). Particularly, since mentors are often selected from among educators with many years of service who are nearing retirement or are already retired (Haddad & Oplatka, 2009), this new role is a way for them to become active again in the profession (Patton & Kritsonis, 2006), to feel recognized and accepted for their professional experience (Haddad & Oplatka, 2009), to lead (Patton & Kritsonis, 2006), and to feel that they are making a crucial contribution to the future trajectory of the educational organization (Haddad & Oplatka, 2009). In a way, through mentorship, older educators are provided with new incentives and opportunities for their professional advancement and appreciation (Wepner, Krute & Jacobs, 2009).

Also, research has shown that mentors improve their ability to reflect and reevaluate their views on teaching, students, the learning process itself, and teaching (Ganser, 2002). Concurrently, through the mentoring relationship, significant professional collaborations develop, a sense of increased self-confidence and maturity is created, and the ability for self-assessment is enhanced (Ganser, 2002; Wepner, Krute & Jacobs, 2009). Reflective mentors have also reported that as they are more focused on their mentoring relationship, they feel increased energy, a greater desire for action, and continuously improve their knowledge (Haddad & Oplatka, 2009).

Darling-Hammond (2003) points out that well-designed mentoring programs, with quality support services and training, staffed by carefully selected and specialized advisors, only yield positive results. These introductory programs, which take into account the needs of educators and the culture of the school unit in which they are installed, positively affect both new educators by encouraging them to try new practices, and experienced educators by giving them a sense of recognition and appreciation (Pardini, 2002). Educators who receive guidance at the beginning of their career increase their effectiveness and remain in their school and in the profession for a long period (Evertson & Smithey, 2000).

7. CONCLUSION

Conversely, without proper guidance, new educators need to develop survival strategies, with negative consequences for both themselves and their students. Ultimately, the benefits of the mentoring relationship are manifold for all involved parties: novice educators receive support when they need it most, thereby reducing the rates of profession abandonment; mentors are rewarded for contributing to the profession and also reap personal benefits as they practice reflection and collegiality; educational organizations are strengthened through the retention of human resources; and above all, the direct recipient, the student, benefits as they are taught by a novice but professional educator who is adequately supported in the classroom (Pardini, 2002) and is able to offer quality teaching (Ganser, 2002; Wepner, Krute & Jacobs, 2009; Haddad & Oplatka, 2009).

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10. Conceptual Approaches of Special Education In Greece and A Brief Reference To Reading Ability Of Deaf Students

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ABSTRACT

The concept of disability has received many different interpretations over the years, as it is a complex concept that can be approached from many different angles. The complexity of the concept is mainly due to the multidisciplinarity, which characterizes the field of special education, as each scientific sector that concerns disability issues, tried to define them by focusing on the specific elements that are aligned with each respective science. The complexity of the definition is also due to the many different aspects of the life of the individual and the society from which the disabled person is affected by his/her disability. This created a linguistic pluralism in terms of the terminology used over the years (Michailakis, 2003; Dubois & Trani, 2009). Reading for the Deaf people is an ability necessary for their access to the hearing society (Scheetz, 2001). However, Deaf students usually have limited reading capacity and they graduate from school without having acquired the appropriate reading skills for their age and their intelligence (Kyle & Harris, 2011). Most of the researches study the weaknesses in reading of deaf students – especially of those who attend general schools and integration frameworks – rather than the successful strategies used by capable good deaf readers (Banner & Wang, 2011). Deaf good readers differ from Deaf poor readers in the following characteristics: age, hearing loss, type education, language of instruction, language used at home, degree of support from parents, their socio-economic level, their teachers' expectations, student attitudes towards learning and methods (Wauters et al., 2006b). It is noteworthy that the number of deaf and hard of hearing students have the same performance in reading with their listening peers decreases as age grows (Wauters et al, 2006b). The older deers pupils tend to have low levels of reading as they score lower progress and the development of reading is slowly taking place (Monreal & Hernandez, 2005).

KEYWORDS: Special Education, Disability, Reading ability

1. DISABILITIES

Before entering into the main theme of the current chapter, it is advisable to delineate the concepts with which the given study deals, in order to make the central theme clearer and more understandable. The first concept that will be defined is the concept of

disability and consequently, the person with a disability. Along the way, the work will be based on the reading ability of deaf students.

Disability has been interpreted as loss or damage, as a clinical condition, as a functional limitation, as a deviation from "normality", as a privileged or vulnerable condition (Broberg, 2011). In addition, many models of interpretation of disability were created depending on the scientific fields of the industry, while each model included the corresponding ways of dealing with the ideological side of each scientific field. Rutherford-Turnbull & Stowe (2001), for example, refer to five interpretive models of disability: Model of Human Capacity Studies, Model of Public Studies, Model of Cultural Studies, Model of Ethical and Philosophical Studies, Model of Technology Studies. However, the two models that have dominated the discussions and controversies of scientists and researchers on the issue are the medical model and the social model (Rutherford-Turnbull et al., 2001).

The medical model approaches disability as a pathology of the individual, which may be physical or mental, as a personal tragedy and as a condition objectively deviating from the standard, without taking into account subjective, environmental and social factors. Disability is treated on the basis of the authority of the medical diagnosis and can only be treated or improved by medical methods. The medical model has received strong criticism on the following points: The first point is that it is limited to medical diagnosis and sees as its only solution the authority of medical science. This means that the medical model ignores the social environment and treats people with disabilities as sufferers, while considering that the cause of disability is the individual itself, leading to the strengthening of stereotypes and the trap of "labeling". The medical model dominated the 20th century until the late 1960s (Hogan, 2019).

On the contrary, the social model argues that disability is not a matter of individual pathology and personal tragedy, but a set of social constraints and deficiencies that exclude the disabled person from his/her full participation in many aspects of social becoming. Thus, the structure of society is the one that is responsible for the difficulties of the disabled in their daily lives and not their disability itself (Barnes, 2000). Therefore, the responsibility for change is borne by society and the individual is considered the ruler of his/her life and not a dependent and object of intervention.

In 1980 the World Health Organization - WHO, creating an International Classification of Impairments, Disabilities and Handicaps (ICIDH) system, adopted the terms impairment, disability and handicap as three interrelated parts, which altogether constitute the concept of disability. Damage is considered the loss or abnormality of any psychological, anatomical or functional structure of an individual. Disability is the limitation or inability, which is resulting from some damage, to perform activities that are classified within the normal framework of human abilities. It is defined as a disability –due to

impairment or disability– that prevents a person from fulfilling a role that is normal for him/her, based on his/her age, gender and other significant social factors (Geyh et al., 2018).

However, this system was strongly criticized as it was considered to be highly influenced by the medical model of interpretation of disability and consequently that it ignores the importance of environmental and social factors, while it was judged that the connection and interaction of three aspects mentioned (Pfeiffer, 2000).

In 2001, WHO designed a revised disability classification system by correcting the shortcomings of the previous one, recognizing the importance of the social environment and introducing the concepts activity and participation, generating the so-called International Classification of impairments, Activities and Participation. Disability became a term that, in addition to physical function and structure, had been taken into account along with two other dimensions, which are individual activities and participation in social becoming (De Kleijn-De Vrankrijker, 2003).

The concept of activity, basically, refers to human functionality at the individual level and may differ in nature, duration or quality, such as for example self-care. The concept of participation refers to the actions and activities of the individual, which have to do with everyday social situations and may also differ in their nature, duration and quality. This approach incorporates the main ideas of the two basic models, medical and social, and presents disability as a broad dimension, both biological and psychosocial (Verdonschot et al., 2009).

In the same way, the definitions given over the years for people with disabilities are multidimensional. Modern approaches recognize the interaction of individual characteristics with the environment and social structure; however, definitions have been formulated that approach the issue based on the medical model such as: People with disabilities differ from other people in one or more of the following characteristics: a) mental level, b) sensory abilities, c) communication skills, d) behavior and emotional development, e) physical condition (Thomas, 2004).

Watts (2011) states that people with disabilities are those who have serious deficits which are due to physical, sensory, spiritual or mental problems and have an impact on the performance of tasks that are considered normal for a person. People with disabilities have a specific approach from the social environment in terms of the roles they can fulfill and the skills they have. Thus, individuals accept this institutionalized role, identify, and are trapped in it.

Concerning the Greek data, disability and people with disabilities are defined according to law 4488/2017 as follows: “People with disabilities (disabled) means people with long-term physical, mental or sensory difficulties, which in interaction with various obstacles, especially institutional, environmental or obstacles to social behavior, may hin-

der the full and effective participation of these individuals in society on an equal footing with others" (Government Gazette 137/A/13-09-2017).

WHO has stated that disability is not just a health problem. It is a complex phenomenon that arises from the interaction of biological characteristics with the characteristics of the society in which the disabled person lives. Therefore, in order to overcome the difficulties faced by a person with a disability, interventions are required both physically and socially (Kuvalekar et al., 2015). Disability is not an individual situation but must be addressed holistically with the main goal of fully integrating people with disabilities into society.

2. ACCESSIBILITY, PARTICIPATION AND DESIGN ISSUES

The participation of people with disabilities in all areas of social life is an inalienable human right. Access is defined as the provision of the possibility of participation of all citizens in all areas of social activities and consequently in the infrastructure, services and goods related to them, such as for example in work, education, cultural activities, in entertainment, sports, and other similar ones. Thus, the concept of access directly concerns people with disabilities, as well as any other vulnerable and non-vulnerable group that encounters difficulties in accessing these key areas of social life (Church & Marston, 2003).

The concept of access includes the term of accessibility. More analytically, accessibility is defined as the characteristic of the environment –physical, structured or electronic– and as a service that ensures the autonomous, safe and comfortable approach and use by all, regardless of gender, age, disability and other characteristics, such as for example physique, muscle strength, perception and other similar ones (Waddington, 2009). An accessible environment is a barrier-free environment that takes into account the special needs of all citizens, including people with disabilities, regardless of their type of disability, and ensures that everyone lives as independently as possible, providing support in appropriate forms. These forms can be universal design, reasonable adaptations, assistive technology, as well as forms of live help and intermediaries. All of them are tools for achieving accessibility, as they aim to ensure the equal participation of people with disabilities in the social sectors (Adam & Kreps, 2009).

In order to achieve access for people with disabilities to work, accessibility measures must be horizontal. This means that they must cover all areas of social life, such as for example the built environment, transport, education, vocational training, lifelong learning, information given and other elements. Accessibility is also a fundamental human right as it is inextricably linked to the right to free choice (Annable et al., 2007).

Accessibility should not –as it is often believed– focus on meeting the needs of specific categories of people with disabilities, such as people with mobility disabilities, the

blind and visually impaired or other disabled ones. This means that it is not an issue that concerns only certain categories of disability, but all of them, as well as every typical citizen in general (Lewthwaite, 2014).

In addition, accessibility is often considered to be associated with the imposition of technical standards, which involve high costs. However, many studies argue that the cost of achieving accessibility is overstated (Dobransky & Hargittai, 2006). Any cost, even if negligible, must be related to the importance of accessibility in production and productivity.

Universal Design or Universal Access is the design of products and services that can be used by all people, to the greatest extent possible, without the need for customization or specialized design. Universal design takes into account accessibility from the original design, thus reducing the cost of achieving it. It presupposes the prior analysis and delimitation of accessibility, as a design goal, which is achieved through the use of tools and techniques that give the product or service the ability to recognize changing requirements and adapt to changes in the user interface, while remaining an accessible and easy to use environment. Factors that can affect the user interface of a product or service relate to: a) the user, his/her abilities, skills and preferences, b) the access tool and the execution platform, and c) the conditions of use. However, there are cases in which "universal design", by itself, fails to meet specific, individualized needs of a person with a disability and therefore its use in combination with assistive technology, when required (Dobransky & Hargittai, 2006; Lewthwaite, 2014).

3. SPECIAL EDUCATION – HISTORICAL REVIEW

Special Education is a branch of pedagogical science that, however, is inextricably linked to the social sector, as the way it is implemented, directly reflects the socio-cultural level of the place. The evolution of Special Education historically, testifies to the current social changes and perceptions regarding the treatment of people with disabilities in education and social life (Hornby, 2015).

Special Education is provided at all levels of education, pre-school, primary, secondary, tertiary and lifelong learning. It is also provided within the standard classroom of the general school or in specialized schools or special education centers, private or public. The goals of the industry, basically, must be the development of knowledge and skills of children with special educational needs, their full integration into school and social life and their integration into the wider society and the productive process (Lee & Low, 2014). Consequently, the purpose of Special Education is to eliminate discrimination and ensure social justice and equality for people with disabilities and special educational needs.

Special Education as a concept, has accepted many different definitions over time as it is an interdisciplinary field and therefore complex. The first historical definitions given

to the concept were mainly characterized by the notion that Special Education refers to a type of treatment aimed at, in essence, the prevention and treatment of symptoms and problems faced by people with disabilities due to individual or social deficits (Kenny et al., 2020).

The content of the modern definitions of Special Education consists mainly of elements that take into account in particular the social and environmental factors, that hinder the development of the disabled person, but also his/her particular individual characteristics. In addition, Special Education means the provision of specialized education, not only to persons with disabilities, but also to persons with all kinds of special educational needs and difficulties, such as, for example, children of immigrants who do not speak the local language or children who have a family difficulty, as for example domestic violence, parental divorce, parental death, and other similar situations (Kurth et al., 2014).

Special education is a section that needs special psycho-pedagogical management. Therefore, it refers to anything extra and specialized provided to the child, any additional support or assistance, other than that provided to other children of the same age and school class. It is provided for as long as it needs, depending on the particular characteristics of the child and for the whole or for a certain school period (Isaksson & Lindqvist, 2014).

Regarding the policies pursued by the countries for the education of children with disabilities and special educational needs, they are divided into three main categories:

The first one is the so-called One-track approach. This is the policy that aims at the full possible integration of children with disabilities in general education (Ogden, 2014). Greece belongs to this category.

The second one is the Two-track approach. This is the policy that supports the existence of two separate educational systems, such as the separate operation of general and special schools, in which the Curriculum of the general education will not be followed (Isaksson & Lindqvist, 2014).

The third one concerns a combination of approaches. This category includes countries that apply a combination of educational approaches to the education of people with special educational needs, such as for example move to both general and special education (Isaksson & Lindqvist, 2014).

According to international data, the beginnings of special education as an organized service are in the 18th century. The interest in the education of people with disabilities was caused mainly by the special development experienced at that time in the fields of medicine and psychology, with a more intense interest in the cases of children with mental retardation. By the 19th century, the world's first special schools and centers had already been established to deal, in the first instance, with the education of children with mental retardation (Winzer, 1993).

As mentioned above, the developments in special education represent the social perceptions of each time period. Changes can thus be divided into three main stages: (a) the stage of rejection, (b) the stage of care and separate education and (c) the stage of equalization of the rights of persons with disabilities in education and social participation (De Beco, 2014).

4. SPECIAL EDUCATION IN GREECE

Special Education in Greece begins around the beginning of the 20th century, guided mainly by private charitable initiatives. The aim was basically the protection and care of people with disabilities and secondarily, their education and vocational training, as the centers that were established had mainly an institutional form and character. In 1906-1907, the first charities for blind children and children with hearing problems were founded, while the Hellenic Society for the Protection and Rehabilitation of Disabled Children (ELEPAAP) was founded, which at the beginning acted by helping children with mobility problems. In the next twenty years, educational bills were passed which, in the end, were not implemented and mainly concerned the education of children with mental retardation while referring to them as "abnormal children" (Bouzakis, 2002).

In 1937, the state "Special School for Abnormal and Disabled Children" was founded in Athens, which was later renamed the "Model Special School of Athens", and was the first move by the state to institute special education in the Greek state. As can be seen, up to this period the movements for special education, private and public, do not aim at social inclusion of people with disabilities, but mainly in the nature of care, treatment and employment in the sense of alleviating the rest of society (Zoniou-Sideris, 1998).

From 1950 onwards, there is a stronger interest from the state for people with disabilities. A few years later, "Stupathion", "Theotokos" and "Sikiriaridion" were founded in Athens, with the main concern being the care and education of children with mental retardation, while the latter also provided some basic vocational education. In the following years, the demand for social inclusion of people with disabilities became more intense, and not just care and basic education. Their organized pre-vocational and vocational education would help in this, a fact that did not exist until that moment. In the years that followed, there were additional measures, aimed at the equal treatment of children with disabilities in schools and their subsequent social integration (Koutroumanos, 1996).

In 1981, Special Education was constitutionally enshrined in Law 1143/81 "On special education, special vocational training, employment and social care of individuals deviating from the normal and other educational provisions". This Law officially establishes, for the first time, the compulsory education of persons with disabilities, while the term "divergent persons" and the categories it includes are delimited. In addition, it sets the principles for new specializations and the need to train the educational staff. However,

although democratic and innovative for the time, this law received particularly harsh criticism, as it was considered not to support equal education and perpetuates its separation into special and general and the marginalization of children with disabilities (Zoniou-Sideris, 1998).

Two years later, among others, the "School of Special Vocational Education" and the "Special Vocational School of the Foundation for the Child" are founded in Athens, with the aim of vocational training of adolescents with mental retardation. However, in general, the newly established centers of this period faced significant shortcomings and problems, failing to achieve the effective social integration of people with disabilities, in terms of both general and vocational education (Soulis, 2013).

In 1985, Law 1566/1985 comes to fill and correct some of the gaps of the previous one. This Law concerned general primary and secondary education, however in its first chapter reference is made to special education with important reforms, including the following ones:

(1) The term "people deviating from normal" is abolished and replaced with the international term "people with disabilities",
(2) Specific educational goals are set for special education and in particular for special vocational education, which aims at the integration of individuals in the productive process and their full integration into society,
(3) The establishment of a speech therapy department is planned,
(4) The foundations are being laid for the integration of children with disabilities in general education classes (Kardaki, 2018).

However, the above law, despite its positive points, also received many negative reviews. It was considered that people with disabilities are still categorized based on their problem, a fact that negates the goals set for special education, while the fact that the law ignores the participation of parents and guardians of children with disabilities in the educational process was criticized. Finally, the fact that the Ministry of Education was collectively burdened with all the responsibilities for the new situation was considered reprehensible (Soulis, 2013).

The next important legislative move for special education was made with Law 2817/2000, fifteen years later. The law revises the term "special needs" to "special educational needs" and establishes the Integration Departments in general schools, strengthening the integration of children with disabilities in general education, while special education schools will now cover children with severe disabilities. In addition, the operation of the "Evaluation and Support Diagnostic Center" (KDAW and noeadays called as KEDDY) is instituted and the Laboratories of Special Vocational Education and

Training (EEEEK) and the Technical Vocational Schools (TEE) are established, contributing catalytically to an attempt to integrate people with disabilities into the production process. Finally, new specialties of special teachers and special staff and new training prospects in the field are provided (Law 2817/2000).

However, this law was also criticized at the following points: It does not act in a decentralized manner, with regard to the responsibilities assumed by the Ministry of Education and it does not provide for organized social inclusion measures for people with disabilities as it does not adequately address existing social inequalities. Moreover, the provisions for securing the Diagnosis, Evaluation and Support Centers are incomplete and finally, the operation of the Integration Departments essentially concerns the operation of the previous Special Classes without new support measures (Zoniou - Sideris, 2000).

In 2008, Law 3699/2008 was passed, which mainly defines, with greater clarity and organization, the issue of equal integration in social and professional life and ensures the accessibility of people with disabilities and their parents to every institution and infrastructure. In addition, the institution of parallel support is introduced, compulsory attendance and the attendance limit is set at twenty-two years, while new lifelong learning programs for people with disabilities are introduced in the educational process. Also, the terminology "Special Education and Training" is formed instead of "Special Education", while the Diagnostic Support Assessment Centers (KDAW) are renamed as Diagnosis, Differential Diagnosis and Support Centers (KEDDY) (Law 3699/2008).

5. READING: AN USEFUL SKILL IN LIFE

Reading for Deaf is one of the most necessary skills for their access to education and work as well as in quality for their life (Marschark et al, 2012). In a world where oral communication can be done barrier and Sign Language is limited to a small number of hearing, the deaf have to resort to reading and writing, to participate in an interactive society (Scheetz, 2001). Reading is one of the topics that are being discussed and investigated in education of deaf children, because beyond its importance for life they have been found that on average the Deaf, from their first school years to the university, typically fall short of their peers reading ability, regardless of the degree of hearing loss whether or not they have a cochlear implant. Difficulties in reading also meet the hearing children. In deaf children, however, the understanding of reading below average is something usual and not the exception (Marschark & Hauser, 2012).

In particular, the reading capacity of deaf children is usually limited and graduating from school without having conquered reading skills that are suited to their age and intelligence (Kyle & Harris, 2011). According to Knoors & Marschark (2014), Deafs from 12 to 24 years old can have the same or and better understanding of reading than their understanding of Sign Language teaching within the classroom.

6. WHO IS CONSIDER A GOOD READER

Based on bibliographic review in the field of reading deaf pupils present the following behaviors (Luckner & Handley, 2008):

– they make a great effort to recognize words
– have limited lexicon and slow reading
– they do not understand the draft or text
– they do not understand the transport language
– have no knowledge of general topics of common interest
– they do not know the different types of text that exist
– they do not know the structure of a text (how it is organized)
– use few strategies of understanding
– can not oversee their understanding
– they have no incentives and
– avoid reading as much as possible.

According to Plessow-Wolfson & Epstein (2005), deaf children in a text usually remembered the unrelated sections of it, which makes it difficult the understanding of the story and with regard to the hearing are less able to process or follow relationships through the text's ideas.

On the other hand, difficulties of deaf students in reading are mainly due to that they learn a language that is not theirs and does not look like with the language they have conquered (Goldin-Meadow & Mayberry, 2001) while at the same time being asked to read this language (Paul, 2003). In addition, the language they need to learn comes from the speaker to which they have no full access (Kyle & Harris, 2011), while being asked to learn to read and to read to learn (Stewart & Clarke, 2003).

From researches in hearing children we know that different skills play a different role in the process of reading according to the stage of reading ability of the child (Kyle & Harris, 2011). Research on deaf novice readers has shown that deaf students have no phonological awareness or use it against reading, not based on sound to read (Kyle & Harris, 2011). Musselman (2000) points out that the deaf readers rely on visual representations of the written word or codes based on spelling, typing and sign language. Others scientists (Ducharme & Arcand, 2011) report that some deaf readers have and use the phonological code, some do not have it while some people have it, but they do not use it when reading.

Another skill that contributes to the reading difficulty of the deaf pupils is related to their linguistic development. The rich linguistic environment from a very young age seems to be important for skills (Marschark et al., 2009). Deaf children, due to hearing

loss and limited audio stimuli, are delayed in linguistic development (either in spoken or in sign language); have limited knowledge of the spoken language, which represents the writing (Musselman, 2000). Deaf children, therefore, have to learn reading, as it seems does not develop naturally to all people living in a community (Mayberry, 2011).

7. THE USE OF SIGN LANGUAGE

Sign Language and Reading is a subject that is still under investigation. According to Stewart & Clarke (2003), Deaf Children of Deaf parents conquer the Sign Language in exactly the same way as hearing children of hearing parents. However, because the sign language is not written, its transfer in order to learn reading will cause serious problems. Still, they argue that it is possible to match Sign Language meanings with the corresponding words of the spoken language. Perhaps this correspondence could give phonological evidence.

Greek Sign Language that follows exactly the spoken language, is a code. Stewart & Clarke (2003) report that the purpose of this code is to translate exactly the spoken word. It is something completely different from Sign Language, which has its own grammar and syntax. Sign Language and the translated Sign Language could help the deaf child to develop the skills that will enable him to understand the phonological elements of the spoken language.

8. COMPREHENSION: AN INTEGRAL PART FOR SUCCESSFUL READING

An equally important skill for successful reading is understanding (Monreal & Hernandez, 2005; Kyle & Harris, 2011). The Deaf Students at understanding the proposal, even when it comes to simple language proposals, they score low or moderate scores (Monreal & Hernandez, 2005), they are able to decode the written message and recognize each word but they do not understand the meaning of the proposal as a whole (Kelly et al., 2001).

Pre-existing knowledge includes the deaf enlightened knowledge of the deaf pupils (Marschark et al, 2009, Monreal & Hernandez, 2005), which they are mainly conquered in Sign Language and can compensate for them deficiencies in language knowledge (Musselman, 2000).

Also, pre-existing knowledge involves knowledge about the structure of the text and the lexicon, elements that affect reading comprehension, as it has research by listening and deaf students that they structure help to better understand and revoke the text (Ducharme & Arcand, 2011).

Cognitive strategies include metacognition and more specifically outcome of conclusions. Surveys to hearing showed that good readers show metacognitive information

and change reading strategies. (Ducharme & Arcand, 2011). Little deaf children are not familiar with relying on contexts to extract the meaning words and so can not easily understand the importance of new ones words.

9. CONCLUSION

To sum up, the evidence we must keep is that the deaf readers come from different educational contexts, from different families and use different means of communication. The key is that the deaf child has access to language at home and at school, as it is generally accepted that children who have fluency in a first language learn to read faster and easier than those who have no language. The fact that many deaf children with cochlear implant remain behind in relation to their listening peers, though they have develop better reading skills, shows that in the field of reading there is something more than deafness (Marschark & Hauser, 2012).

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11. Changes and Expectations from the Impending Operation of Private Higher Education Institutions in Greece in Relation to Lifelong Learning for Financial Auditors

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ABSTRACT

This essay explores the anticipated impact of the impending operation of private higher education institutions in Greece, with a particular focus on lifelong learning for financial auditors. The introduction of private universities is expected to offer more flexible, specialized, and market-driven programs that could cater to the continuous professional development needs of financial auditors. While public universities have historically dominated the Greek higher education landscape, they face limitations in addressing the dynamic requirements of the financial auditing profession. Private universities could address these gaps by offering tailored programs, more flexible learning options, and collaboration with industry stakeholders. However, concerns remain regarding the quality of education, accessibility, and the potential for private institutions to prioritize profitability over educational integrity. This paper provides a critical analysis of the potential benefits and challenges associated with the operation of private higher education institutions in Greece, particularly in the context of lifelong learning for financial auditors.

KEYWORDS: Private Higher Education, Lifelong Learning, Financial Auditors, Professional Development, Greece

1. INTRODUCTION

Lifelong learning has become a cornerstone of professional development across various fields, particularly as technological advancements and regulatory changes demand continuous adaptation. In professions such as financial auditing, where legislation and accounting standards frequently evolve, the need for ongoing education is critical. Higher education plays a pivotal role in supporting professional development through lifelong learning programs that enable professionals to keep up with these changes.

In Greece, higher education has traditionally been the domain of public universities, which have held a monopoly on tertiary education. However, this dominance has sparked debates about the necessity of private institutions, which could introduce more innovative educational approaches, greater flexibility, and specialized programs. The establishment of private universities, though controversial, is seen as a potential solution

to fill gaps in the current system and enhance lifelong learning opportunities for professionals, such as financial auditors.

This paper examines the anticipated changes and expectations stemming from the impending operation of private higher education institutions in Greece. It focuses specifically on how private institutions could contribute to the continuous professional development of financial auditors through lifelong learning programs. Additionally, it explores the current higher education framework and how new institutions may address the growing needs of the labor market.

2. CURRENT STATE OF HIGHER EDUCATION IN GREECE

Greece's higher education system is built around public universities, which have maintained a monopoly over tertiary education for decades. These institutions are governed by the Ministry of Education and operate within a highly centralized framework, with strict government oversight on curricula, admissions, and overall institutional policies. While public universities offer a broad array of undergraduate and postgraduate programs, their responsiveness to market needs–especially in specialized sectors like financial auditing–has been somewhat limited.

One key challenge faced by public universities is the rigidity of their curricula. Programs are often designed with a theoretical approach, emphasizing broad academic foundations over practical skills and market demands. This makes it difficult for public universities to offer short-term, specialized programs that cater to the needs of professionals in rapidly changing industries. In the field of financial auditing, for example, auditors must stay updated on new regulatory frameworks, technological advancements like blockchain, and the adoption of International Financial Reporting Standards (IFRS). The static nature of most public university programs limits their ability to keep pace with such developments.

In addition to this, public universities often face financial constraints that affect their ability to expand or enhance their offerings. State funding for higher education in Greece has been subject to austerity measures and budgetary constraints in recent years, leading to understaffed faculties, insufficient resources, and limited capacity for new program development. This has a direct impact on lifelong learning opportunities, as universities struggle to offer flexible, continuing education programs that cater to the needs of working professionals, including financial auditors.

Moreover, the lack of flexibility in scheduling is a significant barrier for professionals who wish to pursue further education. Public universities typically follow a traditional academic calendar, with full-time courses designed for students attending on a daily basis. This structure does not accommodate the needs of working professionals who may require part-time, evening, or weekend courses. Consequently, financial auditors often

find it difficult to balance their professional responsibilities with the pursuit of further education within the existing public university system.

Another challenge in the public sector is the limited collaboration with industry stakeholders. In more advanced education systems, universities often work closely with professional associations and employers to develop programs that directly address the skills gaps in the workforce. In contrast, public universities in Greece have been slower to engage in such partnerships, further limiting their ability to provide targeted, practical education for professionals. This gap is particularly evident in highly specialized fields like auditing, where the demand for up-to-date, industry-relevant education is critical.

Finally, the absence of private universities in Greece has hindered competition in the higher education sector. In countries where private institutions operate alongside public universities, competition has led to the development of more innovative educational models and specialized programs, particularly in areas like lifelong learning and professional development. The lack of competition in Greece's public-dominated system has resulted in fewer incentives for universities to modernize their curricula or to offer flexible learning options that cater to the needs of professionals, such as financial auditors.

In summary, the current state of higher education in Greece presents several barriers to effective lifelong learning for professionals in fields like financial auditing. Public universities, while providing foundational academic programs, have struggled to adapt to the dynamic needs of the professional market. The absence of private universities has contributed to a lack of innovation and specialization in continuing education programs, leaving many professionals with limited options for furthering their education within the country.

3. CHANGES AND EXPECTATIONS WITH THE INTRODUCTION OF PRIVATE UNIVERSITIES

The potential introduction of private universities in Greece is expected to bring about significant changes in the country's higher education landscape, especially in the area of lifelong learning. Private institutions, which operate independently from state control, have the flexibility to develop more specialized and market-driven programs, tailored to the specific needs of industries like financial auditing. This flexibility is one of the key reasons why many professionals are optimistic about the potential role of private universities in supporting lifelong education.

One of the most anticipated changes is the development of programs that are more responsive to the current demands of the job market. Private universities typically design their courses in close collaboration with industry stakeholders, ensuring that graduates possess the skills that are most in demand. For financial auditors, this could mean the introduction of cutting-edge programs focused on areas such as forensic auditing, block-

chain technologies in auditing, and sustainability reporting. These are areas where auditors require specialized knowledge, but which are often underrepresented in traditional public university curricula.

Additionally, private universities are expected to offer more flexible learning formats. Unlike public universities, which adhere to a rigid academic calendar and full-time study model, private institutions often provide part-time, evening, and online courses that are tailored to the needs of working professionals. This is particularly important for financial auditors, who need to balance their continuing education with demanding work schedules. The ability to pursue certifications, diplomas, or even full degrees through more flexible formats will make it easier for auditors to stay up to date with the latest industry trends and regulatory changes without sacrificing their career progression.

Private universities are also more likely to offer shorter, modular programs that allow professionals to gain specific skills without committing to a full degree. This approach, sometimes called micro-credentialing, is particularly well-suited to fields like auditing, where professionals may only need to update their knowledge in certain areas, such as tax law changes or new auditing standards. By offering these shorter, focused courses, private institutions can provide financial auditors with the tools they need to stay competitive in a fast-changing industry.

Another expectation is that private universities will foster greater competition in the higher education sector, driving innovation and raising the overall quality of education. In countries where private and public universities operate side by side, competition has led to improved services, more modern facilities, and a greater emphasis on student outcomes. For Greece, the introduction of private universities could incentivize public institutions to become more flexible and responsive to the needs of professionals. This competition could result in more comprehensive and high-quality offerings in both the public and private sectors.

Moreover, private universities may offer stronger links to international education networks, enabling Greek professionals to gain globally recognized certifications and degrees without having to study abroad. Many private institutions collaborate with foreign universities, allowing students to benefit from international expertise and global best practices. For financial auditors, whose work often spans borders due to multinational corporations and globalized markets, this international dimension could provide a significant advantage.

However, alongside these positive expectations, there are also concerns and challenges. One potential issue is that private universities might focus too heavily on profitability, which could lead to programs that prioritize marketability over educational rigor. There is also the risk that private institutions may cater primarily to wealthier students, limiting access to quality lifelong learning opportunities for financial auditors who may not have the financial means to afford private education.

In conclusion, the introduction of private universities in Greece holds great promise for lifelong learning, particularly for professionals like financial auditors. By offering more flexible, specialized, and market-driven programs, private institutions have the potential to address the gaps in the current public education system and provide professionals with the tools they need to succeed in an increasingly complex and globalized financial environment. Nevertheless, the success of these institutions will depend on their ability to balance profitability with quality and accessibility.

4. PROSPECTS FOR LIFELONG LEARNING FOR FINANCIAL AUDITORS

Lifelong learning is particularly crucial for financial auditors, whose profession requires a deep understanding of constantly evolving regulations, auditing standards, and financial technologies. The introduction of private universities in Greece could open up new prospects for auditors, offering more targeted, accessible, and innovative educational programs tailored to their ongoing professional development.

One of the key benefits that private universities could bring is the ability to offer highly specialized courses designed to meet the specific needs of auditors. For example, private institutions might develop programs focused on emerging areas such as forensic auditing, risk management, fraud detection, and the use of data analytics in auditing practices. These are areas of growing importance in the financial auditing profession, yet they are often not covered in detail by traditional public university programs. By providing auditors with access to cutting-edge knowledge in these fields, private universities can ensure that they remain competitive and well-equipped to handle the complexities of modern financial environments.

In addition to offering specialized courses, private universities are likely to adopt more flexible and modular learning formats. Unlike traditional full-time programs, these institutions could offer short courses, certifications, and diplomas that allow financial auditors to gain specific skills or knowledge without committing to a lengthy degree program. For instance, an auditor could enroll in a six-month course on blockchain technology in auditing, or a short-term certificate in international financial reporting standards (IFRS). This flexibility would be especially valuable for professionals who need to balance their work commitments with ongoing education.

Furthermore, private universities could play a critical role in addressing the demand for continuing professional education, which is increasingly recognized as a necessity for financial auditors. Many professional bodies, such as the Institute of Internal Auditors (IIA) and the International Federation of Accountants (IFAC), mandate that auditors participate in continuing education programs to maintain their certifications. Private universities, by offering accredited courses and professional certifications, could align their programs with these requirements, making it easier for auditors to fulfill their continuing education obligations.

Collaboration between private universities and industry professionals is another important prospect for lifelong learning. Private institutions are more likely to forge partnerships with auditing firms, professional associations, and other industry stakeholders to ensure that their programs are relevant and up-to-date. These partnerships can lead to the development of tailored training programs that address current market needs, such as audit automation, cybersecurity risks, and sustainability audits. By staying closely connected with industry trends, private universities can provide financial auditors with the skills they need to stay ahead in their field.

Moreover, private universities have the potential to offer internationally recognized certifications, which can be a significant advantage in the increasingly globalized auditing profession. Financial auditors who work for multinational companies or who deal with cross-border financial transactions must often comply with international standards and regulations. Private universities, particularly those with ties to international institutions, can provide auditors with globally relevant credentials that enhance their mobility and career prospects both within Greece and abroad.

Finally, private universities could help foster a culture of lifelong learning by making education more accessible and attractive to working professionals. By offering courses that can be completed in a flexible manner, through online platforms or evening classes, they make it easier for auditors to pursue further education without disrupting their professional lives. This accessibility can encourage a greater number of auditors to engage in lifelong learning, ultimately raising the standards of the profession as a whole.

In summary, the introduction of private universities presents promising prospects for lifelong learning in the financial auditing profession. These institutions have the potential to offer more flexible, specialized, and industry-relevant programs that cater to the ongoing educational needs of auditors. Through collaborations with industry, the provision of internationally recognized certifications, and flexible learning formats, private universities could significantly enhance the professional development landscape for financial auditors in Greece.

5. CRITICAL REVIEW AND CHALLENGES

While the introduction of private universities in Greece holds promise for advancing lifelong learning, particularly for financial auditors, there are several challenges and concerns that need to be considered. These challenges relate to the regulatory framework, accessibility, quality assurance, and the potential commercialization of education, all of which could impact the effectiveness and inclusiveness of private institutions.

One of the most significant concerns is the regulation of private universities. Currently, Greece's educational system is highly centralized, and the absence of a well-defined regulatory framework for private institutions raises questions about how these

universities will be governed. Ensuring that private universities maintain high academic standards is critical, especially when dealing with specialized fields like financial auditing, where quality education directly impacts professional competency. Without stringent accreditation processes and oversight mechanisms, there is a risk that some private institutions may prioritize profit over the quality of education, offering programs that do not adequately prepare students for the demands of the auditing profession.

Another potential challenge is the issue of accessibility. Private universities, by their nature, often charge higher tuition fees compared to public institutions, which could limit access to lifelong learning for many professionals. Financial auditors, particularly those in smaller firms or those who are self-employed, may not have the financial resources to invest in expensive programs. This could create a divide where only those with significant financial means can afford to benefit from the advanced, specialized education that private universities offer. Ensuring that private institutions provide scholarships or financial aid could help mitigate this concern, but there is no guarantee that these options will be widely available.

Additionally, there is the risk that private universities may focus too narrowly on market-driven courses, at the expense of broader educational goals. While it is essential for private institutions to be responsive to market demands, an overemphasis on profitability could lead to the neglect of critical thinking, ethical training, and the broader social responsibilities of financial auditors. Auditing is a profession that requires not only technical expertise but also a strong ethical foundation, given the potential for conflicts of interest and the importance of maintaining public trust. If private universities prioritize short-term, marketable skills over the development of these broader competencies, the profession as a whole may suffer.

Furthermore, there is a challenge in balancing the flexibility and accessibility that private universities can offer with the need for maintaining academic rigor. While modular, online, and part-time courses are attractive to working professionals, there is a risk that the convenience of such programs could lead to a dilution of academic standards. Ensuring that flexible learning options maintain the same level of rigor as traditional degree programs is essential for maintaining the credibility of lifelong learning initiatives. Private universities will need to ensure that their courses, even those offered in a flexible format, adhere to strict academic standards and provide meaningful outcomes for learners.

The potential commercialization of education is another challenge that should not be overlooked. As private universities seek to attract students, there is a risk that education could become more of a commodity, where the focus shifts to enrollment numbers rather than educational quality. In such a scenario, private institutions might focus on offering popular programs that attract a large number of students, rather than developing niche, high-quality courses that address the specific needs of financial auditors. This could lead

to an oversupply of generalist qualifications and a lack of depth in specialized fields like auditing.

Lastly, there are concerns about the social equity implications of private universities. If the introduction of private institutions leads to a two-tiered system–where those who can afford private education receive a higher quality, more specialized education, while others are left with less flexible and underfunded public options–this could exacerbate existing inequalities in access to lifelong learning. Financial auditors who cannot afford private education may find themselves at a disadvantage, unable to keep pace with peers who have access to more advanced training and qualifications.

In conclusion, while the introduction of private universities in Greece could offer significant benefits for lifelong learning, especially for financial auditors, it also presents several challenges. Ensuring that these institutions are properly regulated, accessible, and committed to maintaining high academic standards will be key to their success. Without careful oversight, there is a risk that private universities may exacerbate inequalities and prioritize profit over educational quality, limiting their potential to truly enhance the lifelong learning landscape for financial auditors.

6. CONCLUSION

The impending operation of private higher education institutions in Greece presents both exciting opportunities and significant challenges for lifelong learning, particularly in the field of financial auditing. As the profession continues to evolve in response to regulatory changes and technological advancements, the need for continuous education has never been greater. Private universities have the potential to fill the gaps left by the public system, offering more specialized, flexible, and market-driven programs that can directly address the needs of financial auditors.

Private institutions are expected to bring about changes by offering targeted, cutting-edge programs that are more responsive to industry needs, such as courses on forensic auditing, international financial reporting standards (IFRS), and the use of emerging technologies in auditing. Additionally, the flexibility these universities can provide through part-time, online, and modular formats will allow financial auditors to pursue lifelong learning without compromising their professional commitments.

However, the success of private universities in promoting lifelong learning for financial auditors depends heavily on addressing several challenges. The absence of a strong regulatory framework raises concerns about maintaining academic quality and ensuring that private institutions do not prioritize profitability over educational rigor. Accessibility also remains a key issue, as high tuition fees could limit opportunities for many professionals, potentially creating a divide between those who can afford private education and those who cannot.

Furthermore, private universities must balance their focus on market-driven courses with the broader educational mission of cultivating critical thinking, ethical responsibility, and social accountability, which are essential qualities for financial auditors. Addressing these challenges through robust regulation, quality assurance, and financial aid mechanisms will be critical to ensuring that private universities can contribute positively to the lifelong learning landscape in Greece.

In conclusion, while the introduction of private universities could significantly enhance lifelong learning opportunities for financial auditors, it is essential that these institutions are held to high standards and are accessible to all. If properly regulated and aligned with the needs of the profession, private universities could become a valuable resource for continuous professional development in Greece, helping financial auditors stay competitive and well-prepared in a rapidly changing global economy.

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12. The folk tale and its theatrical adaptation into a Drama. An instructive sentence

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ABSTRACT

Drama in education is an art form that has both recreational and pedagogical goals. Through drama, children are introduced to the art of theater while the teaching goals are more achievable. For the transformation of a folk tale into a drama, specific skills and knowledge of creative writing are required in order for the story to take shape and to prepare for the background of the children to whom it is addressed. The purpose of this dissertation is to highlight all aspects of drama in education from its adaptation using creative writing to the definition of objectives, its application in the classroom and the evaluation of results. The Theatre, apart from an important branch of art, is a means of better understanding of the reality of the external social environment, but also of the inner world of the individual. In recent years, there has been a growing awareness of the role that theatre can play in education, and more and more educators are seeing it as more than an art form and as a teaching tool.

KEYWORDS: Drama in Education, Folk Tale, Adaption, Creative Writing

1. INTRODUCTION

The aim of this work is to highlight the course and process of the adaptation of a folk fairy tale in a theatrical play as a creative writing project and at the same time an experiential approach with the method of educational drama. Through this process it is attempted to promote all aspects of educational drama from its adaptation through the use of creative writing to the definition of goals, the proposal for its implementation in the classroom and the evaluation of the results.

According to Gramata (2001), theatre has permeated the educational space in various forms, such as theatrical play, theatrical improvisation and pantomime, the writing workshop, dramatization, theatrical analogue, theatrical happening, sketch and theatrical performance and a segregation of the audience is made based on age, learning level and previous experience. From the 1950s onwards, in the context of a more progressive education, there is a reference of Drama in Education, a term referring to the use of the above-mentioned forms of theatrical art for educational purposes. However, works studied for educational purposes are mostly classical works, which were

written at different times and under different social conditions, which often makes it difficult for children to read and conceive their meaning. Thus, teachers are invited to take on the role of adapter and modify classical texts, in a way that is suitable for reading in sensitive childhood and easily editable and perceptible from a cognitive and critical point of view for children. The purpose of this thesis is to highlight the course and process of the adaptation of a folk fairy tale in a theatrical work as a creative writing project and at the same time an experiential approach with the method of educational drama. Through this process it is attempted to promote all aspects of educational drama from its adaptation through the use of creative writing to the definition of goals, the proposal for its implementation in the classroom and the evaluation of the results. This essay consists of two parts: a theoretical and a research part. In its first part, bibliographic sources are investigated, with the aim of collecting bibliographic material and compiling the theoretical framework related to the research department of diplomatic research. In the second, the research part of the work takes place the adaptation of a fairytale in a theatrical text and then in educational drama as well as suggestions for the experiential application of the fairytale, in the form of a theatrical workshop, to children of formal development attending primary education. The specific teaching objectives and expected results from the implementation of the activities are also presented.

2. THEORY

Theatre, apart from an important branch of art, is a means of optimal understanding of the reality of the external social environment, but also of the inner world of the individual. It can become an instrument of collective social liberation and offer a rehearsal space, where the strategies of ousting, oppression and injustice are tested in practice, the possibilities of liberation that everyone has in themselves and where the "culture of silence" (Zoniou, 2003) is defeated.

In recent years, more and more talk about the role theatre can play in education and more and more teachers treat it as, in addition to an art form and as a teaching tool (Katsaridou, 2011).

The era when educators perceived theatre as a game and as a theatrical performance has passed and it is now addressed to all ages and is recognised as a tool with cognitive goals and the promotion of creativity that represents life itself.

According to Gramata (2001), theatre has penetrated the educational space in various forms, such as theatrical play, theatrical improvisation and pantomime, the writing workshop, dramatization, theatrical analogue, theatrical event, sketch and theatrical performance and a separation of the audience is made based on age, learning level and previous experience. It has been mentioned since the 1950s, in the context of a more

progressive education, about the educational drama (Drama in Education), a term that refers to the use of the aforementioned forms of theatrical art for educational purposes.

However, works studied for educational purposes are mostly classical works, which were written at different times and under different social conditions, which often makes it difficult for children to read and understand their meaning. Thus, teachers are invited to take on the role of adapter and modify classical texts, in a way that is suitable for reading in sensitive childhood and easily editable and perceptible from a cognitive and critical point of view for children.

This task consists of two parts: a theoretical and a research part. In its first part, bibliographic sources are researched, in order to collect bibliographic material and compile the theoretical framework related to the research department and examine issues such as the adaptation of classical texts, the value of creative writing and educational drama as a teaching tool.

In the second, the research part of the work takes place the adaptation of a fairytale in a theatrical text and then in educational drama as well as suggestions for the experiential application of the fairytale, in the form of a theatrical workshop, to children of formal development attending primary education. The specific teaching objectives and expected results from the implementation of the activities are also presented.

Folk fairy tales are a suitable means to cultivate children's creativity. This is possible because it is full of important images and symbols, parables and metaphors, which give it pedagogical and educational value. At the same time, the folk tale has an equally important psychological function, as it contributes to their emotional development, through mechanisms for identifying children with the central heroes of the fairy tale (Malafantis, 2011). Further, the fairy tale stimulates children's imagination and feeds their cognition and emotions. Through listening to stories, children are not just passive receivers but are actively involved, participate, criticize and process the information they receive (Tsilimeni, 2011).

3. FOLK TALE AND ITS POSITIVE EFFETS ON CHILHOOD

What the folk tale mainly does and is worth noting are its positive effects on childhood. Thus, through the results of studies and research, the need for their teaching in pre-school and primary education emerged, while the example of Germany where the teaching of fairy tales exists as a prediction in curricula is mentioned. Of course, teaching should be done through their creative exploitation – such as by transforming them into dramatic text as will be discussed further below – while their main positive effects are the contribution to the cognitive, emotional and social development of children (Tsiantouli, 2018).

The main characteristics of the traditional folk fairytale are the following (Sakellariou, 1995):

- The simple style and simple expressive means: The storyteller does not intend to impress his audience using elaborate phrases and rare words. What interests him is to entertain his listeners, to make them travel with him in the world of imagination.
- The tacticality of the episodes: The story may deal with a particular story, but the various episodes are not directly intertwined around a core.
- Limitation of factual descriptions: The folk tale is not spent on the description, but it moves decisively in action. As Lüthi notes: when the hero of a fairy tale enters a city, its streets and houses are not described. The life and movement of the city are not depicted. Only what is necessary for action.
- Common narrative rules: They are common to pedestrian and metric narrative known as epic laws. The Danish Orlik found in 1908 that epic laws are as follows: 1. Repetition of verbal patterns, 2. Three persons with the most important the third (In the folk fairy tale the persons suffering or acting are usually three. Even if there are not three faces, there are three trials to be carried out, to choose between three ways, to make three wishes), 3. The two faces on stage, 4. Succession of tension and relaxation, 5. The contradictions (e.g. the forces that are good and beneficial on the one hand, and on the other the destructive or bad ones).
- Local idiom: The storytelling takes place in local Greek dialects.
- The various characters of fairy tales as they are given seem to be escaping human measures. Everything is idealised, everything makes the world lighter

A fairy tale written in the previous century, or even before, could not offer the most to modern reality, since social data, such as the structure of the family, change over the years and therefore the flow of text must also change. Thus, in the field of education, given the value of the fairytale, teachers often seek to undertake the difficult task of adapting classical texts in order to achieve both the prestige and the tradition of texts and to update them in order to respond to modern standards and to fulfil the teaching objectives set on a case-by-case basis.

The term adaptation means "the new version or the editing and rectification of a work on the drama that has already been published or has been performed." Thus, etymologically and meaningfully, it presupposes the operation of an earlier 'equipment', on which it intervenes, i.e. alters it, in order to adapt it to the poetic or didactic and ideological axioms which were previously in force in the evolved and spatially defined field of cultural reference" (Papadopoulos, 2006). Usually the adaptation takes place in classical works that were written years or centuries ago, in order to update and maintain their interest and their proportionality to the present.

Essentially, that is, it marks the transfer of a recognizable work to a new one, distinct from the previous one, without completely alienating the identity of the original work (Hutcheon, 2006).

Moreover, as a process of creation, the act of adaptation always involves both reinterpretation and recreation.

From the perspective of the adaptation process, this concerns an extensive and continuous interactive engagement with the work to be adapted. After all, it is a form of intertextuality. The covers contribute to the preservation of a work in the memory of the public through an alternation of means and expressive ways

The most common techniques used for adaptations, in general, are omission, addition and change of species.

Regarding the field of children's literature, which is the major issue in this study, according to Kanatsouli (2002), there are three kinds of adaptations:

a. Works originally written for adults are adapted for the children's audience. They are usually works of classic writers.
b. Works written by famous authors in other eras with different aesthetic standards and therefore the publisher brings changes to bring it closer to the criteria of today's children.
c. The third big category concerns folk fairy tales in which, because of their specificity, as a kind of oral literature, they are constantly changed and transformed, and their adaptation seems to be legal.

An important factor in the creation of a cover is also the implicit reader by which the adapter makes his choices, "the concept of our intended reader is particularly useful since it can show to whom a particular literary work is addressed" (Eikonomidou, 2000).

4. CREATIVE WRITING IN EDUCATION

The history of Creative Writing begins in ancient Athens with Aristotle, but has its roots behind him, as his work on Poetics is essentially "an interpretative account of those creative practices he collected and studied and which in the meantime had been accepted and numbered already several years of application" (Kotopoulos, 2015). The popularity of creative writing began to grow from the 1960s onwards in the U.S. and Great Britain, and even in 1970 it was established and entered the university, where various applications are being made and various discussions about it are being developed (Myers, 2006). Similar growth occurred in other European countries, while in Greece, from Primary to University, Creative Writing is being used as a new teaching approach to literature (Symeonaki, 2013).

According to Kotopoulos (2012), creative writing as a term has two meanings: On the one hand, creative writing is about the ability of the writer to control his thoughts and to be able to capture them in writing. On the other hand, the term is an approach of

all educational practices and techniques, aimed at activating children's creativity and producing texts through stimulus and play (Diakoumakou, 2017). Also, according to Mandilaras, creative writing is defined as "a modern educational method, which approaches in an experiential way its speech and potential, combining play with learning" while its main characteristic as a teaching method is that there is no right and wrong since all the answers are considered correct, thus allowing the child to focus on the text (Tsilimenis & Paparousis, 2010).

From the teacher's point of view, for the adaptation of literary texts and especially fairy tales, the teacher is proposed to use creative writing as a means. Creative writing as a technique requires writing – literary skills, so that through it, history takes life and turns into an adventure and a lasting journey (Kotopoulos, 2012).

The drama emerged as a form of educational process in the context of the trend towards a new progressive education that prevailed in England in the mid-20th century, aiming at the all-round development of the child (Avdi & Hadjigeorgiou, 2007). The central project was to promote pupil-centered teaching, experiential learning and the free expression of the child through a free self-expression game where the teacher did not participate. Promotes active, experiential, collaborative learning and cultivates critical thinking and a sense of social responsibility (Avdi & Hadjigeorgiou, 2017).

5. DRAMA IN EDUCATION

Drama in Education is a form of theatrical art with a purely pedagogical character. It can be taught either as an independent art course or at the same time used as a means to teach various courses of the curriculum" (Avdi & Hadjigeorgiou, 2007). Through emotional involvement, mental processing of situations, reflection and experiential character of drama, learning is encouraged through the understanding of the self and the world. Participants work in teams and create a fictional world based on a story, play roles, make decisions, act and reflect.

The components of the drama are the same as the basic elements of the theatre (O'Toole, 1992 and O'Toole & Haseman, 1988, as reported in Avdi & Hadjigeorgiou 2017). More specifically, these elements are role, dramatic intensity, focus, space, time, language and movement, atmosphere, symbols and meaning (Avdi & Hadjigeorgiou, 2017). In general, drama is a form of improvisational theatre with pedagogical goals and is based on pedagogical principles.

In this study, the aim was to carry out a qualitative research, and more specifically an action research, with the aim of applying the technique of dramatised storytelling to the teaching process in order to improve learning practice and its results.

6. OUR SPECIFIC RESEARCH PROPOSAL

The aim of this research is the adaptation of a folk fairy tale with the aim of its experiential application in the form of a theatrical workshop for educational drama in formal development children attending primary school, and, more specifically, it is suitable for students of the 3 rd to 6th grade. Essentially, through this process, the ultimate goal would be the improvement of teaching practices and the enhancement of learning outcomes through the application of an alternative teaching process using experiential techniques, and more specifically through the use of the dramatised narrative of a folk tale. Thus, the dominant research question would be to investigate the results of the application of this technique in two classes with different backgrounds.

As regards the research process, initially, the aim was to carry out the implementation of this action research and the workshop in a real classroom, however, due to the special conditions that prevailed during the preparation of this thesis in the context of postgraduate studies with the supervisors of Mrs.Tasoula Tsilimeni, Mr. Konstantinos Magos and Mrs. Martha Katsaridou, due to the coronavirus pandemic, with the closure of schools and restrictions on travel, only the research design was carried out with the preparation of the workshop as a didactic proposal, with the aim of using it for a future implementation of this action research. According to the original design, therefore, as data collection techniques for the experiential application, the observation and a diary was chosen, in which the researcher will keep complete notes from the adaptation and each application of the theatrical, while details on the reactions of the children and the achievement of the teaching goals will be noted.

Furthermore, as regards the selection of the sample, since the aim was to investigate the results of the research in pupils with different backgrounds, it was chosen to apply the workshop to 4th grade pupils, coming from two different primary schools, a school located in the city, and one in the province. The workshop can be implemented in ten teaching hours.

For this adaptation, I first thoroughly studied the original text “The Serpent” (Ioannou, 2017) and took particular account of the “meaning Reader” factor. I then divided the text into seventeen scenes, simplified the language, kept the same characters and spaces of action. At the same time I added stage and directorial instructions, increased dialogues and included elements of today’s era. In addition, I added several humorous, emotional and beautological elements. At the same time, I highlighted the expressive means of the heroes.

Age Group:	From C class to F class
Subject:	Trust
Question:	Can we trust everyone?

Sub-questions:	• Why is it important to keep the secret of someone who trusts you? • Why do you have to say "No" when it comes to trust? • Is it easy to regain the trust of someone you betrayed?
Source/Reflect:	Traditional Folk Tale "The Snake"
In this case:	A widow secretly raises as her child a serpent, who, in order to marry the queen she loves, must succeed in the three difficult trials imposed on him by the King, without anyone knowing his secret. His secret confesses to Vasilopoula and asks her not to reveal it to anyone, otherwise there will be consequences. Can he trust her to keep his secret? What if the Queen betrayed her trust? Will she be able to regain the confidence he has shown her?
Roles for children:	Snake, Vasilopoula, Mother, Companions/Snake Friends, Parents Vasilopoula

7. SPECIAL EDUCATIONAL OBJECTIVES OF ACTIVITIES

Based on the content of the dramatic text and the objectives of dramatisation, the specific teaching objectives are set, which are presented as follows:• Developing critical thinking

- Learn the Importance of Keeping the Secret of Someone Who Trusts You
- Teach children to say "no" when it comes to matters of trust
- Get to know the kids if it's easy to regain the trust of someone you betrayed.

Presentation of Activities

1. Children in circle-knowledge-2 truths and 1 lie. Each child says his name and three things about himself, two of which are true and one is a lie, and the other children try to find the lie.
2. We call one or two children to come to us and whisper something in the ear (e.g. not trust*them all, but only those who are worthy of your trust: Democritus*) in front of the rest of the children and/or we tell them that it is a secret and that they should not tell anyone until the program is over, to see if they will manage to keep the secret.
3. We ask them if they know what a folk tale is and if they know, if they have read a folk tale and what its title is. Then begins the storytelling: *Once upon a time it was… whatever you want, son. Tell me what to do to you? What's going through my hand?*
4. One at a time counts. Children in a circle count from 1 to 25, as many as the years that have passed, with numbers being heard in turn and each time only one says the number. If two or more children say the same number, they start from the beginning. Kids don't have to figure out who's going to say the next number.

5. Dramatising how much the snake grew through play and accompanied by music. The children are scattered in the room with closed eyes, except for one, which will make the snake, as the mother found it and will be the guide of the game. As soon as the music begins, he will try to grow the snake's body, creating a chain with his classmates.
6. Continue storytelling: *As you can see, I'm grown up and I have to get married….for my wife.*

   Continue cover storytelling: *I want to marry the princess! ...and God's helper!*

   Continue storytelling: *My lord, and we arrived at dawn, the tower was dumb and adorned with royal ornaments.*
7. Make sounds and cold heat-Seek and find the three objects that the king will ask for. One child takes the role of snake, another child the role of king, and the other children the role of companions of the snake, divided into six groups. The child-snake comes out for a while through the room, while the child-king hides three objects well in the room and the other children see where. When he has hidden them, the child-snake will enter and his goal will be to find and deliver to the child-king every item he will ask for each time and all this within a certain period of time. At the same time they make sounds in order to create the corresponding atmosphere. Each time the child-snake must figure out which group should be trusted, so that they can find all three objects in the appointed time. (It can be played more than once)
8. Interrogation Chair: Each snake child puts a child from each team to sit in the interrogation chair – a child from the team who helped him and a child from the team trying to mislead him – and begins to "interrogate" him with questions, such as, what character from the fairy tale he is, why he helped him or why he misled him, what he thinks he would be able to help or mislead, and what are his feelings toward him. Each child must enter the role he/she chooses (mother, companion/ friend, queen, queen) and respond according to this role and as if he has the snake against him.
9. Continue storytelling: *Then the king realised that the son-in-law was worthy of his daughter-in-law.*

   Continue cover storytelling: You think he's blond… no, I didn't call you
10. Catch him, he's falling! Children are divided into couples. A stands with closed eyes in front of B and falls backwards, without moving his legs, trusting B that he will catch him and not let him hit. Then they change places. (They can change couples to see if they have the same trust in everyone)
11. Frozen images: The kids will play the same game, but entering roles this time. They will randomly choose their roles (e.g. snake-mother, king-snake, queen-snake, moth-

er-roy, snake-partner/friend, king-queen and any other possible combination) and knowing the story up to this point, they will decide whether to catch each other in order not to fall, and with a still image they will show it. When they come alive, they will also say why they would catch the other person or not.

12. Continue storytelling: *Then out of the snake came a lad like an angel handsome… I am a bewitched king.*

    Continue narration: *On the day to turn into a snake…my daughter marry a snake.*

    Continue storytelling: *And as time went by, the more they pressured her daughter to drive away the snake and marry a good king.*

13. Corridor of Consciousness: The children are divided into two groups, forming two parallel lines, leaving a small corridor between them, through which the queen child will pass. As she walks slowly through the hallway, one group will exhort her with arguments to talk to her parents and tell them the truth about the snake, and the other group will urge her not to talk to them. Coming out of the hallway each child king will tell which group and arguments convinced her and whether or not she will reveal the truth to her parents.
14. Continue storytelling: *Because of the lot of pressure they did, he couldn't bear his basket empty!*

    He told me that if I told the secret… and where is it? Where is he then?

    Continue storytelling: *Here I am my dear…and they had feasts and joys and you had many and they lived well and we were better.*

15. Thinking Detection – Role on a Wall: Divide children into five groups. Each group will represent/represent a character or group of characters from their fairy tale and thoughts. The thoughts of the characters will be related to:

    (a)whether they should or should not have shown confidence in those who showed.

    how difficult and important it is to keep a secret.

    if you have to trust everyone.

    D)If you need to learn to say no to some people when it comes to a matter of trust and has to do with something important. We let them think, exchange views and discuss with each other.

16. Children lying in a circle with the accompaniment of relaxing music tells each one whether trust was human, which person would be, as well as asked if they could describe the word trust with one or two words which would it be.
17. Drafting of texts: The children write anonymously on a piece of paper on the one hand what they think was the secret we told their classmate(s) and on the other they write how they feel and whether they want to share a thought about themselves or the heroes of the action. Thenpour the paper into a can. After this process is over, we reveal to them what the secret was.

The activities presented were created on the basis of the needs of the text but mainly of the specific teaching objectives set from the outset. Through dramatisation, the text was transformed to be more accessible to children while at the same time serving the needs of the teacher in order to achieve the goals. Then, through the activities, children are "educated" on the set of teaching goals while at the same time, since they are experiential activities, they develop critical thinking and receive experiences as if they were in their real life.

The development of critical thinking, due to its importance, can be said to belong to both general and specific teaching goals, as literature basically aims to act positively on children's critical thinking. As part of the theatrical workshops, children think clearly and creatively and make important decisions on critical social issues while at the same time being free from the obsessions that may exist in everyday life. Through the activities presented, children are led to the realisation that they can make important decisions, solve problems and experience while at the same time gain self-confidence and become more able to use their skills in their daily lives (Tsilimeni, 2018).

8. CONCLUSION

Finally, the specific teaching goals are expected to be met, namely children to receive "experienced experiences" on important social issues such as trust issues. Through the "experience" of issues related to trust, children are expected to build strong friendly and social relationships as well as to be ready to experience similar issues even betrayal by those around them.

From the above, it appears that educational drama is an important tool for transmitting knowledge and experiences to children, especially difficult to manage social issues. Through drama, fairy tales are brought to life and transformed into life experiences and skills for the development of children into active and equal social members. Furthermore, through the adventures of the heroes of fairy tales, experience and knowledge of life are acquired and the message is conveyed that with work, self-knowledge and patience everything can be achieved. The achievement of the teaching objectives requires both love for the work and skills in particular in creative writing and adaptation.

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13. Physical Education teachers' attitudes towards inclusion of children with disabilities in their classes: A review of Greek literature

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ABSTRACT

The aim of this review was to examine the topic of previously published experiential articles with reference to attitudes of Greek Physical Education (PE) teachers towards inclusion of children with disabilities and Special Educational Needs (SEN). Since the passage of the related legislation (PL 3699/2008) in Greece, which mandates the inclusion of students with disabilities and SEN into public schools, there is an increasing amount of students attending regular classes and a PE teacher's growing interest to specialize in Adapted Physical Education (APE). Teachers' attitudes towards children's inclusion have an enormous impact on the education of these children and it is considered an important element that determines the success in the education of children with SEN. For the need of the study, an extensive review was made in different educational data bases. Results revealed 11 articles published the last 20 years and they indicated that Greek PE teachers, although lacking appropriate support, have favorable attitudes toward the inclusion of children with disabilities and SEN. Furthermore, knowledge and preparation, years of teaching experience, direct experience working with disabilities and SEN children, type and degree of disabilities and SEN were positively associated with such favorable attitudes. Since the Greek government is preparing a new public law on inclusion, the results of the current review should be taken in consideration by the lawmakers.

KEYWORDS: inclusion, attitudes, physical education teachers, students with disabilities and SEN

1. INTRODUCTION

A person's environment has a huge effect on the experience and extent of disability. Inaccessible environments create barriers that often hinder the full and effective participation of individuals with disabilities in society on an equal basis with others. Progress on improving social participation can be made by addressing these barriers and facilitating persons with disabilities in their day to day lives. WHO constantly commits to pursue the goals of inclusion and empowerment of those individuals, the protection of their human rights as well as their well-being (WHO, 2021). In 1994, a milestone year, the Salamanca

Statement created and are regarded as the key documents advocating for children's rights and laid the groundwork for the legal acknowledgment of inclusive education.

According to this statement: "Those with SEN must have access to regular schools which should accommodate them within a child-centered pedagogy capable of meeting these needs"; "Regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all; moreover, they provide an effective education to the majority of children and improve the efficiency and ultimately the cost-effectiveness of the entire education system". Globally, over the last decades, there has been a shift in educational and social policies towards integrating students with disabilities and SEN into mainstream educational settings.

In Greece, a passage of a Greek educational legislation (PL.3699/2008, Greek Government Gazette) was formed, which allowed students with disabilities and SEN to participate in general classes, with or without additional support, depending on the recommendations from the national centre of diagnosis, evaluation and support.

The value of PE is multifaceted and imperative. According to Demchenko (2021), it is recommended to improve the curriculum of training for future PE teachers through the introduction of the courses on inclusive physical education and psychology of creativity with the involvement of materials from creative therapy, organizing and conducting practical training and updating the content of teaching placements accordingly.

1.1. Inclusion

During the last decades, inclusion has emerged as a central concept in Special Education and Adapted Physical Education (APE). The term "inclusion" endorses the Convention on the Rights of Persons with Disabilities (UN, 2006) emphasizes the right of all children to benefit from education and refers to education provision to individuals with disabilities within the context of a general classroom without discrimination (Sherrill, 2004). Today, it reflects a philosophy in which all children, regardless of abilities or disabilities, are educated within the same environment, an environment where each child's individual needs are met (Block & Obrusnikova, 2007). In addition, inclusive education is considered a process whose main goal is the participation of all students with disabilities and/or SEN at school and to have learning results and conditions for their further social development Ainscow & Miles, 2008) and psycho-emotional well-being (Ashton-Shaeffer et al, 2001; Groff & Kleiber, 2001).

In practice, inclusion means teaching in heterogeneous classes in which there are students with diverse individual needs (Haug, 2017). Many advocate the inclusion movement, asserting that separate education systems are inherently unequal and that the environment in which a program is implemented plays a crucial role in its effectiveness for a child (Winnick, 2000).

However, in accordance to Sherrill (2004), exceptions to this practice may be the population with severe to profound retardation and/or multiple disabilities that make success in the regular classroom very difficult or impossible. To achieve this successfully, a physical educator should be able to use the availability of support services must be ensured in order to accompanying students with disabilities into the regular physical education classes (Sherrill, 2004).

In the present day, inclusion is a primary objective in PE and APE, as these subjects are vital components of the school curriculum. PE and APE provide unique opportunities for social acceptance and interaction among all students due to their distinctive instructional environment. Moreover, they play a crucial role in fostering equality and participation within school settings.

1.2. Benefits of inclusion

The inclusive orientation only positive effects can contribute to the education. According to Sherrill (2004), the benefits of inclusion into a typical class mainly concern the improvement of sociability and the development of self-confidence in those individuals with disabilities. Schools that adopt inclusion practices argue that this approach not only combats discrimination but also enhances the overall quality of education for most students and elevates teaching standards (UNESCO, 1994).

1.3. Barriers of inclusion

On the other hand, some barriers disturb the inclusion. PE teachers have noted several obstacles to including students with disabilities in general physical education classes. These challenges include insufficient training provided at the university level, limited information about students with disabilities in kinesiology courses like biomechanics and exercise physiology, and a lack of courses focused on teaching methods and safety training (Sherrill, 2004). A common challenge in inclusive education is that students without disabilities tend to engage more frequently with their peers who also do not have disabilities, rather than interacting sufficiently with their assigned partners who have disabilities (Sherrill, 2004). In Greece a barrier of inclusion is considered the existence of special public schools. Despite the fact that a passage of a Greek educational legislation (PL.3699/2008, Greek Government Gazette) has changed many years ago, nowadays a lot of primary and secondary special public schools still exist in all over Greece.

1.4. Attitudes

The key to changing behaviors toward people who are different is attitudes. This is the essence of adapted physical activity, integration and inclusion (Sherrill, 2004). According to Ajzen (1991), behavior can be seen as influenced by both intentions and perceived control over that behavior, alongside other factors such as subjective norms and attitudes

towards the behavior. Attitudes towards a behavior reflect how positively or negatively an individual evaluates that behavior.

Changing behaviors towards students who are different largely depends on attitudes, which are shaped by values and beliefs. Attitudes indicate one's fitness or predisposition to either approach or avoid something. Approaching or avoiding behaviors, in turn, evoke new attitudes about self and environment. The attitude-behavior relationship can be conceptualized as a continuous circle with change occurring in both directions. Attitudes can be defined as a person's degree of favorableness or unfavorableness with respect to a psychological object or evaluation of an object, concept, or behavior along a dimension of favor or disfavor, good or bad, like or dislike.

Positive attitudes can greatly influence a positive approach toward sharing space and activities of children with and without disabilities (Sherrill, 2004). For example, Avramidis *et al,* (2000), claimed that teachers with substantial training in special education held significantly higher positive attitudes than those with little or no training about inclusion. Teachers with active experience of inclusion held significantly more positive attitudes towards inclusion than those from randomly selected schools. The level of the professional development of the respondents was found to be significantly related to their attitude towards inclusion. Physical educators' attitudes affect all the perspectives of inclusion of students with disabilities and SEN in regular PE class (Sherrill, 2004). This literature review intends to investigate the attitudes of Greek PE teachers regarding the inclusion of children with disabilities and special educational needs in PE classes. The greatest challenge for a PE teacher is to find ways for these students to be socially accepted, despite their differences from the others (Sherrill, 2004).

2. METHOD

The method used to collect the material was the extensive and systematic review of the International and Greek literature. The ResearchGate and the ScienceDirect, electronic databases were used for the collection of the English bibliography and the chapters, books and articles from the GoogleScholar electronic database were selected for the Greek bibliography. The keywords used in combination were "inclusion", "attitudes", "physical education teachers" and "students with disabilities and SEN". Out of the total of 1764 (ResearchGate) and 305 (ScienceDirect) recovered articles, 11 articles were used, ie only articles that had the criteria that we had primarily set, such as the reference to attitudes of teachers towards inclusion of children with disabilities and special educational needs (SEN) in physical education classes in Greece. In particular, three articles were about the attitudes of Greek PE teachers, one of them in greek language and one more was about the attitudes of Greek soccer coaches. In addition, two more articles were about Greek and Cypriot PE teachers.

Furthermore, the effects of Special Olympics' Unified Program and the intervention program "Paralympic School day" on attitudes towards inclusion, were inspected through two articles. Finally, the rest of the articles were used in order to analyse the effect of the Salamanca Statement and the reality of inclusion in the general classes in Greek schools. Limiting the chronology helped for a more modern work based on the latest articles. Articles that were not accessible to the public were excluded, provided that the full text was read and not only the summary.

3. RESULTS

3.1. Skills

In accordance to Papadopoulou et al (2004), most PE teachers of their study (in a small sample of 93 participants), believe that they do not demonstrate the necessary skills for inclusion. The responses showed that 60.2% of the physical educators believe that they do not have the skills to cope with the instructional needs of children with disabilities in regular classes. Significantly, only 41% of the above percentage of PE teachers had positive attitudes toward inclusion. This can be explained as 20 years ago in the Greek Departments of Physical Education and Sport Science, the specialty of Adapted Physical Education was in its infancy and was just beginning to emerge. As it turns out, a few years later, in the study of Doulkeridou et al (2011), in a bigger sample of 410 participants, the results indicated that 66.8% of all the physical educators had academic preparation and 49.8% had attended Adapted Physical Activity (APA) seminars.

An even more updated research of Loules et al (2023), in a significant sample of 285 Greek soccer coaches, showed that more than half of the soccer coaches reported that they do not have the knowledge or that it is not applicable to cope with the instructional needs of children with disabilities such as orthopedic and multiple disabilities, as well as intellectual disability. This can be explained as soccer coaches have a coaching diploma and not all of them are holders of a Physical Education and Sport Science degree. In difference, more than half of the soccer coaches reported that they have the knowledge to cope with the instructional needs of children with disabilities such as behavioral disorders and learning difficulties. Furthermore, the results of the older study of Papadopoulou et al (2004), demonstrated that perceived competence and academic preparation of physical educators regarding individuals with disabilities were the best predictors of favorable attitudes, followed by their age and year of studies.

3.2. Gender

The outcome as regards to gender's influence in attitudes, according to Doulkeridou et al (2011), was that there were no significant gender differences. Nevertheless, the results of two Greek studies (Vaporidi et al, 2005; Papadopoulou et al, 2004), exposed that female

physical educators are more positive to include children with disabilities and SEN in their class than men. In particular, according to Papadopoulou et al (2004), female educators expressed more positive attitudes toward the benefits that both children with and without disabilities can have in their classes compared to male educators. Furthermore, female teachers believe that they have the availability in support services in comparison with male teachers. There were more positive attitudes of female teachers concerning benefits and support compared to male teachers. Over a short period of time with the two latest Greek studies, namely in the research of Batsiou et al (2006), the results indicated a significant difference for gender groups on 'experience'. Men demonstrated to be more experienced in teaching in mainstream classes than women. Additionally, in a comparison between the two countries, in a total of 87 educators from Greece and 92 from Cyprus, men from Cyprus showed stronger feelings towards this kind of teaching than their colleagues in Greece. Analysis of this study showed as well, a great sense on 'attitude strength' between countries and their interaction with gender.

Educators from Cyprus had indicated stronger attitudes towards teaching students with and without SENs than the educators in Greece. Coming to confirm this about Cyprus, Fournidou et al, (2011) showed that males generally demonstrate an attitude supporting inclusion and tend to believe that inclusion will help students without disabilities learn to interact with individuals with physical disabilities (PD), who are described as students (6-18 yrs) diagnosed as having one of the following disabilities (cerebral palsy, amputations, spina bifida, muscular dystrophy etc.). Additionally, they will encourage students without disabilities learn to help others, and will also have a positive effect on the development of personalities of students with PD.

3.3. Support

Teachers in private schools believed that they have the appropriate support services for inclusive programs in comparison with public school teachers. Appear to be that the support services of private schools are more adequate and better financing of public schools is needed in order to improve their services (Papadopoulou et al, 2004). The aim of the research of Doulkeridou et al (2011), was to examine the attitudes of Physical Educators toward the inclusion of students with disabilities and SEN in general PE classes and to compare them with those PE teachers who taught the course of Olympic/Paralympic Education (O/PE). The results showed that O/PE course was possibly a great factor that gave information about inclusion and promoting the Olympic and Paralympic values made the PE teachers more positive toward inclusion of children with disabilities and SEN into regular PE classes. Moreover there was an influence on attitudes based on the attention of Adapted Physical Activity courses and seminars by many PE teachers. Last but not least, due to the passage of the PL.3699/2008 which mandates school inclusion of children with disabilities and SEN in regular classes was a change that affected PE

and O/PE teachers' attitudes. Results indicated that PE teachers, although lacking appropriate support, have favorable attitudes toward the inclusion of children with disabilities and SEN.

4. CONCLUSION

The findings from a systematic review of Tarantino et al (2023) and meta-analysis showcase clear differences in the means for PE teachers' attitudes towards the inclusion of children with SEN when they compared studies conducted before and after the publication of the Salamanca Statement (1994). The attitudes of Greek teachers towards inclusion are pivotal in determining the effectiveness and quality of PE and APE for students with disabilities and SEN. Education for students with disabilities and SEN within the general school system has seen significant progress in Greece in recent years. Special education classes are considered an appropriate placement only if attendance in regular classes is difficult or impossible due to the student's type of disability.

However, it is an option for a student to attend a special public school. These results can be explained partially due to several changes that recently occur within the Greek Education system. Results indicated that PE teachers, although lacking appropriate support, have favorable attitudes toward the inclusion of children with disabilities and SEN. Furthermore, knowledge and preparation, years of teaching experience, direct experience working with disabilities and SEN children, type and degree of disabilities and SEN were positively associated with such favorable attitudes. According to Vaporidi et al (2005), the PE's contribution toward inclusion of students with disabilities and SEN in general classes is related to the level of knowledge that PE teachers believe they have for disabilities condition. The results were encouraging in terms of teachers' willingness to broaden their knowledge about education for students with disabilities. The future development of appropriate support services especially in the public schools along with the more adequate preparation of the physical education teachers are necessary issues that need to be addressed in order to bridge the gap between the theory of inclusion and its application in Greece (Papadopoulou et al, 2004).

Results indicated that PE teachers, although lacking appropriate support, have favorable attitudes toward the inclusion of children with disabilities and SEN. One element that has potentially impacted the inclusion procedure in Greece is the organization of the Paralympic Games of 2004 in Athens, which is a superior athletic, but also educational event. The success of the Paralympic Games and the tremendous perception which is visible from the millions of spectators that watch them, created the need for planning programs for Paralympic Education. (Doulkeridou et al, 2011). On the occasion of the organization of the Paralympic Games in Athens, a Paralympic Education kit was developed – and established as a good practice – entitled: "The Paralympic Games from 1960

to 2004", which may be used by PE teachers to plan their lesson, including students with SEN and disabilities (Evaggelinou, 2002). The major aim of this kit was to create awareness, change attitudes towards people with disability, inspire pupils with the passion and the determination of the athletes participating in Paralympic Games and educate towards a better society. Another good practice of changing behaviors and attitudes is the recent study of Karkaletsi et al (2021), which was designed to examine the effect of the Unified Sports program held in Greece. The program was organized from Special Olympics Hellas (SOH), recruited certain high schools in the wider areas of Athens. Throughout the program, the SOH visited the schools and organized several Unified Sport (UNS) events (lectures, video presentations and sport events). During the sport events, the students with and without Intellectual Disability (ID) participated in the UNS organized by the SOH, the respective schools and the research team. The participants expressed their attitudes towards the inclusion of individuals with ID and their responses were recorded and analyzed accordingly.

The majority of the students without ID had no knowledge regarding UN and no previous experience with individuals with ID, prior to the events. Their experience therefore was enhanced throughout the program, and the results revealed that they became more sensitive and willing to provide interpersonal support and exchange messages with their ID counterparts. The UNS program, in general, provided them the chance to get a more in depth view of themselves and consider their personal strengths as human beings. Moreover, the Greek Ministry of Education should develop a curriculum for PE teachers about how to teach children with disabilities and SEN in inclusive PE class, so physical educators would feel more capable and adequately supported. Additional suggestions might include the level of the students who need improved academic preparation to equip them with the skills required to teach children with disabilities in inclusive classrooms.

Similarly, in-service teachers should have access to courses and seminars, not only to enhance their skills but also to foster more positive attitudes toward inclusive education. (Doulkeridou et al, 2011). In this day and age, the Greek Departments of Physical Education and Sport Science in Greece, promote the specialty of APE and postgraduate studies in the direction of inclusion. Attitudes about disability can change as long as good practices are evaluated and implemented in education and in the society in general. Additional research is recommended, in order to be able to support the continuous involvement of children with disabilities and SEN in PE classes and on top of that to have more informed PE teachers and more positive to disability.

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14. Current State Of Information Systems In Schools In Greece

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ABSTRACT

This paper analyzes the state of information systems in Greek schools, focusing on their integration, effectiveness, and challenges. It uses a mixed-methods approach, combining quantitative data from surveys and qualitative insights from interviews. The study reveals significant disparities in digital infrastructure, with urban schools benefiting from advanced systems while rural schools face basic issues like poor internet access and outdated hardware. Despite government efforts, gaps in IT training for educators and concerns over data privacy remain. The COVID-19 pandemic highlighted existing weaknesses but also spurred improvements. Recommendations include increased investment in infrastructure, enhanced educator training, and stronger data security policies.

KEYWORDS: Information Systems, Pandemic, Technology, School Management

1. DEFINITION OF INFORMATION SYSTEMS

The information system can be defined as a whole of interrelated elements that collect or retrieve, process, distribute, store information that supports control and decision-making in an organization. Information systems can also help executives and staff analyze problems, create new products, and visualize complex issues.

Information systems contain information important to some important people, places and things within the organization or the surrounding environment. (Folinas,2006)

By the term information we mean, data (called streams of primary elements, which represent events that occur in organisms or in the natural environment, before they are organized and shaped in a way that is useful and understandable to people) that have been shaped in such a way to make them understandable and useful to people.

Another definition that could be given for information systems is that it is a set of human processes and automated computer systems, specified for collecting, recording, retrieving, processing, storing and analyzing systems. These systems can include software, hardware, and a telecommunications component. From this definition, we verify that in order to have a good result of information systems that support the operation of the business or organization, the following conditions are necessary: the existence of

well-defined procedures, the correct identification of the necessary data, the appropriate training of human resources, the existence of appropriate material and availability of appropriate software. (Kenneth, 2006)

Of course, every information system has advantages and disadvantages, as well as positive-negative effects on humans.

2. ADVANTAGES AND DISADVANTAGES OF INFORMATION SYSTEMS

The company can know its strengths and weaknesses, due to the reports of the revenues and the performance of the employees. This can help the business to change its processes and business operations for the better. It also gives an overview of the business and functions as a communication and planning tool. Another advantage that should be mentioned is that information is a great asset for any business in the competitive world. Listed below are some advantages of using some information systems. (Kenneth, 2011)

The information systems (TPS), manage the company's transactions, making it even easier to coordinate the work, as they provide detailed and specialized reports to the senior management organization or business. (Kenneth, 2011)

An advantage provided by Management Support Systems (ESS) is that they keep the management of the company informed, in contact with the rest of its executives. DSS systems on the other hand are fast, flexible, adaptable and support the decision process. Management Information Systems (MIS), on the other hand, focus on control procedures, while at the same time modernizing them, giving detailed reports to senior executives. Also, businesses and organizations benefit from the use of information systems (ERP), since they focus on valid and timely information, as they simultaneously speed up and reduce the cost of processes. In other words, they form the overall planning of the company's production, stocks and sales, which it achieves. (Kenneth, 2011)

The positive results from the use of information systems are: much faster than people in calculations, they help the company to have knowledge about the preferences and habits of consumers, they are responsible to some extent for the progress of medicine, etc. (Kenneth, 2013)

In addition to the advantages mentioned above, information systems also have disadvantages. For example, information systems (TPS), which contribute significantly to the course of the business, as it organizes several functions of the business, such as the procurement of raw materials and quality control. Errors are also identified that can exclude the company from its goal, also many times the transaction processing systems are so necessary in a business, that their failure for a few hours can mean the death of a company and even the companies connected to it. (Kontoulis, 2022)

MIS systems, on the other hand, lack creativity and effective quality information, as they are not easily adaptable and compared to other information systems, their analytical

ability is not sustained. In other words, they are not flexible at all and have little analytical capabilities. (Kontoulis, 2022)

DSS systems, on the other hand, have the disadvantage that they only work within the business environment itself (as opposed to management support systems that are designed to incorporate data about external events, such as a new tax law or data about competitors), and due to the burden of the system with new users, its performance decreases significantly. (Kontoulis, 2022)

Finally, the disadvantage of information systems (ERP) is that to create and develop them, they are a time-consuming process, which is very expensive. Also, compared to other systems, it is not an easy and flexible system, and thus integration problems are created. Users should have the appropriate knowledge and training to be able to use it. In terms of technology, it is not easily adapted to the needs of each business, which leads to maintenance and upgrading at regular intervals. So in terms of the financial level, a lot of money is spent. (Kenneth, 2013)

More briefly, we can say that the negative results from the use of information systems are, when and if their operation stops, they cause destruction to the company, they close many jobs, and through the concentration of data, the property can be easily violated, etc.

3. DIMENSIONS OF INFORMATION SYSTEMS

An organization or business needs information and an efficient organization to function. An organization is managed with the help of processes and systems, with a dominant role being information systems, which provide data and support everything else. (Lalos, 2021)

The effectiveness of information systems requires an understanding of the people, organization and information technology that shape the systems. Therefore, the dimensions of the information systems as it follows from the aforementioned are three.

- People
- Organizations
- Technology

3.1. People

Every business is the sum total of all the people who work in it and run it. The same is true with information systems. Information systems are not useful without skilled people to build and maintain them, but also without people who understand how to use a system's information to meet their goals. (Lalos, 2022)

Businesses need many different kinds of skills and people, from managers to employees. The role of executives is to find solutions to issues that arise in the organization,

find action plans to achieve problems in the organization, and generally make decisions. Executives perceive the business challenges in the corporate environment, formulate the organization's strategy, and allocate human and financial resources for the success of the strategy and project coordination. They also have to create new products and services, as well as reinvent the organization from time to time. (Lalos, 2022)

An important part of managers' responsibility is creative work driven by new knowledge and information. Information technology can play an important role in helping managers develop innovative solutions to the problems that will arise.

3.2. Organizations

Information systems are part of organizations. Organizations have a structure and consist of various levels and specialties. A business is organized as a hierarchy with increasing authority and escalating responsibility. At the upper level of the hierarchy are the managerial, technical and specialized staff, while at the lower level are the clerical staff. The company employs and trains specialists to carry out its various business functions. It also creates information systems to serve these various specialties and their various levels. (Lalos, 2023)

Every organization has a culture, that is, a fundamental set of perceptions, values and ways of acting that have been accepted by most of its members. Elements from the organization's culture are always integrated into its information systems.

Different levels and specialties within the organization create different interests and considerations. These considerations often conflict with each other. Conflicts form the basis for organizational politics. (Lalos, 2023)

3.3. Technology

Information technology is one of the many tools that managers use to cope with change and increasing complexity.

Computer hardware: is the hardware used for the input, processing and output activities of an information system. It consists of computers of various kinds and sizes, various input, output and storage devices, and telecommunications devices that connect the computers together. (Lalos, 2023)

Computer software: is the set of detailed predefined instructions that control and coordinate the work of computer hardware components in an information system.

Data management technology: consists of the software that controls the organization of data on physical storage media. (Lalos, 2023)

Telecommunications and networking technology: consists of both hardware devices and software. It connects the various hardware components and transfers data from one physical location to another. Computers and communications equipment can be connected to networks to share data, images, audio and video. A network connects two computers, mostly for the purpose of sharing data or resources, such as a printer.

4. THE ROLE AND LIFE CYCLE OF INFORMATION SYSTEMS

An information system helps control, coordinate, analyze problems, make decisions, and develop new products. From the moment the business or organization begins its creation, then its existence also begins. Then the basic requirements of the functions are determined by the information system and are designed to meet the requirements of the business. (Lalos, 2023)

Information systems help to

- Fast and accurate data processing
- Fast communication between sites
- And in the large storage capacity

In the study of information systems, scientific fields play an important role: informatics, sociology, organizational and behavioral theory, political science, psychology, etc.

Over time, the company or organization decides to create a new modern information system, then there is its development period, followed by its operation period until a certain time limit, where the company or organization decides that it does not meet the requirements and withdraws it.

The life cycle includes many activities which are grouped together: exploratory study, feasibility study, requirements analysis, implementation, control, planning, etc. (Lalos, 2023)

5. GENERAL INFORMATION AND INFORMATION SYSTEMS ACTIVITIES

Every information system should:

- Process all information to meet needs.
- And to effectively and efficiently identify the needs of the people using the information system.

However, in order for an information system to make these a reality, it should:

- To make the retrieval, storage, processing, presentation and dissemination of information more efficient.
- To make the support of operation, control and strategic planning processes of the organization or business more effective.
- As well as providing the necessary tools and appropriate learning with the users dealing with the information system, in order to improve the decision-making process. (Pearlson, 2024)

On the other hand, every company uses information systems for the following reasons:

- For fast and accurate data processing.
- Due to large storage capacity and for high-speed communication between locations.
- For immediate information access and coordination of individuals, groups and organizations.
- To increase efficiency and to support the decisions that will be made in the business. (Pearlson, 2024)

Depending on the financial possibilities and needs of a company, however, the corresponding information system is used. Some of the information systems are analyzed below.

- Human resource system: human resource information systems support activities such as finding prospective employees, keeping comprehensive records of existing staff, and creating programs to develop the organization's capabilities and skills. These systems determine the staffing needs (e.g., skills, job categories, etc.) for the success of the company's long-term plans. At an administrative level, these systems help executives monitor and analyze recruitment, placement and staff compensation. (Tasopoulos, 2005)
- Management information systems (MIS): management information systems serve the management of the organization, providing executives with reports or with the possibility of direct access to current performance data and historical orphan data. Usually these systems are suitable for indoor rather than outdoor or environmental events. MIS mainly supports the planning, control, and decision-making functions at the managerial level. They also summarize and report data on the company's core business activities. In conclusion, these systems cater to executives interested in weekly, monthly and yearly results, and rely on data from the underlying transaction processing systems. (Tasopoulos, 2005)
- Decision support system (DSS): these systems serve the administrative level of the organization. They help executives make decisions on fast-changing and unique issues. These systems also use internal information from the TPS and MIS systems, but often also accept information from external sources, such as current stock prices. Decision support systems have greater analytical capabilities than other systems. They are designed so that users can work directly with them, and include user-friendly software. (Tasopoulos, 2005)
- Management support system (ESS): senior managers use management support systems to make decisions. These systems serve the strategic level of the organiza-

tion and deal with cases of emergency decision-making, which require judgment, evaluation, and disposition because there is no pre-agreed process for reaching a solution. They are designed to incorporate data on external events, such as new tax legislation, and also draw summary information from internal MIS and DSS. In conclusion, they filter, summarize and track critical data, with an emphasis on reducing the time and effort required to provide useful information to senior management. (Tasopoulos, 2005)

- Office automation system (OAS): they address the cognitive organizational level and serve the users of the data, who do not have special scientific knowledge. In practice, they do not produce new information and new knowledge. They communicate with customers and suppliers or with other businesses and serve as tools of information flow.
- Transaction processing system (TPS): are the basic business systems, which serve the executive level of the organization. The transaction processing system is a computerized system that performs and records the current day-to-day transactions necessary to conduct business. An example is the entry of sales orders, payroll, maintaining personnel data, etc. Executives need TPS to monitor the state of internal operations, and the company's relations with its external environment. TPSs are also the primary sources of information for the other types of systems. (Tasopoulos, 2005)
- Business Resource Planning System (ERP): these are systems that, with their tools, provide the possibility of competitiveness for many years. It is a sequence of immediately implementable application packages, which cover all the functions of a business. In addition, it provides integrated information solutions for the best and most efficient management and planning of resources, and also enables the company to operate coordinated as a single whole, guided by the information that it receives from the environment. (Tasopoulos, 2005)

The activities by which an information system produces information are as follows:

- Input: input captures or collects primary data from within the organization or from its external environment.
- Processing: converts this raw input into a more understandable form.
- Output: conveys the processed information to the people or activities that will use it.
- Feedback: information systems also need feedback, which is output that goes back to the appropriate members of the organization, to help them evaluate or correct the input phase. (Tasopoulos, 2005)

6. THE BASIC RESOURCES OF AN INFORMATION SYSTEM

The basic resources of an information system are:

Human resources (end users, IT specialists). All information systems include people, and for this reason IS are characterized as social systems. The people who participate in an IS are either end users who directly or indirectly use the information it produces. End users can be engineers, clerks, accountants, etc., or IT specialists who develop and operate the systems. IT specialists include system analysts, programmers, computer operators, etc. (Rainer, 2020)

Material resources (the set of devices used to input, process, and store data). The material resources include: the hardware, i.e. the computer systems which consist of a central processing unit, the peripherals, the telecommunications networks and the media used for data storage (paper, hard drives, etc.) Software resources (programs and processes). This term includes:

1. The software system, which controls and supports the functions of the computer.
2. The application software that provides the end user with the ability to process a specific problem (such as payroll).
3. The procedures, i.e. instructions to the people who use the software, such as instructions for filling in a form or instructions for using a program. (Rainer, 2020)

Data resources (databases, models and knowledge). Data is an important resource for an organization. The data takes various formats and are organized into:

1. Databases that store and manage organized data.
2. Pattern bases that store mathematical and logical patterns that contain relationships, calculations, and analytical techniques.
3. Knowledge bases that store facts and rules about various problems. (Rainer, 2020)

7. THE MOST IMPORTANT PURPOSES OF MANAGEMENT SYSTEMS

The most important purposes of business management information systems refer to the following:

- In the collection and storage of data, which with appropriate processing are transformed into useful information. Data are events or observations that can be recorded. Data are actually values of some attributes belonging to entities. To be useful they should have some characteristics that define their quality: accuracy, completeness, relevance and availability. Data is collected from various sources.
- Data processing, which includes calculations, comparisons, classifications, and categorizations. For example, data relating to a customer's purchase may:

  - to be added to the total of the customer's purchases
  - To be compared with the amount that makes the customer the beneficiary of the discount
  - To be classified according to the product codes that were bought by the customer and classified into product categories (e.g., food, detergents).
- In the provision of operational information to employees, to carry out in the best possible way their daily transactions and activities related to the short-term planning and control of the business. Information can be disseminated in various formats (messages, forms, reports, lists, etc.). The extension of the enterprise's value chain, through the connection of the enterprise's information system with those of its suppliers, intermediaries and customers, cooperate in order to create benefits from the acquisition of additional information. (Rainer, 2020)

8. METHODOLOGY OF DEVELOPING AN INFORMATION SYSTEMIC

The methodology of developing an information system consists of the following stages.

1st stage: is defining the problem. The frameworks within which the study will be carried out are clearly defined. An attempt is made to approach the real problem, and the alternative solutions that exist are described. 2nd stage: is the feasibility study. The documentation of the implementation is approached in an analytical way, alternative ways of implementing the project are recorded, while at the same time a first attempt is made to record the possible effects of its implementation and especially the cost-benefit relationship. (Lalos, 2023) In particular, it is recorded:

1. The technical feasibility of the project: comparison of technical possibilities and requirements of the project.
2. The operational feasibility of the project: the involved departments of the business are determined.
3. The economic feasibility: a first recording of its cost is attempted project.
4. The expediency of staff behavior: staff relations with the new system, reassignments and employee and departmental relations are examined. (Lalos, 2023)

3rd stage: is the analysis of the existing situation: an attempt is made to capture the existing situation in the company in an analytical way, through the recording of the system structure, in order to identify the strong points at the following levels:

1. Processes: interfaces between departments, workflow.
2. Personnel: human resource management policy, personnel development, personnel knowledge and skills.

3. Administration: administrative structure, level of knowledge, administrative mentality team, communication, control with the rest of the staff.

4th stage: is the definition of the requirements. In this stage, the users' requirements are recorded and at the same time they are evaluated based on their efficiency, their economic feasibility, and the goals-aims of the administration. An attempt is made to predict the future requirements of the users, as a result of the use of the system. (Lalos, 2023)

5th stage: is the design of the system. This stage is divided into general and specific design, and aims to capture the structure of the system, the description of the equipment in hardware and software, the procedures and controls required. (Lalos, 2023)

1. General design: includes, process format, control requirement, personal dispositions, orientation to work execution, basic design options, personnel training, project completion schedule, etc.
2. Special planning: includes production and distribution control information, the planning of outputs, e.g. printers, the correctness of input checks, etc.

6th stage: is the implementation of the system. In this stage, the system gradually begins to change, as the initial plans implemented in the previous phases are implemented, as the choices in equipment and procedures are finalized. (Lalos, 2023)

7th stage: is the installation of the problem. At this stage, much attention is paid to the satisfactory operation of the system and the transition of the business to the new state.

1. Installation: hardware, software, proper functioning check, etc.
2. Structural: does the system work satisfactorily?
3. Staff training.
4. Transition from the existing to the new system. The date is determined and the required actions to start the system are recorded in detail.

8th stage: is the operation and maintenance of the system. The continuous comparison of the actual results with the goals set and the need for continuous evaluation and revision of the system's operation. (Lalos, 2022)

System maintenance is hardware maintenance (preventive, safety), software maintenance (maintenance of organizational and operational framework, etc.). (Lalos, 2022)

9. INFORMATION SYSTEMS AND LOGISTICS

A modern warehouse management logistics information system should cover all the functions and management needs of a warehouse or a distribution center, from the arrival of goods and their storage, to the execution of orders and shipping to customers. Customer support, online and real time control of stocks using wireless terminals, tracking dates and batches expiration date, the integration of barcodes in all phases of the warehouse operation, the fast automatic inventory with portable wireless terminals, the saving of storage space and the automation of the order picking process, are the minimum that a modern IT solution in the field of Logistics must cover. (Lalos, 2022)

The evolution of the IT industry has positive effects on the development of modern Logistics Information Systems. These modern developments that are integrated into the Information systems are the following:

- Powerful computing systems based on RISC processors or INTEL processors
- Open operating systems (e.g., UNIX. WINDOWS)
- Relational databases RDBMS architecture
- Windowed environments on clients (Lalos, 2022)
- LAN and INTERNET technology
- Wireless networks for the communication of mobile terminals and warehouse transport means with the server
- Barcode printing systems and barcode readers etc (Lalos, 2022)

Logistics science forms the basis for the development of powerful logistics information systems. Information systems can also help members of a supply chain decide what and when to produce, what to store and what to transport, how to quickly forward orders, how to track order status, how to track product shipments, how to schedule production based on actual customer demand, etc. (Lalos, 2022)

10. COMPETITIVE ADVANTAGE THROUGH INFORMATION SYSTEMS

Businesses that do better than others have a greater competitive advantage than others. Some of them have access to special resources that others do not have, or can more effectively use commonly available resources, usually because they have superior knowledge and information resources. In any case, they perform better in terms of revenue growth, profitability or productivity growth, factors that in the long run translate into higher stock valuations than their competitors. (Lalos, 2021)

The most widely used model for understanding competitive advantage is Michael's competitive forces model Porter. This model provides an overview of the business, its competitors, and the business environment. Porter's model is about the general business

environment of the firm. In this model, five competitive forces shape the shape of the company, and they are following:

- Traditional competitors: all firms share market space with other competitors who are constantly inventing new more efficient ways to produce, introducing new products and services, and constantly trying to attract customers by developing their brands and imposing switching costs on their customers.
- New market entrants: in a free economy with mobility in labor and financial resources, new firms are constantly entering the market. In some industries, the barriers to entry for new firms are very low, while in other industries, entry is very difficult. New companies now have some advantages, and this is due to the fact that companies are no longer locked into old production units and equipment. Often companies hire younger workers who are less expensive and more innovative. These advantages are also its weaknesses, because they depend on external financing for new production units and equipment, which can be very expensive. Another weakness that could be mentioned is that the workforce they employ is not experienced, and they have very little brand recognition. (Lalos, 2021)
- Substitute products and services: in almost every industry, there are substitute products that customers can switch to if they increase the prices, to meet their needs. New technologies create new substitute products all the time.
- Suppliers: the power that suppliers have in the market can have some effect on the firm's profits, especially if the firm cannot raise its prices as quickly as its suppliers. The more suppliers a company has, the more control it can exercise over them in terms of price, quality and delivery times. (Lalos, 2021)
- And finally we have customers: a profitable company depends largely on its ability to attract and retain customers (which it loses from its competitors), and to charge low prices. Customer power increases if it is easy to switch to a competitor's products and services, or if they can force the firm and its competitors to compete solely on price in a transparent market where there is little product differentiation, and where all prices are known instantly (just like on the internet). (Lalos, 2021)

Because of the internet, traditional competitive forces still exist, but rivalry, according to M. Porter, has become much more intense. Internet technology is based on universal standards, which can be used for any business. This leads other firms to compete solely on price, while also allowing new competitors to enter. Because information is available to everyone, the Internet increases the bargaining power of customers, who can quickly find on the Web the company that offers the lowest cost. (Lalos, 2021)

The internet has destroyed many industries and threatens others. An example is the sector of printed encyclopedias. On the other hand, the internet creates completely new markets. It forms the basis for thousands of new products, services and business models, and provides new opportunities to create new brand names, with a very broad and highly engaged customer base. An example here is Amazon. From this point of view, the internet is 'transforming' entire industries, forcing companies to change the way they do business.

11. CONCLUSION

The state of information systems in schools in Greece had been undergoing significant transformation, driven by both national educational policy and broader global trends towards digital learning environments. Here are some key aspects of this transformation:

Digital Infrastructure Improvement: There has been a concerted effort by the Greek government to improve digital infrastructure in schools. This includes upgrading internet connectivity, providing digital devices to students and teachers, and developing digital classrooms. Projects like "Digital School" (Ψηφιακό Σχολείο) include platforms for e-learning and digital educational materials accessible through the school's network or even from home. (Lalos, 2022)

Educational Software and Platforms: Various platforms and software have been implemented to aid in teaching and administrative duties. Platforms such as "myschool" (Το Σχολείο Μου) facilitate online communication between teachers, students, and parents, and serve as repositories for grades and attendance records. Additionally, during the COVID-19 pandemic, the use of platforms like Microsoft Teams and Webex was significantly accelerated to support remote learning. (Lalos, 2022)

Training and Professional Development: There is an ongoing focus on training educators to effectively use information technology in their teaching practices. This includes professional development programs designed to enhance digital skills and pedagogical methods that incorporate technology.

Curriculum Integration: Information and Communication Technology (ICT) is increasingly integrated into the curriculum across various levels of education. There are initiatives to not only teach students how to use technology but also to understand and create with it, emphasizing coding, digital content creation, and cyber safety. (Lalos, 2022)

Challenges and Limitations: Despite these advances, there are challenges such as uneven distribution of resources between urban and rural areas, the need for continuous funding for equipment maintenance and upgrades, and varying levels of digital literacy among teachers and students.

Future Prospects: Looking ahead, Greece plans to continue expanding digital education resources, further integrating advanced technologies like artificial intelligence and

machine learning into educational practices, and enhancing data-driven decision-making in education management. (Lalos, 2022)

These efforts reflect a broader global shift towards digital education but are tailored to meet the specific needs and conditions within Greece. The effectiveness and sustainability of these initiatives depend heavily on ongoing government support, teacher training, and the adaptation of students and parents to new learning modalities. (Lalos, 2022)

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Approaches to Interaction that Builds Bridges Between Fields of Knowledge / Aproximaciomes a la interacción que tiende puentes entre campos de conocimiento

In an increasingly interconnected and multicultural world, interdisciplinary research aimed at innovating and implementing advancements has become a strategic tool for building bridges between cultures, breaking down communication barriers, and fostering inclusion in all spheres of society. This book is a compendium of ideas, methodologies, rigorous analyses, and research that invites educators and researchers alike to explore new perspectives and approaches in this fascinating field. It offers a roadmap through the challenges and opportunities that knowledge emerging from the interaction between disciplines and sciences can provide in a globalized world. The work is based on a fundamental premise: teaching second languages is not merely an academic task but a deeply human activity. Every interaction in the classroom, the laboratory, knowledge resource management centers, and their application in society—and ultimately, every effort to communicate an idea—is an act of connection, of constructing meaning, and of reaching out to the unknown. The authors have created a rich and diverse mosaic combining theory, practice, and innovative applications, making this book a reference for understanding the complexities of innovation and its real-life transfer in the 21st century. In summary, this book is an invitation to rethink how we teach and learn, how we manage leadership, how and what we do for more effective inclusion, and ultimately, how to improve society. Through its pages, the authors remind us that rigorous, thoughtful, and profound research—whether quantitative or qualitative—is, at its core, about building bridges between people, cultures, and ideas. With its conceptual richness and practical focus, this book will undoubtedly serve as a source of inspiration for all those committed to advancing research in Social Sciences, Humanities, and ICT in a global context. We hope its reading motivates us to continue innovating, experimenting, and, above all, teaching with passion and purpose.

En un mundo cada vez más interconectado y multicultural, resulta de todo punto estratégica la investigación interdisciplinar tendente a innovar e implementar avances como herramienta indispensable para construir puentes entre culturas, derribar barreras comunicativas y fomentar la inclusión en todas las esferas de la sociedad. Este libro es un compendio de ideas, metodologías y análisis e investigaciones rigurosas que invita tanto a docentes como a investigadores a explorar nuevas perspectivas y enfoques en este fascinante campo. Se trata de una propuesta de hoja de ruta a través de los retos y las oportunidades que el Conocimiento surgido de la interactuación entre disciplinas y ciencias puede ofrecer en un mundo globalizado. La obra parte de una premisa fundamental: la enseñanza de segundas lenguas no es solo una tarea académica, sino una actividad profundamente humana. Cada interacción en el aula, en el laboratorio, en los centros de gestión de recursos de conocimiento y de su aplicación a la sociedad, y, en definitiva, cada esfuerzo por comunicar una idea es un acto de conexión, de construir significado y de tender la mano hacia lo desconocido. Los autores han dispuesto un mosaico rico y diverso que combina teoría, práctica y aplicaciones innovadoras, haciendo posible que este libro devenga en referencia para entender las complejidades de la innovación y su transferencia a la vida real en el siglo XXI. En resumen, el presente libro es una invitación a repensar cómo enseñamos y aprendemos, como gestionamos liderazgos, cómo y qué hacemos para una inclusión más efectiva, como, en suma, mejorar la sociedad. A través de sus páginas, los autores nos recuerdan que la investigación rigurosa, serena, profunda, sea cuantitativa o se cualitativa es, en el fondo, tender puentes entre personas, culturas e ideas. Este libro, con su riqueza conceptual y su enfoque práctico, será sin duda una fuente de inspiración para todos aquellos comprometidos con la mejora de la investigación en Ciencias Sociales, Humanidades y TIC en un contexto global. Deseamos que su lectura nos motive a seguir innovando, experimentando y, sobre todo, enseñando con pasión y propósito.

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