EXPLORING THE IMPACT OF DIGITAL TECHNOLOGIES ON BULGARIAN EDUCATION SYSTEM AND THE UNIQUENESS OF THE FINNISH EDUCATION MODEL

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Abstract. In a rapidly evolving global landscape, this article embarks on an exploration of the profound influence exerted by digital technologies across all facets of human existence. It seeks to delve into the intricate interplay between these technologies and the education sector, a domain undergoing transformation, marked by the stimulation of individualism, imagination, and creativity, as well as the perilous presence of multifarious risks. These perils include the emergence of "cognitive impatience and decline," the heuristic navigation through a labyrinth of information, the erosion of traditional authorities, and the proliferation of false information and propaganda.

Keywords: education and digital technologies; risks and opportunities; AI and digital technologies; educational model in Finland

Introduction

In the context of this evolving digital milieu, Bulgaria faces a series of formidable challenges that hinder the swift pace of digitization, despite the acceleration prompted by the COVID-19 pandemic. In stark contrast, Finland stands as a beacon of educational success, offering a compelling case study for discerning minds. This article tries to dissect the key determinants behind Finland's educational achievements and casts an insightful gaze upon how this Nordic nation actively embraces digitalization while preserving its educational excellence. It underscores the importance of Finland's unique approach and advocates for Bulgaria to draw inspiration from this Nordic state as it endeavors to address deficiencies within its own educational system. This guidance implores Bulgaria not to blindly conform to global trends but rather to assimilate the wisdom of a nation that has mastered the delicate balance between tradition and innovation.

Research Intentions and Philosophical Motivation

At the heart of this research endeavor lies mainly the curiosity regarding the transformative power of digital technologies. It seeks to unravel the intricate ways in which these technologies shape not only educational paradigms but also the very fabric of human cognition, communication, and interaction with the world. The motivation behind this exploration is deeply philosophical, as it grapples with fundamental questions concerning human agency, knowledge acquisition, and the dynamics of societal progress. By understanding the nuances of digital transformation, we strive to navigate the terrain of human consciousness, safeguarding its vitality while harnessing the potential for unprecedented growth.

Instruments Employed and Methodological Rigor

This research employs a multifaceted instrumentarium, designed to illuminate the intricate facets of digital technology's impact on education and society at large. I apply mainly a qualitative analyses, derived by an extensive literature reviews which constitute the core methodological arsenal.

The Research Domain: What, Why, and How

What is Researched: This research delves into the multifaceted impact of digital technologies on education and society, scrutinizing the emergence of cognitive shifts, educational paradigms, and societal dynamics in the digital age. It seeks to unveil the implications of technological integration, both positive and negative, with a particular focus on the Finnish education system.

Why is it Researched: The motivation lies in an ardent quest to comprehend the implications of the aspects of the digital evolution. We aspire to discern how these technologies shape the very essence of human existence, learning, and communal life. By elucidating the symbiotic relationship between digitalization and education, we strive to proactively address challenges and seize opportunities, ensuring a brighter future for generations to come.

How is it Researched:. By weaving together these strands, we aspire to construct a robust narrative that not only informs but inspires meaningful action.

In an era where digital technologies have woven themselves seamlessly into the very fabric of our lives, we bear witness to a sweeping transformation that transcends boundaries and touches upon every facet of our existence. This revolution has fundamentally altered the ways in which we communicate, work, unwind, and, most significantly, acquire knowledge and information. Consequently, it has catalyzed a profound shift in our patterns of thought and behavior, ushering us into a new epoch defined by unprecedented connectivity and information abundance.

Indeed, we now inhabit a world where digital technology is omnipresent. Yet, the ubiquity of these tools does not inherently bestow upon us the mastery required to wield them with efficacy and depth. Instead, they present us with a paradox: while

they serve as a contemporary toolkit for the acquisition of knowledge and skills, they simultaneously demand the cultivation of a novel form of intelligence. This intelligence encompasses the art of managing one's attention amidst a cacophony of digital distractions, sustaining cognitive curiosity and patience in the face of instant gratification, adopting an objective stance towards information amidst the deluge of data, and nurturing the ability to engage in profound self-reflection within the turbulent currents of our accelerated information age.

In this age of information abundance, digital technologies act as both catalyst and crucible, beckoning us to not merely consume information, but to become architects of our own cognitive evolution. The ability to navigate the multifaceted landscape of digital knowledge is akin to constructing a mental citadel, fortified by discernment, contemplation, and an unwavering commitment to the pursuit of genuine understanding amidst the ceaseless torrent of global information.

As we peer into the horizon of the future, the landscape of education unfurls before us, a tableau characterized by a fusion of pure knowledge, the embodiment of hard skills, and the subtle yet profound tapestry of social roles, the realm of soft skills. Within this intricate mosaic, we encounter the roles of socialization, self-actualization, therapeutic engagement, training, and the cultivation of civic and social activism. Education, as we envisage it, must transcend the boundaries of tradition and adapt to the relentless cadence of high-speed processes, embracing digitalization as an ally, yet vigilantly guarding against its encroachment. It stands as the sentinel between the realms of childhood and adulthood, tasked with preserving the sanctity of that threshold.

In our philosophical exploration, we find the Finnish educational model standing as a luminous example, renowned globally for its remarkable success. Its brilliance lies in its capacity to yield exceptional outcomes while minimizing the emotional and intellectual burdens carried by children. This model, rooted in a profound understanding of human development, invites us to reflect upon the intricate harmony between the nurturing of young minds and the pursuit of academic excellence.

As we traverse the precipitous terrain of education during these unprecedented times, the dual specters of the pandemic and the post-pandemic era, spawned by the advent of COVID-19, loom large on the horizon. It is here that the alliance between education and digitalization acquires an even more pronounced significance. These forces must work in tandem, enabling us to navigate the tumultuous seas of change while safeguarding the sanctity of education's mission.

In the crucible of this philosophical exploration, we contemplate not only the methods and modalities of education but also its profound purpose. It beckons us to reflect upon how we equip future generations with the tools to thrive in a world awash with information, to foster empathy and social responsibility, and to forge a way that preserves the innocence of youth even as it ushers them into the realm

of maturity. Thus, education in the digital age becomes more than a pedagogical endeavor; it becomes a philosophical quest, where knowledge converges with humanity in a harmonious relations towards a brighter future.

As the world stood on the precipice of the COVID-19 pandemic, Bulgaria's educational landscape was predominantly anchored in the physical realm, with the utilization of digital technologies for learning confined to the domain of the forward-thinking few. However, the pandemic's inexorable arrival necessitated an abrupt transition to the uncharted territory of online education.

In the nascent stages of this transformation, distance learning grappled with a plethora of challenges, each surmounted through a process of adaptation. On one hand, educators navigated an array of communication channels to connect with their students, inadvertently fostering disarray and spontaneity within the virtual classroom, marked by varying degrees of reliability and security. On the other hand, students encountered the daunting task of engaging with different instructors through diverse social media platforms and learning applications. In those initial weeks of the pandemic, only a minority of educators and schools embraced professional educational platforms, thus revealing a glaring chasm in the quest for effective and efficient online education – a lack of a unified platform capable of amalgamating online learning, housing student data, providing analytics, and facilitating content sharing.

The swift transition to the digital realm was emblematic of an adaptive response to the circumstances at hand. It is imperative to recognize that the hindrances encountered were, and continue to be, primarily institutional in nature, stemming from disparities in readiness, resources, and capacities across schools, rather than a steadfast resistance to the technology itself. Moreover, these hurdles bear a generational dimension, with different in age educators facing a steeper learning curve when confronted with novel technologies.

The symbiotic relationship between educators and digitalization has been profoundly reshaped by the crucible of COVID-19. It has accelerated a paradigm shift in the fundamental and specialized requirements of numerous professions, education being no exception. The imperative of teachers' professional development, aimed at cultivating competencies necessary for navigating the digital landscape, emerges as a cornerstone for the evolution of future education. This metamorphosis envisions an educational terrain infused with technology, virtual classrooms, heightened student engagement, interactive content development, and the democratization of knowledge creation—where not only educators but also students contribute to the collective reservoir of wisdom.

Drawing from the insights of the Institute for Research in Education in Bulgaria (Hristova, et al. 2020, pp. 13 – 21) (IRE) as of April 2020, which indicated that "over the past three years, half of teachers have actively engaged in qualifications pertaining to innovative teaching methods, with 45% receiving training in the

utilization of information and communication technologies (ICT) within the pedagogical sphere," we discern the seeds of progress sown amidst adversity. These numbers signify not just a numerical statistic but a testament to the malleability of the human spirit and its capacity to adapt, learn, and evolve in the face of transformative challenges.

In our ongoing philosophical odyssey through the ever-evolving landscape of education in the digital age, we confront a formidable challenge: the equitable provision of resources essential for the learning journey. Drawing from insights unveiled in a survey conducted between March and June of 2020, commissioned by the Ministry of Education and Science and executed by the venerable Institute for Research in Education (IRE), we glean valuable perspectives on the current state of digital resources in education.

Remarkably, the survey reveals that a significant proportion of students possess electronic devices within the confines of their homes. Approximately 92% wield the power of a smartphone, while 65% have access to a computer. Furthermore, over 80% of students boast unfettered access to the boundless realm of the Internet and the luxury of a tranquil sanctuary within their homes conducive to learning. This digital presence extends to the familial realm as well, with more than 80% of parents in urban areas attesting to their children's ownership of electronic devices dedicated to educational purposes. In the rural landscapes, this statistic hovers at around 66%.

Delving deeper into the educational landscape, we uncover the conscientious efforts made by school principals. Approximately 60% of urban schools and about 50% of rural institutions have undertaken systematic endeavors to provide electronic devices to students in need. These endeavors not only bridge the digital divide but also illuminate the collective dedication to fostering inclusive education.

However, as we navigate this digital frontier, we encounter educators facing their own set of challenges. Over 90% of teachers possess personal computers, laptops, or tablets, accompanied by uninterrupted Internet access. Regrettably, around 6% grapple with the absence of essential devices, while approximately 4% contend with subpar Internet connections, complicating the seamless integration of technology into the educational process.

This landscape, though replete with disparities, serves as a foundation upon which we may construct a more equitable future. As we traverse this new phase in the annals of human civilization, the Information Society (Webster 2002), we find ourselves at the nexus of a big shift. In this era, the products of production are not merely physical; they are embodied in information and knowledge. The hallmark of this new society lies in the recognition that the creation, dissemination, utilization, integration, and manipulation of information constitute paramount economic, political, and even cultural activities.

From this vantage point, it becomes evident that the primary currency of this burgeoning society is information, and the socio-economic trajectory of

our collective journey hinges decisively on the production, refinement, storage, dissemination, and informed use of this precious resource by both institutions and individual citizens alike.

In essence, we are presented with a philosophical conundrum: how do we ensure that the fruits of the Information Society are reaped by all, rather than a privileged few? It is a question that transcends the realms of technology and education, delving into the very core of ethics, equality, and human progress. As we contemplate this inquiry, we embark on a voyage of philosophical exploration, seeking not just answers, but a deeper understanding of our place in this ever-evolving digital tapestry.

In the 1990s, as the 20th century waned, the definitions of the information society were steeped in positivism, heralding the emergence of a knowledge-based society. These definitions carried with them a promise of advancing knowledge, intelligence, and intellect, along with the potential to rectify numerous social, economic, political, and cultural imperfections. However, as digital technologies took center stage, they ushered in a profound transformation in the very essence of information, giving rise to a landscape dominated by heuristic knowledge, challenging traditional authorities, and amplifying the impact of falsehoods and propaganda. The onset of automation, algorithmization, robotization, and the integration of artificial intelligence into traditional knowledge domains have given rise to discussions about a looming "cognitive decline."

In the present day, Bulgarian education finds itself in a fervent pursuit to catch up with the digital tide and the fervor surrounding the "STEM cult." Yet, amidst this rapid transition, the critical discourse and reflective dialogue concerning the potential negative repercussions remain notably absent. This conspicuous absence should not serve as a pretext for overlooking the unresolved issues within the realm of education and the interplay between science and ICT (Information and Communication Technology) and digitalization.

At the level of state policies, a systemic and holistic approach to addressing the challenges of digitizing education and science is lacking. Instead, individual tasks are tackled through national and sectoral programs, each characterized by its own distinct and often incongruous objectives, implementation criteria, and stakeholders. The absence of a unified information and communication ecosystem, coupled with the rapid obsolescence of computer and terminal equipment and the absence of a national ICT infrastructure for the storage and processing of educational and scientific data, poses a substantial impediment to the development of effective education and research. Integrated systems for managing educational and scientific processes are conspicuously absent, as is the automation of resource-intensive administrative tasks for educators and scientists. Adequate ICT development policies at the local, regional, and national levels are still in their infancy. Furthermore, there persists a glaring shortage of qualified IT specialists, a

void acutely felt across all sectors of education and science, critical for the seamless operation of the continually evolving ICT infrastructure and services.

Perhaps most crucially, a systematic framework for the perpetual upskilling of educational professionals in the effective utilization of modern ICT in pedagogical practice remains absent.

In a report published by the Organization for Economic Co-operation and Development (OECD) on January 18, 2022, titled 'Trends Shaping Education 2022,' and the accompanying 'Scenarios for the Future of Schooling,' one scenario, "Learn as you go," emerges as particularly salient. It elucidates how digitalization has empowered the instantaneous assessment and certification of knowledge, skills, and attitudes, while positing that education increasingly relies on digital technologies and artificial intelligence to harness collective intelligence for solving real-life problems.

In response to these envisioned scenarios for the future of education and the evolving demands of the labor market, educational institutions must continuously introduce and integrate new, cutting-edge digital technologies into the pedagogical process. These technologies encompass a wide array of possibilities, including:

The incorporation of STEM and STEAM (Science, Technology, Engineering, Arts, and Mathematics) curricula.

The gamification of educational content.

The integration of robotics into educational experiences.

The adoption of the Internet of Things (IoT) for learning, including an inclusive approach.

The utilization of AI-based training platforms.

The immersive potential of Virtual Reality (VR) and Augmented Reality (AR).

The application of machine learning.

The exploration of blockchain and Distributed Ledger Technology (DLT).

The analysis of Big Data for inclusive teaching.

Real-time adaptability of learning materials.

The expansion of E-learning and M-learning in diverse modes.

The implementation of Learning Analytics.

The application of Data Analysis and Data Science in the educational sphere.

Digital mediation for fostering social interactions in inclusive education.

Accessible Massive Open Online Courses (MOOCs) and open educational resources (OERs).

Enhanced security and trust in the digital learning environment.

AI-driven interactions between teachers, students, and devices.

The harnessing of remote sensing technologies.

And the ever-evolving landscape of next-generation technologies.

These digital technologies are not mere tools; they are the catalysts that propel us into a new epoch, one where the boundaries between knowledge and wisdom blur, and the pursuit of collective intelligence becomes a shared endeavor for humanity.

The Finnish Educational Utopia: A Philosophical Quest for a Student-Centered Society

In the realm of global education, Finland stands as a modern utopia, particularly celebrated for the resounding success of its secondary education system and its remarkable propensity for higher education pursuits. Beyond mere statistics, the essence of Finland's triumphs lies in the philosophical bedrock upon which its education system is built – an ethos that has garnered international acclaim.

A quintessential illustration of this distinctive approach to education revolves around how students learn. Conventional learning often revolves around the consumption of theoretical knowledge, offering copious conceptual information that, while valuable, tends to remain at an abstract level. Finland diverges from this paradigm, infusing its pedagogy with the imperative of translating theoretical knowledge into practical application, thereby endowing learners with a deeper understanding. This exemplifies merely one facet of Finland's unique pedagogical approach.

Central to the Finnish educational philosophy is the teacher's role in uncovering students' latent potential, fostering intellectual growth, and expanding cognitive horizons. Rather than being mere purveyors of information, Finnish educators are facilitators of transformative learning experiences. Their objective is to guide students in constructing their own profound understanding of complex issues or subjects. Occasionally, learners find themselves ensnared by mental clichés, requiring patient guidance to transcend the confines of conventional thinking.

In accordance with this philosophy, Finnish students are entrusted with the responsibility of setting their own learning objectives. This trust is grounded in the belief that, more often than not, students possess a deeper awareness of their own educational needs. Classroom dynamics in Finland are not predicated on the teacher's knowledge or methodology but are staunchly student-centric. Consequently, teachers serve as catalysts for intellectual exploration, offering fresh and diverse perspectives, encouraging sustained introspection, and supporting each student's distinctive educational journey. Reflective thinking emerges as a linchpin skill, acknowledged for its capacity to engender novel insights.

Numerous studies substantiate that enduring learning transpires when students relate new knowledge to their personal experiences and life narratives. Therefore, Finland places significant emphasis on this technique, recognizing it as a cornerstone of education. The most effective methods for supporting this student-centered learning paradigm are coaching and facilitation. In Finnish classrooms, instructors maintain concise presentations and briefings, opting instead to pose thought-provoking questions that kindle lively dialogues, perpetuating the learning process far beyond the classroom's physical confines.

Within this educational process, fostering an inclusive and congenial atmosphere assumes paramount importance. The social environment is meticulously curated to

nurture the exchange of thoughts and ideas within a collaborative group setting. This setting not only bolsters creative thinking but also encourages students to venture beyond the confines of their familiar intellectual frameworks.

Finnish educators staunchly believe in cultivating student-centered learning, where the ability to cooperate takes precedence over the teacher's didactic role. In a world that increasingly demands self-directed, creative, and reflective individuals with robust self-esteem, Finland's pedagogical ethos seeks to nurture innovative thinkers and catalyze audacious ideas. This transcendent approach to education extends beyond the mere imparting of knowledge; it is a holistic philosophical pursuit, a quest to craft a society of agile minds and bold thinkers who will shape the future.

Beyond the realm of conventional statistics and data, the remarkable success of Finland's education system is firmly rooted in a profound philosophy that has garnered global recognition. This philosophy emanates from a constellation of principles that not only shape Finland's pedagogical landscape but also epitomize its unwavering commitment to fostering a truly enlightened society.

The Equal Right to Education: At the very core of Finland's educational ethos lies the unassailable belief that education is an inherent right, extending from preschool through higher education. This right extends to Finnish citizens and students hailing from EU/EEA nations, embodying the principle of egalitarianism.

Emphasis on Equity over Excellence: Finland's pedagogical paradigm described in a OECD report (OECD 2018) deliberately prioritizes equity over the pursuit of excellence. In this enlightened approach, the competitive elements and the age-old dichotomy of rewards and punishments find no place. Instead, a holistic teaching and learning environment seeks to nurture each individual's potential, eschewing the divisive stick-and-carrot approach.

Individualized Assessment: Unlike standardized testing systems prevalent in many countries, Finland champions an individualized assessment method. Here, students are evaluated by their educators, who craft a nuanced grading system tailored to each student's unique journey. The Ministry of Education supplements this approach by sampling groups from diverse schools, creating a comprehensive view of overall progress. This freedom from the pressure of standardized tests fosters an environment where the student's unique needs are paramount.

Delaying Formal Education: Finnish children embark on their formal academic journey at a later age, commencing at the age of seven. This deferment recognizes the importance of early childhood development and emphasizes the value of play and exploration in a child's early years.

High Bar for Teachers: In Finland, teaching is a profession reserved for those who have attained a master's degree from specialized educational institutions. Furthermore, each teacher is assigned a departmental director to provide ongoing

guidance and support. This stringent criterion ensures that only the most qualified and committed individuals shape the educational landscape.

Cooperation Over Competition: Finland diverges from the competitive model observed in some educational systems, where schools vie for superiority. Instead, a spirit of cooperation pervades, fostering collaboration among academic institutions. The emphasis is not on outdoing others but on collectively advancing the cause of education.

Diverse Educational Pathways: Finland champions diversity in educational pathways. Students contemplating higher education can choose from a rich array of options, including vocational schools, universities, and specialized training courses. This multiplicity of choices respects each individual's unique aspirations.

Fostering Teamwork and Cooperation: Rather than pitting students against one another, Finland's educational philosophy emphasizes teamwork, cooperation, and the nurturing of a collective spirit among students. This approach recognizes the value of collaborative skills in an interconnected world.

Building Strong Foundations: Foundational education is accorded paramount importance in Finland. Students are granted the time and opportunities to construct a robust knowledge base at their own pace, underlining the principle that true learning flourishes when built upon solid foundations.

Empowering Student Choice: Finland's education system grants students nine years of compulsory education, after which they are encouraged to embark on a path tailored to their unique interests and aspirations. This approach liberates students, empowering them to make informed academic and professional choices, including pursuing vocational training that allows them to embark on their careers without hesitation.

It is important to note that while Finland is often at the vanguard of educational innovation, it does not rush to adopt these innovations wholesale. Instead, it vigilantly safeguards and fortifies these foundational principles, ensuring that they continue to underpin its education system. This steadfast commitment to the tenets of educational philosophy, rather than a rush towards change, is the cornerstone of Finland's enduring educational success.

Innovation in Education: Nurturing Minds and Shaping the Future

In our continued exploration of the Finnish educational landscape, we uncover a constellation of innovative digital platforms that serve as catalysts for transformative learning experiences. These platforms are not just technological tools; they are philosophical conduits that amplify critical thinking, espouse a holistic approach, and immerse students in the pursuit of solutions that transcend mere career development, embracing the profound responsibility we bear for the future of humanity.

Valamis Learning Solution[1]: This comprehensive platform represents the apex of the educational journey, orchestrating a seamless learning process. With a cadre of expert educators at their side, students embark on a transformative odyssey to extract the fullest essence from their learning expedition. It's not just about information transfer; it's about nurturing intellects.

ArboEdu[2]: A digital pedagogical companion that extends the boundaries of learning beyond the classroom. Educators utilize this tool to craft personalized assignments and outdoor learning experiences. Armed with mobile devices, students traverse learning routes, engaging with stimulating tasks. The Finnish system acknowledges that learning is not confined to four walls; it thrives when nurtured through diverse activities that sustain focus and motivation.

Epic Challenge[3]: This ingenious program imparts the innovative spirit of NASA to students. Leveraging cutting-edge digital technologies, students collaborate in teams to confront some of humanity's most formidable challenges. It's a synthesis of hands-on engineering wisdom from NASA and the fruits of pioneering research. By 2009, the program expanded its horizons, encompassing college and high school students. It was discovered that Epic Challenge could kindle the flames of STEM subjects' passion among younger students, paving the path for future STEM careers.

Environment Online[4] – ENO: A global virtual school and a nexus for sustainable development grounded in activity-based learning. Students delve into environmental topics, exchange insights, and illuminate local environmental issues. ENO resonates with the Green Cities network, encompassing 50 cities across 23 countries. Almost 10,000 schools from 157 countries participate. ENO's enduring themes revolve around climate change, forests, consumption, and culture. It champions student-centered methodologies and active citizenship, harnessing the potential of information and communication technologies.

In these digital platforms, we discern the cultivation of critical thinking, the embrace of a holistic perspective, and the pursuit of solutions that transcend the individual to encompass the future of humanity and our collective responsibility.

Gamification and VR: Finnish schools champion the transformative potential of play as a vehicle for developing skills like cooperation and problem-solving. The freedom to explore one's environment rather than being tethered to a desk invigorates cognitive faculties and bolsters creativity and self-assuredness.

Virtual reality unfolds as a powerful educational tool, enabling students to explore molecular structures, observe animals, delve into historical events, enact scenarios, make informed decisions, and even embrace the possibility of failure as a stepping stone to success.

Claned Group[5]: This innovative entity merges AI with Finnish educational expertise and data analytics, birthing a personalized online learning platform. Vesa Perälä, the mind behind this creation, contends that personalized learning represents

the next frontier in global education. Recognizing the diverse learning modalities and preferences of students, Claned Group weaves individualized learning pathways and encourages social interactions among students. It stokes motivation, making a tangible difference in the educational journey. AI, in this context, emerges as a potent tool for personalization. The machine learning system diligently deciphers each student's learning behavior and choices, offering tailored recommendations for study materials and alternative learning routes. A learning tracker charts the progress, suggesting the next steps on the enlightening odyssey.

In these digital innovations, we discern not just technological prowess but the embodiment of a profound philosophical commitment – a commitment to nurturing enlightened minds, fostering collaboration, and championing personalized learning as we collectively embark on the quest to shape a brighter future for humanity.

As we delve deeper into the digital landscape of education, it becomes evident that Finland's commitment to its educational philosophy extends to the realm of technological innovation. This commitment is underscored by a holistic approach that transcends the mere use of digital tools; it endeavors to instill values of creativity, imagination, critical thinking, and introspection in each student.

Monitoring Learning Outcomes with AI: Finland harnesses the power of AI to measure and analyze learning outcomes, affording educators the capacity to monitor the progress of individual students and intervene when necessary. However, this laudable endeavor is not without moral considerations. The use of AI in collecting sensitive data raises ethical questions, especially when it involves profiling students and individuals. It presents a complex conundrum, where the benefits of AI must be weighed against concerns about privacy and ethical boundaries.

3D Printing and Robotics: Beyond data analysis, Finland embraces 3D printing and robotics as tools that align with its educational philosophy. These technologies serve as conduits for experiential learning, enabling students to translate theoretical knowledge into tangible creations. They underscore the importance of a hands-on approach, where learning extends beyond the abstract to the concrete.

A Philosophical Framework for Digital Integration: In synthesis, Finland's utilization of digital technologies is not an end in itself but rather a means to serve its overarching educational philosophy. It seeks to cultivate creativity, ignite imaginations, nurture critical thinking, and stimulate self-reflection among its students. In doing so, Finland avoids the lure of blindly following global educational trends and instead crafts a digital landscape deeply rooted in its pedagogical principles.

Conclusion: Lessons for Bulgaria
The pressing question that emerges pertains to the applicability of Finland's educational principles to the Bulgarian education system. While some parallels can be drawn, it becomes evident that replicating these principles in isolation

does not yield similar outcomes. The high standards set for educators are one missing component, exacerbated by demographic challenges and the declining prestige of the teaching profession. Conversely, the notion of competition, often lauded for promoting excellence, inadvertently exacerbates educational inequalities.

Moreover, the evolving role of teachers, which now encompasses administrative duties alongside traditional knowledge dissemination, potentially hinders their ability to fully engage students in problem-solving, critical thinking, and analysis. The balance between these roles remains elusive.

In navigating the complex landscape of educational reform, Bulgaria must glean valuable insights from Finland's philosophical approach, adapt them to its unique context, and chart a course that blends innovation with tradition, striving for educational excellence while addressing the challenges that lie ahead.

NOTES
1. See: https://www.valamis.com
2. See: https://www.globaleducationparkfinland.fi/learning-technologies/digital-learning-innovative-education
3. See: http://www.epicchallengejoensuu.com/en/
4. https://www.enoprogramme.org
5. https://claned.com

REFERENCES
HRISTOVA, A., PETROVA, S., PAPAZOVA, E., 2020. "Otzenka na vazdeistvieto na obuchenieto ot razstoianie v elektronna sred ili drugi neprisastveni formi vurku efektivnostta na uchilishtnoto obrazovanie," *Institut za izslevdvane na obrazovanieto* .
HAUKA, M., STARCK, S., 2020. "The Secrets of Finnish Teaching Philosophy," *eSignals* [online]. Available from: https://esignals.fi/en/category-en/pedagogy-category-en/the-secrets-of-finnish-teaching-philosophy/#bac148d4
FOUR OECD SCENARIOS FOR THE FUTURE OF SCHOOLING, 2022. OECD. [online]. Available at: https://www.oecd.org/education/ceri/Brochure-Four-OECD-Scenarios-for-the-Future-of-Schooling.pdf
EDUCATION REFORM IN FINLAND AND THE COMPREHENSIVE SCHOOL SYSTEM, 2019. *Center for Public Impact, Finland* [online]. Available from: https://www.centreforpublicimpact.org/case-study/education-policy-in-finland
10 REASONS WHY FINLAND'S EDUCATION SYSTEM IS THE BEST IN THE WORLD, 2018. *OECD* [online]. Available from: https://www.

weforum.org/agenda/2018/09/10-reasons-why-finlands-education-system-is-the-best-in-the-world

WEBSTER, F., 2002. Theories of the Information Society. Cambridge: Routledge.

WEBSTER, F., 2006. Chapter 2: What is an information society? *In Theories of the Information Society*, 3rd ed., pp. 15 – 31. New York: Routledge.

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