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Review article

ADVANCING EDUCATION IN ALBANIA TOWARDS EFFECTIVE ICT INTEGRATION, TEACHER PREPARATION, AND FUTURE-READY CLASSROOMS

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Abstract

Albania emerges from a typical behaviorist school system, and the implementation of modern constructivism approaches is still encountering challenges. In tackling these issues, educational technologies come to our aid, actively intervening in the school-teacher-student trinity. Digital competence is among the most crucial skills for the 21st-century school, where the Future Classroom Lab holds significant importance. Future Classroom Laboratory (FCL) is a place of learning, designed for use by university faculty, pre-service teachers, in-service teachers, and students. FCL offers users the opportunity to explore the science of teaching and learning in a technology-rich environment that includes a wide range of customized approaches and applications. For prospective teachers, this learning space allows them to explore technology and its applications in schools. The space enables pre-service teachers to incorporate hands-on, interactive teaching experiences into their various courses. The students can utilize this innovative and creative environment to explore ideas and applications that they can incorporate into the teaching and learning process. This kind of educational laboratory evolves a collaborative and communicative approach for teachers and students, actively interested researchers in its cutting-edge development. This study introduces the possibilities of developing digital innovative learning and teaching environments in Albania while addressing the various challenges. By examining the educational landscape and looking forward to international experiences, this study provides the findings and conclusions to policymakers, educators, and researchers about the digital innovative learning and teaching approaches in Albania.

Keywords: digital competence, future classroom lab, digital innovative learning and teaching environment, Albania

Introduction

Embracing a technology-rich educational approach, the Future Classroom Lab provides users with the chance to expand their knowledge and explore the realms of next-generation learning, as well as discover effective methods for implementing these skills within the classroom. In the digital age, critical thinking, creativity, collaboration, and communication stand as pivotal elements of nowadays education In Albania, sometimes it is founded a lack of exposure to educational technology, which often results in teachers lacking the essential skills to effectively integrate technology into the classrooms. Although various private agencies, universities, ASCAP, and other institutions offer different training programs on technology in education for teachers in Albania, there is still a lack of specific training that integrates technology, pedagogy, and didactics for various subjects. According to Dhimitri et al., (2021) during Covid-19, pandemic time, in Albania, "Mostly specialist teachers and those highly skilled and qualified teachers "often" and "sometimes" conducted self-directed learning on technology issues and knowledge, methodical pedagogical uses". Digital tools should serve as supportive means in the teaching and learning process. Albania is not part of the European Schoolnet network, although it is observed that the country has good participation in the eTwinning network. (European Schoolnet, 2019). As technology is an integral part of everyday life, students will always be ready to connect with it at home, at work, etc. For this reason, Future Classroom Lab creates a space where teachers can learn how to

implement 21st-century learning skills in the classroom and gain experience with a variety of educational technologies.

T he design of Future Classroom Lab incorporates valuable ideas and experimentation for innovative pedagogy and supports the digital transformation of schools, ultimately enhancing the quality of education. Future Classroom Lab brings significant achievements in terms of students' motivation, improved teamwork skills, and effective use of technology. The Future Classroom Lab represents a significant innovation in pedagogy and education, offering teachers and school leaders the opportunity to create dynamic and interactive learning environments (Paniagua, Istance, 2018; DigComp 2.2, 2022)

2. The scenarios of the European Digital Education Plan 2021-2027

The European Digital Education Action Plan 2021-2027, called "Rethinking Education and Training for the Digital Age," is a policy guidance and planning tool for digital education at the European and individual member state levels. The Plan is divided into two priorities and 13 actions (DigComp 2.2. (2022).
The priorities aim:

2.1. promote the development of a highly efficient digital education ecosystem: 6 actions, covering: the Strategic Dialogue with Member States, the proposal for a Council Recommendation on blended learning, the European Digital Education Content Framework, digital connectivity and equipment for education, digital transformation plans for education and training institutions, and the use of artificial intelligence systems in education.

2.2. Improving digital competencies and skills for digital transformation: 7 actions, including the common guidelines for teachers and educators to promote digital literacy, the update of the European Digital Competence Framework, the establishment of the European Digital Competence Certificate - EDSC, the proposal for a Council Recommendation on improving the supply of digital skills in education and training, the transnational data collection on students' digital competencies, the "Digital Opportunities" traineeships in higher education in Erasmus+, the promotion of women's participation in STEM disciplines, the European Digital Education Cluster.

3. Next Generation Classrooms

School communities will design and implement physical and digital learning environments (on-life), characterized by innovation in space, furniture, and equipment and a core of innovative pedagogies for their most effective use, according to the principles outlined by the European framework. Physical and virtual transformation must be accompanied by changes in learning and teaching methodologies and techniques (Piano Scuola, 2022).

3.1 Research on innovative learning environments. The history of pedagogy and educational research has offered relevant contributions to the influence of spaces and environments in the learning and teaching process (Piano Scuola, 2022). International research has paid particular attention to what preparation processes are needed to transition to the new spaces, the types of innovative teaching practices that can be enabled by these spaces (active learning, collaborative learning, social interactions, etc.), organizational cultures, leadership, the role of teachers behind their most effective use, the design of spaces and furniture, the best technologies to enable environments for learning, the relationships between indoor and outdoor space and between digital and physical environments. (P.scuola 4).

The Organization for Economic Cooperation and Development (OECD) has defined certain characteristics of physical learning environments, which must be (OECD, 2017):

- adequate i.e., meet the minimum requirements to ensure the comfort, access, health, and safety of users),
- effective i.e., support diverse teaching and learning needs to enable the school to achieve its educational goals,
- efficient i.e., maximize the use and management of space and resources to achieve maximum results in terms of student and teacher outcomes.

OECD has defined, the innovative learning environment as an organic whole that embraces the learning experience organized for specific groups of students around a single "pedagogical core," which goes beyond a predefined classroom or program, includes activities and learning outcomes, enjoys shared leadership that makes design decisions on how to enhance learning for its participants. Therefore, the role of teachers in managing the space is of great importance (OECD, 2017).

UNESCO has devoted specific attention to the concept of a "smart learning environment" in not only a physical but also a virtual sense, defining it as an adaptive technology-based system that puts the student in the foreground, enhances his or her learning experiences based on personal characteristics, preferences, and progress, fosters increasing engagement by increasing access to knowledge with appropriate accompaniment and feedback, uses media and artificial intelligence resources, neural networks and smart-technologies (UNESCO, 2017).

European School Net has inspired models of physical environments within the Future Classroom Lab (FCL) initiative by also providing specific toolkits useful for design. Historically, FCL was first developed by European School Net in Brussels (Van Assche et al., 2015) with the motive of rethinking the role of pedagogy, technology, and design in classrooms to create innovative pedagogical approaches that engage digital technology in creative learning spaces and build skills and competencies for the future. European School Net has inspired models of physical environments within the Future Classroom Lab initiative by also making available specific toolkits useful for design (European School Net, 2019).

It is primarily teachers as "users" who have, then, the responsibility and task of aligning space and technologies with the pedagogy, times, places, people, relationships, and activities related to the respective educational purposes for which the environments were created (Piano Scuola 4).

In FCLs, students explore problems, produce ideas, and create projects by integrating technology into the process (Ayre, 2017). FCLs have challenged the traditional roles of teacher and student, giving students more independence and control in the learning process that takes place in these classrooms (Arstorp, 2022).

Using the theory of experiential learning or learning by doing, Future Classroom Lab (FCL) encourages teachers, students, and faculty to come and explore technology and learning opportunities in a safe environment (Colton, 2020; Bohon et al., 2017).

3.2 Methodological principles of action. The action "Next Generation Classrooms" (School Plan, 2022) aims to transform classrooms in schools, into innovative learning environments. The school institution will be able to take care of the transformation of such classrooms based on its curriculum, according to a common methodological matrix that follows homogeneous principles and guidelines at the national level, consistent with the objectives and models promoted by European and international institutions and research. To coordinate the digital transformation measures, each educational institution will have to execute the "Next Generation Classrooms" action with the transformation of physical and virtual learning spaces, digital endowments, teaching innovations, and competency goals by the DigComp 2 framework. 2, the updating of the curriculum and curriculum plan, digital civic education goals and actions, the definition of internal school leadership roles for managing the digital transition, accompanying measures for teachers and staff training, based on a common format (DigComp 2.2, 2022).

Space design: The flexible design of the Future Classroom Lab can be used as a model for designing classroom spaces, and creating learning environments adaptable to different teaching and learning styles.
Use of educational technology: Equip labs with a wide range of technology tools, such as interactive whiteboards, tablets, and virtual reality viewers, that can be used to enhance teaching and learning. These tools can be used to support collaboration, creativity, and critical thinking.
Innovative pedagogy: using these classroom setups and labs requires a mindset of innovative pedagogy, to be open to trying new teaching methods and experimenting with new technologies to adapt to the changing needs of students (Paniagua, 2018).
Teacher training: teachers must be trained to make the best use of the technologies in the lab and plan teaching activities in a classroom of the future
Analysis of results: it is important to analyze the results obtained from the experiments to assess changes in students' and teachers' perceptions of the use of technology in learning and the impact on academic achievement.

3.3 Future Classroom Lab. The Future Classroom Lab (Piani Scuola, 2022; PNRR, 2023) is a unique initiative that aims to inspire educators and school leaders to create innovative and dynamic learning environments. The lab is designed to showcase the latest in flexible space design and educational technology and demonstrate how these tools can be used to facilitate active learning pedagogy.
One of the main features of the Future Classroom Lab is the flexible space design. The lab is designed to be adaptable to different teaching and learning styles, with furniture and equipment that can be easily reconfigured to support other activities and learning environments. This allows teachers to create a variety of different learning spaces within the same classroom, such as group workspaces, individual workspaces, and presentation areas.
Another important aspect of the Future Classroom Lab is the use of educational technology. The lab is equipped with a wide range of technology tools, such as interactive whiteboards, tablets, and virtual reality viewers, which can enhance teaching and learning. These tools can support collaboration, creativity, and critical thinking and can be seamlessly integrated into various lesson plans and activities.
However, creating a classroom of the future does not only mean investing in furniture and equipment. It also requires a mindset of innovative pedagogy. This means being open to trying new teaching methods, experimenting with new technologies, and being willing to adapt to the changing needs of students.
In the end, "Next Generation Labs" aims to set up labs for the digital professions of the future in schools, equipping them with advanced digital spaces and equipment for learning skills based on the school's present directions of study and in the following, non-exhaustive, technological fields (Piano Scuola 4.0, 2022):

- robotics and automation,
- artificial intelligence,
- cloud computing,
- cybersecurity,
- Internet of Things,
- 3D/4D making and modeling and printing,
- creation of digital products and services,
- creation and enjoyment of virtual and augmented reality services,
- digital communication,
- processing, analysis, and study of big data.

4. The 6 different zones of the Future Classroom

The Future Classroom Lab is divided into six different zones (PNRR, 2023), each designed to support a specific type of learning activity. For example, the interaction zone is designed to support collaboration and communication among students, while the exchange zone is designed to support peer learning and knowledge sharing. Here are the six zones (PNRR, 2023; Piano Scuola 4.0. (2022):

- *Interact* – Interaction zone: designed to support collaboration and communication among students. It features tables and chairs that can be easily reconfigured to support groups of different sizes, as well as technology tools such as interactive whiteboards and tablets that can be used to support teamwork and digital collaboration.
- *Exchange* – Exchange zone: designed to support peer learning and knowledge sharing. It is equipped with tables and chairs for group work, as well as technological tools for information sharing and remote collaboration.
- *Develop* – Self-Training Development Zone: The development zone is designed to support the development of new skills and knowledge independently to become self-learners and life-long learners It presents a variety of different tools and resources, such as books, manipulatives, and art materials, that can be used to support hands-on learning and experimentation. This area facilitates learning more informally and gives students the freedom to do assignments independently at their own pace, alone or in small groups. It also allows students to focus on their interests.
- *Investigate* – Investigation and experimentation zone: designed to support learning through experience and experimentation. It is equipped with science and technology equipment for experimentation and data analysis, as well as simulation software for learning through experience. The inquiry area is designed to support inquiry-based learning and 'exploration of new ideas and concepts.
- *Create & Making* – Creativity and maker zone: designed to support student creativity and innovation. It is equipped with tools for digital creation, such as video and audio editing software, as well as hand tools for artistic creation. It is equipped with technology tools such as virtual reality viewers and 3D printers that can be used to support digital exploration and the creation of digital models and prototypes. Students are encouraged to discover for themselves, be active participants rather than passive listeners, and learn to find quality resources and manage information.
- *Present* – Presentation zone: designed to support the presentation of students' acquired knowledge. It has a presentation zone with an interactive whiteboard and an audio and video system for presentations. You learn how to present in public, request feedback, participate in peer reviews, and plan, monitor, and evaluate your learning process (metacognitive teaching).
- It is important to note that these zones are not rigid and can be used flexibly to support various learning activities. For example, the creativity zone can be used to support the presentation of student projects, while the experimentation zone can be used to support student collaboration and communication during a group project.
- In addition, the use of the Future Classroom Lab allows for greater flexibility and personalization in learning, allowing students to work at their own pace and focus on the topics that interest them most. Teachers can use the technologies in the lab to create interactive and engaging activities that stimulate students' creativity and curiosity.

Methodology

Methodological approach.

The issues being investigated include understanding the state of digital schooling in Albania, assessing the digital skills of teachers, and evaluating the utilization of the Future Classroom Lab. These are very important and underdeveloped topics

The types of data used to investigate the problem were:

- A mix of quantitative data (extracted data by Pre-University Education Strategies) and qualitative data (The Assessment of UNICEF and Manual of ICT in Teaching and Learning Process).
- These are secondary data collected by ASCAL, MASH, UNICEF, Pre-University Education Strategies 2014-2020 and Pre-University Education Strategies 2021-2026, Assessment of Pre-University Education Strategy 2014-2020, Manual for the use of ICT in the teaching and learning process.
  Data collection methods by existing data. To gather the case study materials for our analysis, we tapped the main sources related to the purpose of the study
  The types of materials we analyzed are Pre-University National Education Strategies, Assessments and reports by educational experts, and theoretical and practical manuals on the topic of study.
- The criteria we used to select the material are the date range, and the two last strategies of education: 2014-2020 and 2021-2026.

6. An analysis of Albanian school digitalization, an overview of the current state-of-the-art

6.1. Pre-University National Education Strategies 2014-2020. With all the investments done, the use of ICT, for improving the quality of achievements and resource management is limited. In 2014, there were 1496 computer labs. Internet connectivity was installed in the school and the computer-to-student ratio was 1:35 or lower. Students can only access information in computer labs, and in over one-third of schools, students have limited access online. There is a lack of digital content in the native language, and only internet-sourced content is used, which differs from the desired source. There is a risk of exposure to inappropriate content. Public primary schools report 15,731 PCs, out of which 11,331 are functional, while 4,400 PCs are non-functional. Schools report 1,631 laptops, out of which 432 are non-functional. Information Management System in Education (IMSE), its full development remains one of the priorities of the reform.

6.2. The assessment of the strategies from UNICEF (Wort, et.al, 2019). Recognizing the importance of the Information Management System in Education (IMSE), the Ministry of Education, Sport and Youth (MASR) is finalizing the pilot implementation of IMSE at various levels. It was initially implemented, but due to the lack of internet connectivity in schools, it was not successful. Now the Pre-University Information Management System (SMIP) is being applied mainly remotely from home.

Teachers need to provide more support for the implementation of the new curriculum. Increasing investments in ICT resources and instruction will bring significant benefits to the learners. ICT has the potential to impact how teachers approach their daily tasks and adapt different learning environments for students, as well as balance the theory-practice ratio.

6.3. ICT Manual 2020. In 2020, The Manual "The Use of ICT in the teaching-learning Process" was created, and developed by the Pre-University Education Quality Assurance Agency (ASCAP) in collaboration with the UNICEF serves teachers in all pre-university educational institutions and covered theoretical and practical aspects related to the use of the ICT in the teaching process. The manual addresses the following issues (ASCAP 2020):

- The role and needs of the teachers for digital skills in the 21st century,
- The framework of professional standards for teachers regarding the use of ICT,
- The policies that schools should follow for the use of ICT,
- Methodology and ICT in the teaching process,
- Activities for training teachers in the use of ICT.

The role and needs of the teachers for equipping themselves with digital skills in the 21st -century address the following

- Lifelong learning competencies emphasize that education, more than any other field, should respond to the demands of the rapidly changing society and reflect in policy development and a new vision for inclusive and lifelong learning.
- 21st-century digital competence, explaining the definition, elements, description, and skills of digital competence.
- The role of the teacher has changed and continues to evolve from being an instructor to a knowledge builder, facilitator, trainer, and creator of learning environments. It is emphasized that teachers need continuous professional development to improve their knowledge and acquire new skills in areas such as pedagogy, curriculum development, staff development, and support systems.
- The need for professional improvement of teachers related to the development of digital competence. For this reason, professional standards for teachers' use of ICT were developed, which serve as guidance for designing programs for initial teacher education and professional development, as well as for assessing their performance. The development of this document is followed by other activities such as collaboration with faculties to review initial teacher education programs regarding the development of digital competence, the establishment of appropriate infrastructure for ICT utilization in schools and its maintenance, the implementation of teacher standards for ICT use, and the increase of digital devices in schools.
- Building capacities for ICT use in schools, which involves a group of national trainers who are capable of providing ongoing teacher training to enable them in the use of ICT in teaching.

The framework of professional standards for teachers' use of *ICT* is based on the model of UNESCO's Framework, 2018. Now there are two other versions, UNESCO 2020 and 2022.
The policies that schools should follow for ICT use or effective planning for implementing ICT in school are drawn from the models of Becta Schools – Leadership and Management – Strategy and ICT Framework, UNESCO, 2018. They provide clear guidance on the types of devices, programs, and measures needed to meet planning requirements. The main purpose of planning is to offer a wide, balanced, and challenging range of ICT opportunities for students to prepare them for a future role in society. It also addresses protection and safety from the use of new technologies.
Methodology and ICT in the teaching and learning process discuss the impact of ICT on improving teaching-learning methods and the effective use of ICT in this process. There is no specific methodology mentioned that can be integrated into the use of ICT in the teaching-learning process.

Activities for teacher training in the use of ICT in the teaching-learning process:

Within the framework of the professional development of ICT teachers for the use of digital competence in the teaching process, ASCAP in collaboration with UNICEF in Albania and with the support of the SDF Fund through funding from the Dutch government has developed the training program "The Use of ICT in the Teaching-Learning Process". This program consists of 6 training modules and organized worksheets as follows:

- Implementation of professional standards for the use of ICT by teachers.
- Computers and internet browsing.
- ICT and teaching/learning.
- The use of ICT in curriculum implementation and student assessment.
- The use of online platforms in the teaching process.
- Digital citizenship and online safety in digital environments.

The manual and practical activities are based on the European Framework for Digital Competence for Educators, DigComEdu 2020, as well as the ICT Competency Framework for Teachers (ICT CFT, version 3, UNESCO 2018), which are outdated versions as there are now two newer versions available. Additionally, the supporting literature for the manual is very outdated, and much of it lacks the current year. It is suggested to develop a concrete plan for digital schools based on the latest international frameworks

6.4 Pre-university Education Strategy 2021-2026. Even though not to a sufficient extent, Albanian schools have been equipped with computers and accessories, local computer networks have been installed, and their connection to the internet has been made possible. In 2017, the computer-to-student ratio in pre-university level schools was 1:27, which falls far short of the standards in EU countries where 1 computer is available for 3-7 students. On the other hand, the number of non-functional computers reaches 25% of the total number [16], indicating a lack of maintenance. Furthermore, access to ICT devices and the internet is mainly limited to dedicated computer labs, while the opportunities for utilizing devices within classrooms are very limited due to the lack of projectors, wireless networks, and other accessories dedicated to this purpose. All these factors constitute the main obstacles to the use of ICT in schools.
Schools do not have access to online resources in Albanian, nor to services that could advance the integration of ICT in the teaching process, such as dedicated platforms for online learning.
Currently the program "21st Century Schools" is being implemented in 1,194 schools with over 4,334 teachers and around 120,000 students aged 10-15. The program aims to equip students aged 10-15 with critical thinking skills, digital skills, and problem-solving and coding abilities. This program will enable students to learn in an entertaining, interactive, and innovative manner. Every 9-year primary school is equipped with devices called micro: bits, which students can program and use in all subjects to solve everyday problems.
All existing analyses, as well as the U-Report survey (4.2), highlight the need for better teacher preparation in utilizing technology in the teaching process, although some of them are well-trained in this field. Dhimitri et. al (2021) in their study stated that “Teachers’ desire and professional commitment to technology, based on the perceived usefulness and perceived ease of use of the TAM technology, would provide the technological foundation for the didactics of geography, mathematics, and other subjects”.

7. Future Classroom Lab, situation, and future ideas in Albania

In Albania, the concept of the "Future Classroom Lab" (FCL) is new and has not yet been widely implemented in schools across the country. A fully equipped laboratory with all its parameters does not exist; instead, there are laboratories with specific components of FCL. Regarding the technological approaches of FCL, the situation in private schools is better compared to public schools. Below, is an overview of the application for each digital tool or technological approach of FCL:
Robotics and automation – It is mainly implemented through the program “Schools of the 21st -Century”, where each Low Middle School is equipped with devices called the micro: bit, through which students can program and use them in all subjects to solve everyday problems.
Artificial intelligence - it is still not used in the teaching and learning process.

Cloud computing - It is partially implemented, worth noting, through the platform SchoolMe, supported by UNICEF and the Ministry of Education and Sport. (http://www.schoolme.education/landing/).
Cybersecurity – It is partially implemented in the form of an intranet. It is worth mentioning the schools, such as "Medresea e Korçes" (https://gjirafa.biz/medresejahalikorca-1), now closed; 'Mehmet Akif College Tirana" for girls and boys (https://vajza.gulistan.edu.al/ http://djem.gulistan.edu.al/) now closed; "Udha e shkonjave" (https://udhaeshkronjave.com/).
Internet of things – it is mainly implemented in professional schools, such as Techincal School "Gjergj Canco", (https://www.linkedin.com/in/shkolla-teknike-gjergj-canco-9011331b5/?originalSubdomain=al), Institute "Harry Fultz" (harryfultz.edu.al/home-en/), ICT School "Hermann Gmeiner" (hermanngmeiner.vet.al). Private courses are also organized for students from Training Center "Irisoft", (https://www.irisoftedu.com/) and Training Center "Faik Konica" (https://www.albanianeducation.com/course/qendra-faik-konica/).
3D/4D making and modeling and printing – It is mainly implemented, and it is worth noting the Preka College, Korçe (https://www.facebook.com/PrecaCollege/?locale=sq_AL)
Creation of digital products and services – This approach is implemented through the national platform, academia. al (https://www.akademi.al/), platform school me, etc. Regarding teacher training, it is worth mentioning the Center for Advanced Training. (https://www.qta.al/).
Creation and enjoyment of virtual and augmented reality services – it is still not being used.
Digital communication – It is mainly implemented through the above-mentioned platforms.
Processing, analysis, and study of big data – it is applied in university education.
Economia digitale, e-commerce e blockchain – it is mainly applied in professional schools, such as Economical - Technical School, Tirane (https://ekonomikeshtet.edu.al/)
Rekomandojme keto mjete dhe qasje teknologjike per te ardhmen:
Immersive technologies by integrating technologies such as virtual reality (VR) and augmented reality (AR) to provide immersive and interactive learning experiences. For example, students can perform virtual science experiments.
Mobile devices - by allowing the use of mobile devices such as tablets and laptops for classroom learning. Students can access global online resources, participate in discussions, and engage in real-time interactive activities.
Data analysis and personalization of learning - by using data analysis tools to monitor and assess student learning. This data can be used to personalize instruction to meet the needs of individual students.
Artificial Intelligence (AI) and Educational Chatbots – by using ethical artificial intelligence and educational chatbots to provide personalized assistance to students, answer questions, and guide them through the learning process.
Internet of Things (IoT) in education - by introducing IoT devices into the learning environment and creating a connected infrastructure.

Conclusion

The Future Classroom Lab continues to grow and develop, where the designed learning space offers users the opportunity to explore the process of teaching and learning, as well as to develop learning experiences for students and teachers. These areas reconsider the changing roles of teachers and students and propose solutions for more effective flexible learning experiences for the 21st century. This study suggests that through technology, students can help overcome the student-educator dichotomy and bridge the gap between theory and practice.
Despite the uncertainty of a rapidly changing digital world, educational institutions are expected to be ready for the future. To meet these expectations, educational policymakers must introduce new changes. One of these

changes is the Future Classroom Lab, coordinated by European Schoolnet with 15 countries, of which Albania is not a member.

The results of this study imply the need for these classrooms and for technological and pedagogical integration to keep pace with the developing world. To achieve sustained growth, policymakers should focus more on flexible, technology-assisted learning zones, driving school change with contemporary educational paradigms to better prepare the next generation of students with flexible school leadership.

Based on the findings and analysis it is recommended that schools be orientated toward the:

- school leaders and teachers who possess digital competence
- Design Future Classroom Lab zones with complementary technological and physical infrastructure to offer students a more effective way of learning
- create a more collaborative, autonomous, motivating, and creative educational atmosphere

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