

INNOVATIONS AND PROBLEMS OF DEVELOPMENT OF MODERN EDUCATION

IRSTI 14.15.01

DOI 10.51889/2960-1649.2024.58.1.001

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THE STUDY OF THE NEW PHILOSOPHY AND TECHNOLOGIZATION OF THE MODERN EDUCATION SYSTEM (COMPARATIVE AND STRUCTURAL ANALYSIS)

Abstract

Global changes on a global scale have influenced the fact that modern education has changed its philosophy of development. This was facilitated by completely new technologies that the society was forced to accept and include in the learning process. The COVID-19 pandemic has led to the largest disruption in the history of education systems. It has affected almost 1.6 billion students in over 190 countries and on every continent.

The purpose of the article is to present comparative data on the criteria indicators of the education system that influenced the change in philosophy and the process of technologization. The main reason is the spread of coronavirus infection around the world. We chose non-experimental methods as the main research methods (according to B.G. Ananiev): comparative and structural methods.

The results obtained are changes in the state of education before the pandemic and during it. These include: number of children affected by school closures worldwide, Funding Gap to Achieve Sustainable Development Goals (Quality Education) before COVID-19 (in US\$ millions), annual fluctuations in the human development index and transition to new learning technologies. In Kazakhstan, the overall picture is presented related to distance and television learning.

Keywords: coronavirus, society, education, philosophy, technology

Introduction. The coronavirus pandemic, which began in 2020, shook the entire world, altering people's way of life and the education system. The global society faced a challenging test of life. Prolonged lockdowns during the first wave (March – May 2020) literally compelled the population to spend most of their time at home. This became the main reason for restricting interpersonal and professional communication, as well as the basis for an increase in the incidence of domestic violence against children and vulnerable individuals, and psychological stress. Public restrictions led to a significant economic crisis, placing a large portion of the population in a critical situation. For the majority of humanity, this became a reason for slowing down the functioning of the global economy, leading to an increase in unemployment. The consequences of the measures taken during the first wave of the coronavirus included the

bankruptcy of established businesses, the closure of companies, and a decrease in demand for goods and services. These actions were undertaken in order to contain the rapid spread of the virus.

Everything that was happening in the world got divided into two parts – before and after the pandemic. As of the beginning of 2022, we fully realize that the way of life for all of humanity has shifted in a new direction, and the pandemic that engulfed the entire world has become a starting point for adopting a new philosophy of life, a beginning for embracing and mastering new socio-informational technologies.

Main part. The viral revolution has greatly changed one of the main social institutions - the education system - from preschool to university. Of great importance in this period was education, which is based on traditional forms of education with a small share of distance learning. This particularly affected school education, where

neither teachers, nor children, nor parents were ready. Thus, the limited conditions for teaching school subjects showed that most students forgot previously mastered learning skills. Universities, having the skills of distance learning, freely switched to this form, covering also various social networks as additional. However, world practice has shown that Internet opportunities were not up to standard everywhere, many countries resorted to television educational channels, where the main content of school subjects was broadcast.

Purpose - to present comparative data on the main indicators of the education system that influenced the change in philosophy and the process of technologization.

Let's highlight a few main arguments confirming the *scientific significance* of such an article:

1. *Actuality*: Education plays an important role in today's society and constantly faces challenges and changes. The content of this article reflects the results of a study that analyzes the latest world changes, which can help to understand how modern education can be improved and adapted to the requirements of the modern world.

2. *Philosophical aspects*: New educational philosophies may include ideas about the importance of self-organization, active participation of learners, contextual learning, and flexibility.

3. *Practical relevance*: Modern education is facing challenges such as the global pandemic, instability, inequality in access to education, the need to develop future skills, and others.

In general, the scientific significance of the article on modern education, new philosophy and new technologies lies in the fact that it contributes to the development of knowledge and understanding of new educational processes, which also contributed to their development and implementation, aimed at improving education and social progress.

Literature review. The analysis of scientific and pedagogical literature allowed us to single out the concepts of "distance education", "Internet technologies", "technologization" of education. In this direction, it is necessary to highlight different views on the essential characteristics of these concepts. So, B. G. Ananiev and V. I. Soldatkin point to the features

of distance education and its implementation only in the system of higher education. V. V. Smirnov highlights the socio-psychological aspect - the phenomenon of digital dependence of society (Andreev, 2001; Soldatkin, 2010; Smirnov, 2019).

In the studies conducted by A.I. Skrinnik the factors of Internet education were identified: the acceleration of knowledge transfer, adaptation to the environment, the active introduction of Internet technologies into the educational process. The author also singled out the influence of computers on the development and complication of the structure of the higher mental functions of the individual. These questions were also considered by A. Leontiev, O. Tikhomirov and other (Skrinnik, 2014)

Denoting the meaningful context of the concept of "technologization" of education, O.N. Igna presented two approaches: the development, selection and use of technologies in the pedagogical process; providing the educational process with high-tech equipment. The author also highlights the concepts that determine the readiness of teachers to use various technical teaching aids - this is "technological culture" and "technological thinking" (Igna, 2010).

Research materials and methods. In our work, the research methods were non-experimental methods according to the classification of B.G. Ananiev comparative and structural. The role of the comparative method is to consider scientific works, reports of public organizations that show facts before the pandemic and during its period. The structural method allows you to systematize the received data into a single picture of the perception of integrity (Ananiev, 1980).

Comparative method and structural method, in accordance with the classification of B.G. Ananiev, are non-experimental research methods that can be used to study modern education, new philosophy and new technologies.

The comparative method allows you to consider various scientific works, reports of public organizations and other sources of information in order to compare and analyze facts and data before and during the pandemic. This method makes it possible to identify changes, trends and effects caused by the pandemic on educational processes and practices. Benchmarking can also

help identify the advantages and disadvantages of different approaches and strategies for education in a pandemic.

The structural method, on the other hand, allows you to organize the received data and information into a single picture or integrity. This method allows you to organize and classify information, highlight key topics, trends and main aspects of the study. A structural approach can be useful when analyzing different educational philosophies, new technologies and their impact on educational systems.

The use of comparative and structural methods in our work allows us to get a more complete and comprehensive understanding of modern education, new philosophy and new technologies, their changes during the pandemic and their relationship. These methods help to see educational processes in a broader context and identify key factors and trends that may be

scientifically significant for the development of education (S. Seitenova, 2023).

Results. The COVID-19 pandemic has caused the largest disruption in education systems ever, affecting almost 1.6 billion students in over 190 countries and on every continent.

According to research conducted by the UN, in 2020, in the second half of April, 94% of students around the globe were transferred to a remote learning format, which included children of preschool, school and student age. In digital terms, this amounts to 1.58 billion students and pupils from more than 200 countries of the world (Concept Note: Education in the age of COVID-19,2020). Students from low-income countries were the hardest hit, with 86% of them left out of school at the primary level. In countries with a high Human Development Index, this figure was only 20 percent (Picture 1).

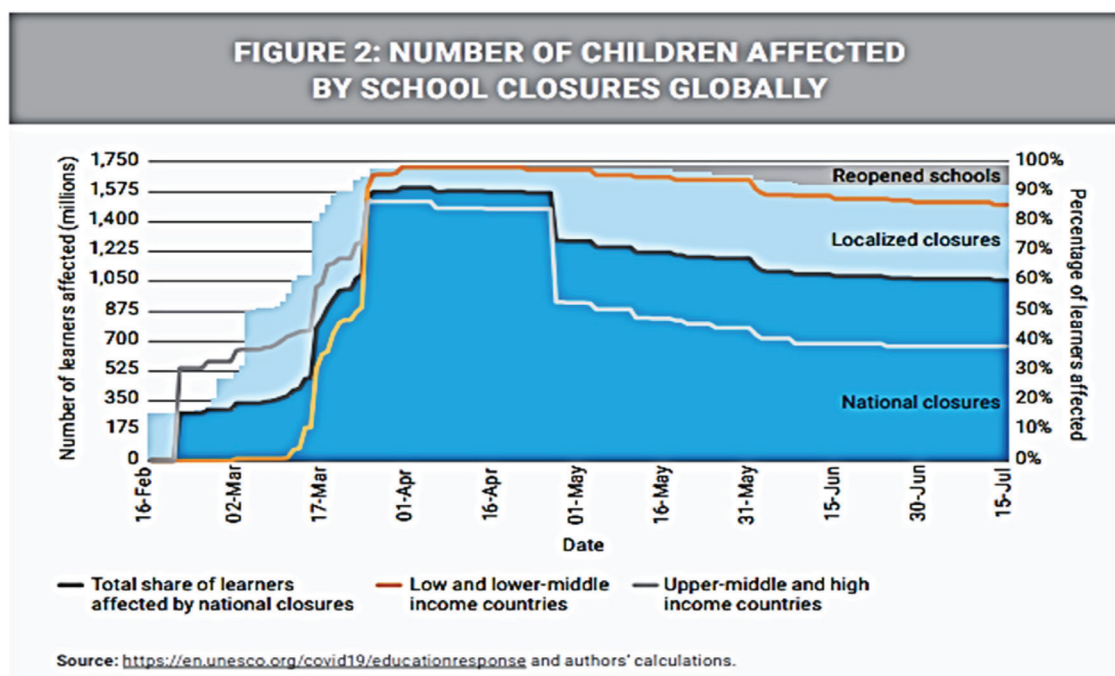


Figure 1. Number of children affected by school closures worldwide (according to <https://www.oecd-ilibrary.org>)

Across 33 OECD countries, the average duration of school closures was 70 days. However, significant differences could be observed in terms of the duration of school closures, ranging from 20 days in Denmark and Germany to over 150 days in Colombia and Costa Rica. Comparative assessments such as PISA found that schools remained closed longer in countries where students performed

at a lower level. The analysis of the data also showed that in the conditions of remote learning, teachers conducted the educational process using social networks, information technologies and innovative methods (OECD. The state of school education, 2020).

The deficit of funds allocated annually to the education system increased by 18% (Figure 2). This shows how much illiteracy has increased in

the world among children and adults who do not have basic reading skills at all. We are witnessing how the pandemic has exacerbated this problem, where funds are allocated not only for the technical equipment of the educational process, but in this case we are talking about educational products coming to countries with a low level of quality of life, the provision of educational services to them by public organizations. The annual budget of

any country also includes the allocation of funds for mandatory hot meals, which helps vulnerable segments of the population save their children from hunger (Africa, Afghanistan, Pakistan, South America). School closures during the pandemic have increased the proportion of malnourished children for almost a year, with tragic consequences.

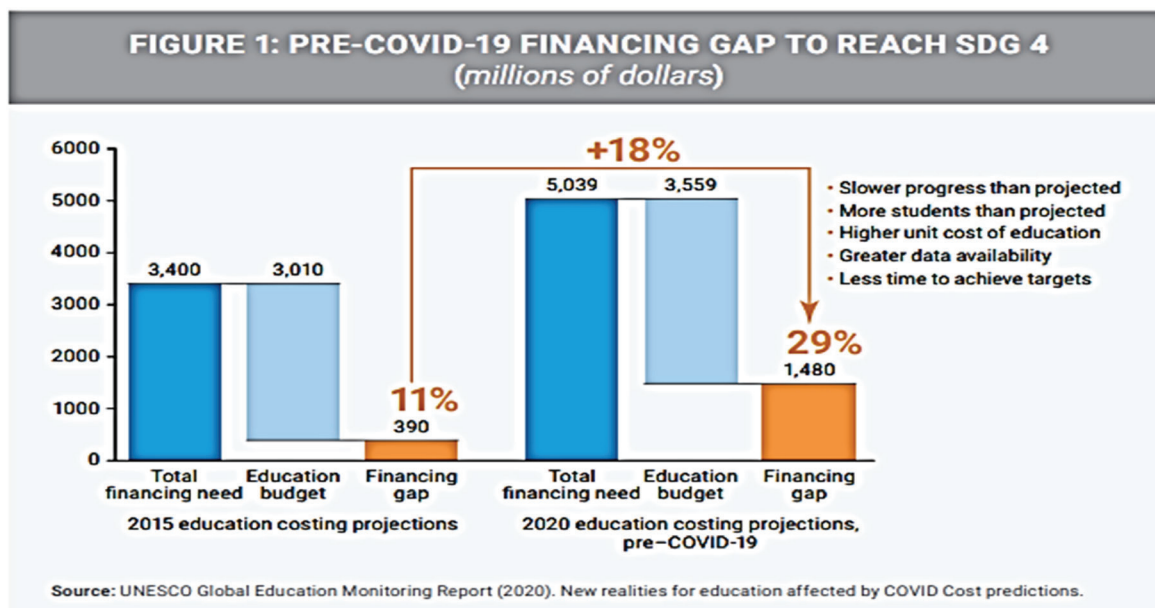


Figure 2. Lack of funds to achieve sustainable development goals (quality education) before COVID-19 (in US\$ million) (according to <https://www.oecd-ilibrary.org>)

Il of the above and other problems have shown that the pandemic has taken the quality of life of people out of the education system, changed the human development index from the moment of perestroika (1991) and the period of the virus revolution (2020). According to Figure 3, we see that even during the collapse of the Soviet Union, education remained one of the strongest links in all countries of the former Soviet Socialist Republic, which cannot be said about the current situation.

A recent review of studies on knowledge loss during the pandemic found only eight studies that support the loss of knowledge in most cases and, in some cases, rising educational disparities. All focused on OECD countries where school closure periods were relatively short. These countries include Belgium, the Netherlands, Switzerland, Spain, USA, Australia and Germany (Anderson,2021).

Pointing out this aspect, we cannot help but dwell on such facts as violence against children, according to UN studies.

In the summer of 2020, Save the Children surveyed children and families in 46 countries. The main purpose of the study was to study the impact of the crisis on society. She focused on participants in her programs, other populations of interest, and the general public. According to the survey results, domestic violence was recorded in one third of households, while the participants of the program were predominantly vulnerable children and families. 83% of children and 89% of parents reported an increase in aggression during the first lockdown. 46% of parents reported psychological distress in their children. Among children who did not interact with their friends, 57% were less happy, 54% were more anxious and 58% felt less secure. Among children who were able to communicate

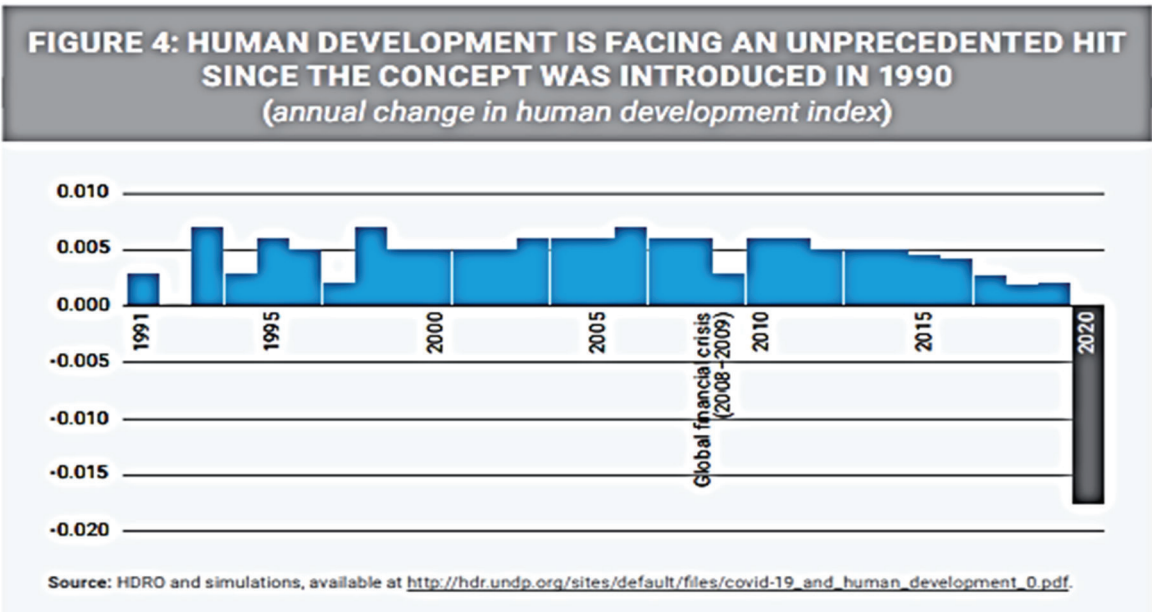


Figure 3. Annual fluctuations in the human development index (according to <https://www.oecd-ilibrary.org>)

with their friends, less than 5% reported similar feelings. Since the start of the pandemic, 7% of children with disabilities have experienced an increase in urinary incontinence, 17% of those surveyed have experienced unusual crying and screaming. This figure is three times higher than that observed in normal children. Children also reported an increase in household chores. Thus, among girls it is 63%, among boys - 43%.

20% of girls said that their workload in terms of household chores is so great that it does not allow them to devote time to studying, while for boys this figure was 10% (Donnelly R., & Patrinos, 2021).

Against the backdrop of the emerging crisis, teaching staff were forced to quickly respond to changes and introduce Internet technologies in an experimental mode (Figure 4).

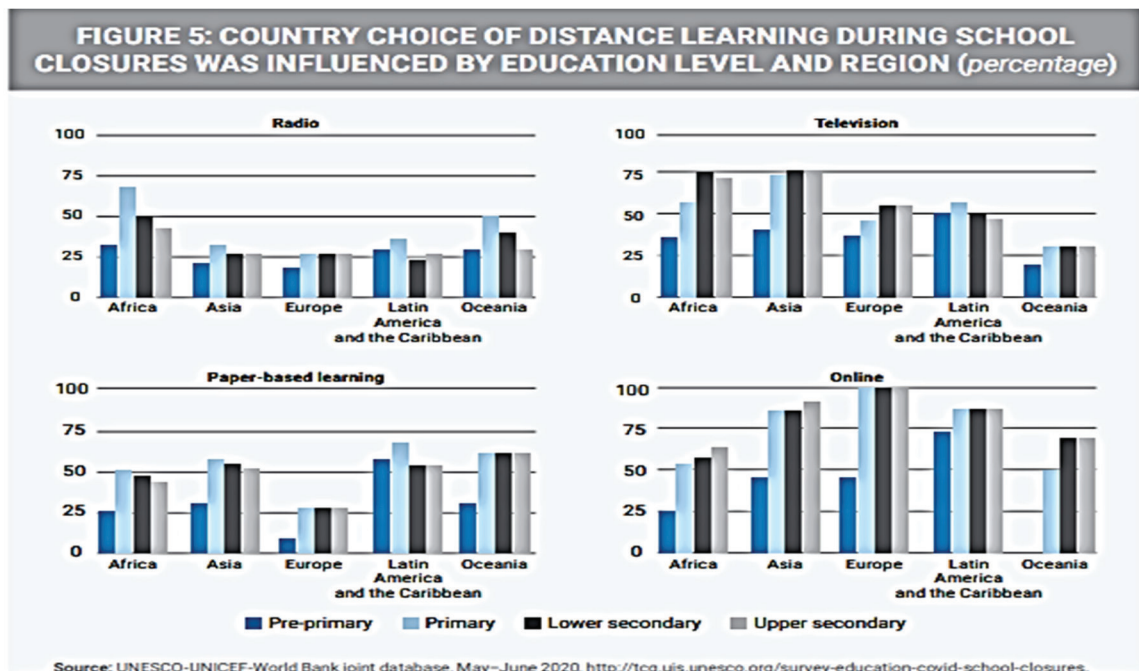


Figure 4. Country choice of distance learning method in school closure period (according to <https://www.oecd-ilibrary.org>)

Yaroslav Kuznetsov in his speech “The Virus Revolution: How the Pandemic Will Change Our World,” expresses the opinion that we have embarked on a difficult and long path to overcome: “... The coronavirus pandemic is destroying transport and production chains at an incredible speed, forcing states to return borders and rebuild key public institutions, universities are rapidly moving to remote learning. But this is not a step into the abyss, but a path to a new reality, which is based on the technological revolution, on the achievements of industry 4.0. However, the road will not be easy ... “ (Kuznetsov, 2020).

It should be noted that Kazakhstan, being a unitary state, attaches great importance in the management of education to centralized

decisions. At the same time, regions, of course, have significant differences in terms of their implementation. It was decided to teach children remotely using national online platforms. Also in Kazakhstan, training was scheduled according to the broadcast schedule of TV lessons from April 6. But by April 8, 2020, the weakness of the technical preparation of this process proved to be.

From that moment on, on the recommendation of the Ministry of Education and Science, schools switched to flexible approaches to organizing distance learning (M. M.Knissarina, 2016). Teachers were given recommendations on the use of various platforms, social networks and instant messengers, any means of communication that allow the educational process to be carried out to the maximum extent possible.

Communication tools/platforms	Number of respondents	% preferences
WHATSAPP	652	84,50%
Skype	68	8,90%
ZOOM	167	21,9%
TELEGRAM	23	2,30%
Discord	31	4%
classroom	29	3,70%
e-mail	6	0,70%
Kundelik	5	0,60%
YouTube.	3	0,40%
bilimland	5	0,60%
Facetime	3	0,40%

Figure 5. Platforms and communication tools in distance learning

The presented experience of education systems in Kazakhstan shows a sufficient level of readiness of state systems for force majeure situations. Similar teaching methods could be observed in almost every country. Speaking about the chosen forms of education, many countries of the world, including our country, have chosen information and communication technologies: television learning, distance learning, open educational resources, the issue of home learning as a pedagogical technology is emphasized.

Discussion. The human society has undergone more than one wave with new mutational strains, but this has become a driving force for the discovery of scientific products - from developed vaccines, drugs for treatment to electric vehicles, the expansion of the possibilities of digital assets,

blockchains, the cryptoindustry, the metaverse. Human capabilities have shown how in a short period of time it is possible to change the education system, change the form of education and basic techniques. What was considered difficult or impossible for people in a normal life period, in an emergency mode, it is still possible to find new ways to overcome the crisis in the field of education and develop a set of solutions (Reims,2021).

At the beginning of 2021, pedagogical activity has changed, strengthening the role of information competencies. In this aspect, we mean that the teacher is faced with the task of creating his own educational and information field, consisting not only of slide presentations and electronic textbooks, but also a YouTube channel, IT simulators, Instagram, WhatsApp

and telegram communities that are fluent in all functions of the Zoom platform and other similar systems (B. Kurebay, 2023). On the one hand, this complicates the work of the teacher, on the other hand, having brought everything into an orderly system, in the future he will have an excellent methodological base that will serve him for many years of learning and teaching. UNESCO also confirms our idea and introduces the concept of “delivering a knowledge platform”, which is also based on IT technologies. In this case, we raise the issue of an alternative form of education - online learning. As part of such training, the implementation of cloud applications, virtual classrooms, videoconferencing, a learning management system, streaming capabilities and tools that support interaction between students, between students (pupils) and teachers are implied.

Conclusion. As you can see, the COVID-19 pandemic has become a great stress for all the inhabitants of the world, where the learning process takes a special part. The coronavirus has changed the living conditions of students and their families, giving rise to wider social problems. However, it should be noted that the world education system reacted instantly, applying a sufficient range of techniques and methods with varying efficiency and effectiveness. Education and all its innovations are reflected in public life. Teachers, parents, and the adult community have also begun to actively introduce new technologies that help them adapt to new living conditions: robotic vacuum cleaners, electric cars, Internet transfers, QR codes, block chains, video conferencing, and others. These changes became the basis for the adoption of a new philosophy by our society.

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IRSTI 14.25.07

DOI 10.51889/2960-1649.2024.58.1.002

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STUDENT PREFERENCES FOR CONTENT IN ONLINE LEARNING ENVIRONMENTS: AN ANALYSIS OF ENGAGEMENT FACTORS

Abstract

The COVID-19 pandemic spurred a shift toward distance learning within education. Online courses have emerged as a prominent mode of remote instruction. While online courses existed prior to the pandemic, their focus was primarily on university students. This study examines the essential content types and features of online courses tailored for secondary school students. Additionally, it explores the alignment between teacher-selected materials and student preferences. Data was collected through lesson observations and interviews with students aged 14-17 in a UK school. Analysis suggests that students favor receiving information through videos, images, and presentations. They also value features such as progress tracking, feedback, and lesson commenting. This study's findings offer guidance to secondary school teachers in the development of online courses for core subjects or exam preparation.

Keywords: distance learning, online learning, web-lessons, teaching services, online courses.

Introduction. Moving to distance learning during pandemic situations bring a lot of problems in the educational field. Such challenges are adapting educational content to the online or web environment.

During the pandemic, teachers and students around the world switched to distance learning. This process took place at a rapid pace and rhythm (Teräs et al., 2020). While students were more digitally literate in the use of various technologies, the situation was difficult for teachers, especially those with a long pedagogical experience.

A range of studies have explored the preferences and perceptions of online learning resources. Slater (2020) found that mature online students favoured accessible, engaging, and assignment-related resources such as online lectures, course notes, primary literature, and tutors' opinion pieces. Lee (2008) extended the technology acceptance model to include internal and external-organizational factors, finding that perceived ease of use and various types of

computing support positively influenced the adoption of online learning systems. Vatsala (2014) identified that adult e-learners preferred online and distance education courses, with a preference for longer videos and final assessments in the form of multiple-choice questions. Brown (2004) explored student choice in online learning environments, offering recommendations for improvement. These studies collectively highlight the importance of accessibility, engagement, and relevance in online learning resources.

The purpose of this study is to address the challenges posed by the rapid transition to distance learning during the pandemic, with a specific focus on creating effective online courses for secondary school students. The study aims to define the types of content and features necessary for these online courses, taking into consideration the preferences of students aged 14-17 in a UK school setting. By identifying the optimal content and functionalities, the study aims to provide valuable insights for secondary