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Technoarete Transactions On Applications Of Information And communication Technology

ABOUT THE JOURNAL

Technoarete Transactions on Application of Information and Communication Technology(ICT) in Education is an International peer reviewed, open access journal aiming to publish high quality original research, review articles, short communications, case reports, technical notes and editorials. We offer a wide range of knowledge on new trends and advances that contribute significantly to further the scientific knowledge related to fundamental and applied research covering all aspects of Information and Communication Technology. The journal also includes various fields of research on Creative usage of digital technologies by educationist, Tools for online learning, Blended learning mechanism, Platform and content authoring, Open access system, Learning data analysis, Educational data mining, Institutional procedures, protocol and assessment methodologies, Outcomes of ICT based education, Game based learning environment, Psychological issues face by students in online learning, Various pedagogical principles of teaching, Lifelong learning, Technologically mediated learning, Educational psychology, Academic and ethical perspectives of online learning, IT Infrastructure for ICT Based education, Role of ICT based education during COVID pandemic, ICT based education for online evaluation and assessment of students performance, Role of ICT based education post COVID pandemics.

AIM & SCOPE

Technoarete Transactions on Application of Information and Communication Technology(ICT) in Education aim to serve as an intellectual platform for scientist, academicians, and researchers to who are interested in applications of recent advancement in information and communication technology in imparting education to school children post school education, higher education, and lifelong learning. Also, the role of using innovative technologies by teachers educating children who are in transition from school to higher education are also included in the scope of this journal. The journal welcomes original research article on adopting innovative approaches for teaching learning process designing the educational outcomes and encouraging qualities quantitative and hybrid approaches of teaching . learning process . Latest innovation and best practices to be followed in online teaching and training , collaborative learning and training modelling higher education based on online learning , various procedures standards and assessment methods to be adopted

for online education are also covered under the scope of this journal . the need for effective IT Infrastructure and services for innovative online education environment is also to be discussed in the journal . The methods of Invocating creativity and curiosity among students by employing ICT in education also falls under the journal scope .

Technoarete Transactions on Application of Information and Communication Technology(ICT) in Education include but are not confined to the following areas.

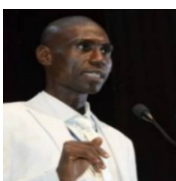
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2. Tools for online learning
3. Blended learning mechanism
4. Platform and content authoring
5. Open access system
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8. Institutional procedures, protocol and assessment methodologies
9. Outcomes of ICT based education.
10. Game based learning environment
11. Psychological issues face by students in online learning
12. Various pedagogical principles of teaching
13. Lifelong learning
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15. Educational psychology
16. Academic and ethical perspectives of online leaning
17. IT Infrastructure for ICT Based education
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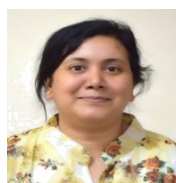


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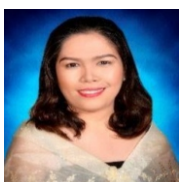


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Utilization of Educational Data Mining for Classifying and Predicting Students' Performance, Dropouts as Well as Teachers' Performance

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ABSTRACT

This research study has aimed to analyze the importance of educational data mining on the performance and efficiency level of teachers and students. Presently, in the competitive world, several organizations are utilizing educational data mining to enhance the performance of the educational institute to stay competitive among the competitiveness in the universities. The implication of data mining has supported the students to enhance their efficiency level through enhancing their knowledge base. On the other hand, the implication of educational data mining has also supported the teachers to track the performance of the students. As a result, they support the teachers to provide effective training and development classes to the students who are facing difficulties in the understanding of a subject. However, in this research study, the researcher has utilized a secondary qualitative method of data collection to collect the data regarding the research topic. In addition, the secondary sources of data have been collected from verified articles, websites, journals, and Google scholar to justify the aim of this research study. In the data analyst part, the research study has provided a holistic view about the way universities are utilizing the data-mining program to enhance the efficiency level of the students.

Keywords Data mining, educational data mining, students, teachers, technology, and universities.

INTRODUCTION

Presently, in the recent world, the utilization of education; data mining in educational institutes have enhanced up to an extreme level. Due to the potential impact of educational data mining, several organizations are utilizing this. However, the inclusion of data mining in an educational institute can enhance the efficiency level of students as well as of the teachers. As a result, that creates a positive impact on the operational efficiency of the educational institute. The implication of educational data mining can support an educational institute to analyze the capability and potential of a student [1]. As a result, that has created a potential impact on the performance of the students, through enhancing their development process up to 93.51%. On the other hand, the inclusion of educational data mining in the educational sector has also created a positive impact on the efficiency level of an educational institute by reducing the failure rate of the students. Educational institutes with an effective educational data mining system can reduce the rate of failing students up to 46.21% [2].

As a result, the educational infrastructure of a country got enhanced, which reflects a potential impact on the development process of a country. In addition, the implication of education has also a positive impact on the efficiency level of the students. As the implication of educational data mining can support the teachers to identify the potential of each student that supports the teachers to give effective classes to the students who are lacking in the learning process. Moreover, the inclusion of educational data mining can also support the students to identify the percentage of dropouts of an institute. In addition, in the

technological world, the inclusion of data mining in the educational system has supported the educational institutes to maintain the essential data of each student that helps the educational organization to track the performance of any student at any time. In this research study, a brief overview will be provided on the impact of educational data mining on the efficiency level of the students and the performance of the students.

The Educational Data Mining Process

Educational data mining is a process that supports an educational institute to enhance the efficiency level of each student through enhancing the performance of the teachers and education system. An appropriate choice of the educational data mining system can create a positive impact on the performance as well as the development process of an educational institute. There are a total of four types of data mining systems available in the process of educational data mining such as demographic data, perception data, achievement data, and program data [3]. In order to enhance the operational efficiency of an educational institute, the institute must adopt an effective educational data mining program as per the educational infrastructure of the institute. On the other hand, several organizations such as businesses, healthcare, educational systems, and insurance companies are utilizing the data mining process to enhance the efficiency level of the education mining process. However, in the context of educational institutes the utilization of data mining is creating an impressive impact on the efficiency level of the institutes.

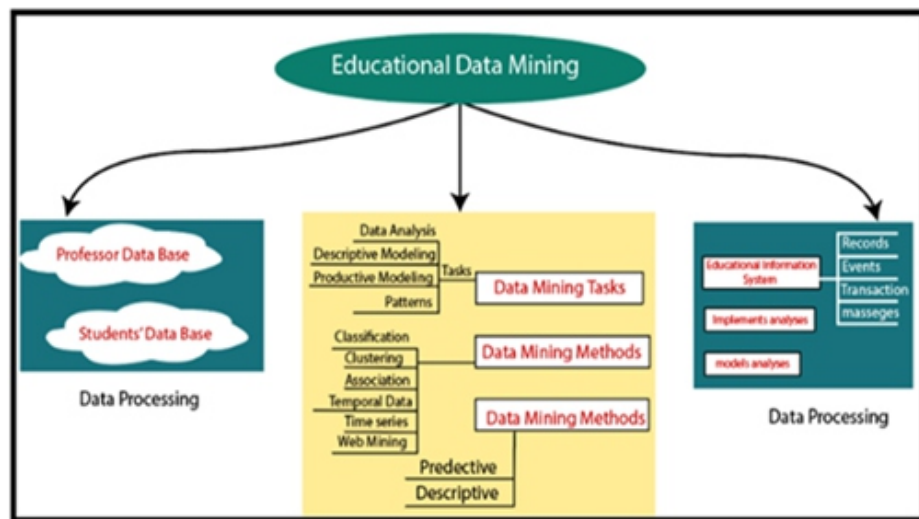


Figure 1. Process of educational data mining (Source: [3])

Several educational institutes are utilizing the data-mining program to enhance the efficiency level of the students through supporting the students to explore new things regarding the subject they are reading. In addition, the process of educational data mining also supports the teachers to forecast the efficiency level of students. That supports the teachers to guide the students in a positive way to enhance their learning outcomes. The inclusion of educational data mining in the educational system can support the students to enhance their efficiency level up to 93.51%, which has reduced the percentage of backlog students [1]. However, while considering the positive impact on the process of educational data mining there are also numerous gloomy effects on the process of educational data mining that may create a negative impact on the performance of educational institutes.

As the inclusion of data mining significantly charges a massive amount of resources and money that may create several difficulties in the development process of the educational institutes. On the other hand, the process of data mining is not having a robust security system that might leak the essential information of the students. However, the selection of an appropriate EDM can also be a massive challenge in the development process of the educational system. As there are several data mining tools available with different algorithms and designs that require a potential knowledge base to choose an appropriate data mining tool as per the infrastructure of an organization or educational system. Therefore, through the findings it can be easily stated that the selection of an appropriate process of educational data mining system can create a useful outcome on the efficiency level of an educational institute.

Impact of Educational Data Mining in Institutes

In order to enhance the learning and development process of the students, the inclusion of educational data mining is creating a massive impact on the performance of educational institutes. The implication of educational data mining can support an educational institute to enhance the efficiency level of each student which indicates a potential outcome on the learning process of the students [4]. In addition, the inclusion of data mining can also support an educational institute to enhance the performance of the students through enlarging their knowledge base.

Presently, in the technological world maintaining the data of each student is being a massive challenge to the educational institutes. Therefore, in order to maintain the data set of the students several educational institutes are utilizing the cloud base data mining system in the educational institutes. On the other hand, the inclusion of data mining in the educational system can also support the students to enhance their learning capability through enhancing the learning process of the students. Through the implication of data mining in educational institute's students can enhance the learning capability of the students which indicates a positive outcome on the efficiency level of the students [5].

Universities such as Harvard, Oxford are enhancing their operational efficiency through the implication of data mining in their educational system. In addition, the usage of data mining in an educational system can support the teachers to enhance their operational efficiency through providing essential knowledge to the students. As a result, it has supported several educational institutes to reduce the percentage of backlog students, which indicated a positive impact on the performance of the educational institutes. The implication of educational data mining in an institute can support the teachers in classifying and forecasting the efficiency level of each student [6]. In addition, it also supports the teachers to track the operational efficiency of the institutes, which creates a positive impact on the efficiency level of the educational institutes. Therefore, through the finding it can be easily stated that the inclusion of educational data mining in an organization can impose a positive outcome on the operational efficiency of an educational institute.

METHODS AND MATERIALS

The selection of an appropriate methodology for a research study plays an important role to conduct a reliable and credible research study. Through analyzing the nature of this research study, the research study has adopted a positivism research philosophy, deductive approach and descriptive research design to justify the research objectives. On the other hand, this research study implicated a Secondary qualitative method to collect the valuable data regarding the impact of educational data mining on the performance of an educational institute from secondary sources of data collection method. Conclusion of a secondary quantitative method in a research study can support a researcher to collect the valuable

data regarding the research topic from generating graphs and charts from the data of verified websites and articles [7]. In addition, the secondary sources of data have been collected from Google scholar, Pro Questa, verified articles and peer reviewed journals from 2017 to 2021.

RESULT AND FINDINGS

The result of the data mining process is generally used to enhance the development process of an educational institute. However, as shown in the previous part the inclusion of educational data mining is creating a potential impact on the efficiency level of the learners through enhancing the learning process of the students. Sometimes students need alternative learning skills to enhance their efficiency level, in that context the utilization of educational data mining creates an impressive impact on the efficiency level of the learners [8]. In addition, the inclusion of educational data mining has enhanced the efficiency level of the learners up to 93.51% that indicates that the students are getting beneficial impact on their performance through the usage of EDM.

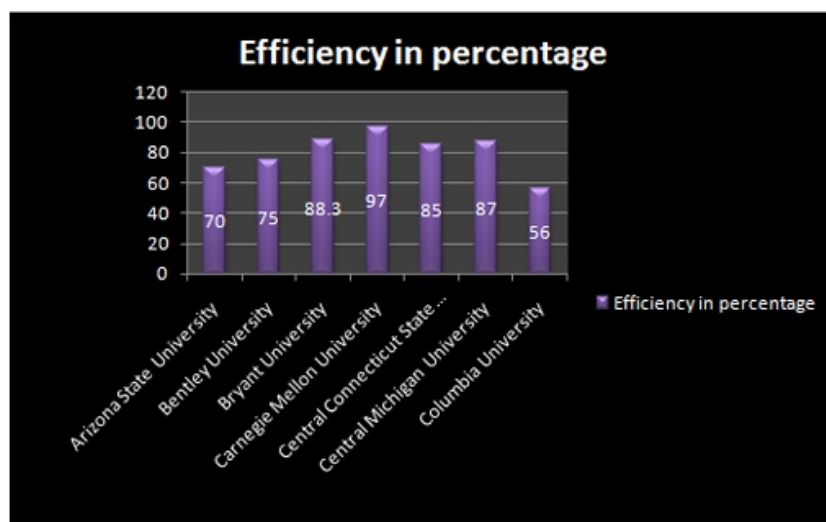


Figure 2: Efficiency level of the universities with data mining (Source: 8)

As shown in figure number 2, universities with effective educational data mining are performing in a significant manner. As a result, the universities are ranked as one of the most efficient universities across the globe. In addition, the students who are graduating from these universities are scoring better marks than the universities without an effective educational data mining program. On the other hand, the inclusion of data mining is also creating a negative influence on the development process of the universities. The utilization of EDM charges a massive amount of expenses and maintenance cost of the EDM is also comparably higher than the normal educational system. However, these organizations have managed to resolve the challenges of the educational data mining; as a result, that has created a potential outcome on the efficiency level of the students of those universities. Through identifying the weakness of each student these universities are providing the needed resources thus the student can gain a better overview about the subject they are lacking.

On the other hand, presently in the competitive world every educational institute is prone to enhance their operational efficiency to increase the percentage of successful students of the organization [9]. In addition, in the context of the admission process the utilization of data mining has created a revolutionary impact, as the inclusion of data mining gives several potential impacts on the efficiency level of the universities. The implication of data mining in the educational institutes has supported the

administration to identify the students that need more attention [10]. As a result, that creates a positive impact on the reputation of the universities as well as on the performance of the students. Moreover, the implication of data mining can also support the administration of a university to identify the students who need scholarships to continue their education. Through providing the scholarship to students those are in need the universities have reduced the dropout percentage of the students up to 6.33% [11]. Therefore, through the finding it can be easily stated that the inclusion of educational data mining has created significant outcomes on the performance as well as on the development of educational institutes.

CONCLUSION

Presently, in the competitive world every educational institute wants to enhance their operational efficiency thus they can stay competitive in the competitive world. However, the inclusion of data mining created a positive influence on the efficiency level of the educational system through enhancing the performance of the teachers. As shown in this research study, the inclusion of data mining has supported the universities to enhance the success rate of the students that has created a positive impact on the admission process of the universities. However, the implication of educational data mining has also supported the teachers to identify the weakness of each student that helps the teachers to give essential classes to the students facing difficulties to understand a subject.

On the other hand, as mentioned in this research study, the inclusion of educational data mining is creating a positive impact on the performance of the learners through enhancing the efficiency level of the learners up to 93.51%. Conversely, the utilization of educational data mining has also reduced the percentage of dropout students through providing scholarship and essential classes to the students. Therefore, through the findings it can be easily concluded that the inclusion of educational data mining has the potential to enhance the performance of teachers as well as the efficiency level of the learners.

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Effectiveness of Game Based Learning to Enhance Student Learning

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ABSTRACT

This research study has discussed the importance of game based learning. Game based learning is the technology based learning that helps to enhance student learning. In the present time, most countries have adopted game based learning to increase student meaning capabilities. This study has conducted the secondary qualitative data collection method from previous online research paper. In this regard, from this secondary data, the researcher has chosen thematic analysis to find authentic results of this research. This study has concluded that game based learning enhances student learning capabilities. This learning approach has increase student self-confidence and social interaction.

Keywords : *Game based learning, Traditional learning system, Video game.*

INTRODUCTION

Student learning enhancement is the most important aspect to develop student capabilities. In the present time, technological implementation in the educational process has helped to improve the learning process. Some instructors of the educational sector have started to include the student in online platforms to enhance their learning capabilities. In this technological learning process, game based learning is one of the most effective learning systems that help to increase student interest and enhance student learning. In this game based learning process, the student gets the opportunity to play games in a learning context. However, game based learning is not an easy process, there are some difficulties. In this regard, effective cooperative technological learning can enhance student learning.

LITERATURE REVIEW

Overview of Game Based Learning

Game based learning is the active technology based learning system that helps to improve student learning. This learning system has promoted critical thinking and problem-solving skills for the student. In game based learning, the student has played games based on education. In this learning system, the student can enhance learning knowledge and skills. The core concept of game based learning is to motivate the students and fulfill the goals of the educational process [1]. In the educational system, the most significant reason for student failure is the lack of student's interest. In this regard, the education process needs to improve the learning process to increase students' interest. Game based learning is the easiest way that can increase student interest successfully. The game based learning has been planned and designed to affect the students significantly to improve learning capabilities.

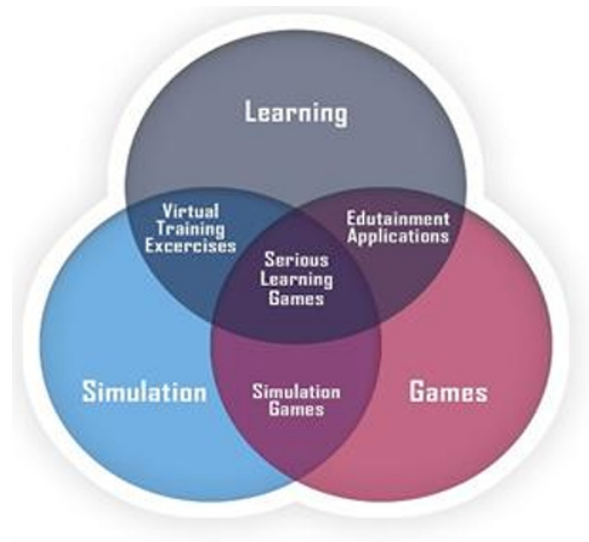


Figure 1: Concept of game based learning (Source: [2])

Some video games are built on a learning context. In video games, the students start from a low level and according to their capabilities, they get the opportunity to reach the higher level. This concept helps the student to improve skills and capabilities [2]. The game based learning has made the student capable enough to face difficulties and overcome the issues. In game based learning, the student gets the chance to adapt to the learning difficulties and enhance learning skills.

Effect of Game Based Learning on Student

Game based learning is the most effective approach in the present educational process. The main focus of game based learning is to motivate and improve the attitude of students in the learning system. In the present time, various academic subjects have been included in the game based learning system. The significant effect of game based learning systems is that advisors can provide students with particular subject based games to increase the interest of the students. In science based subjects, sometimes the students have faced several difficulties to understand this particular subject [3]. In this regard, game based learning has helped to understand the subject and increase knowledge on this particular subject. In recent times, most schools have adopted game based learning to enhance student learning. In nutrition courses, game based learning has helped to increase students' effectiveness in this subject.

Table 1: Global revenue by learning type

Global revenue by learning type	2014 Revenues in USS Millions	2019 Revenues in USS Millions	Five-year CAGR 2014-2019
Simulation based learning	3823.29	8307.95	16.8%
Game-based learning	1841.41	4954.12	21.9%
Total	5664.70	13262.55	18.5%

(Source: [4])

The traditional learning system was not able to increase their interest in the learning system. In this traditional problem lack of technological implementation mainly creates issues to enhance student learning capabilities. In the present time, technological implementation has increased the efficiency of the learning process. The game based learning system is one of the effective systems that can improve students' interest successfully.

The technological implementation has increased global revenue in the educational process. In the year 2014, the game based revenue was 1841.41 million but in the year 2019, this revenue increased by 4954.12 million [4]. From this data, it has cleared that game based learning has enhanced students' learning and revenue also.

METHODOLOGY

18.5% previous research paper. The researcher has conducted the thematic analysis to understand the realistic result of this research study. The thematic analysis has helped to understand the present situation of the research topic. Moreover, the thematic analysis has helped to compare the research topic between past and present situations. This research study has chosen positivism philosophy to find the authentic result of this study [6]. In this research study, the researcher has followed the descriptive research design to describe the research topic. The descriptive research design has helped to understand the importance of this research to others. The validity and relevance of research study have assured that this research study has selected appropriate data collection and data analysis methods to complete this research study. Moreover, it depicts that the collected data and information would not be shared with others.

In the research study, the methodology is the most effective aspect that helps to get authentic results of the study. In the methodological part, data collection and data analysis are the two most effective techniques that increase the significance of the study. In the data collection method, the researcher has gathered important information and data about the research topic to find realistic result. In the research study, the data collection method is divided into two parts one is primary data collection and another is secondary data collection method. This research study has adopted a secondary data collection method [5]. The secondary data collection method has two types; one is quantitative data collection and qualitative data collection method. This research study has selected the secondary qualitative data collection method to complete this research study successfully. The research to analyze this research topic in the global context has chosen the secondary qualitative data collection method [6]. The researcher has collected the secondary qualitative data from online sources such as online previous research articles, journals, books, and authentic websites that were published five years ago. In this research study, the researcher has collected important information about this research topic from the

ANALYSIS AND DISCUSSION

Thematic Analysis

Theme 1: Role of Game Based Learning

In the present century, the game has been used as a learning tool to enhance student capabilities. In the modern teaching system, technological implementation is one of the most important aspects that help to enhance student learning. In the present time, game based learning has been included in the learning process to increase student capabilities. This game based learning system has created a more flexible environment in the learning system. The game based learning system has increased student interest successfully and it has improved the student academic results [7]. In the learning system, the teachers have faced different difficulties to teach a large group of students. In the learning system, the teacher

a giant group of students at one time. Every student has different capabilities and experiences. In this respect, the teacher needs to handle individual students as per their understanding. The game based learning has helped in this segment to increase the interest of particular students and improve their learning capabilities.



Figure 2: Role of game based learning (Source: [8])

The traditional learning system has faced several issues for lack of student interest. In this regard, the learning process needs to find a new method to attract the student's attention towards the learning system. In this respect, the game based learning system is one of the most effective ways that can grab the student's attention successfully. This learning system has affected positively student teacher interaction and student attitude. In student motivational context, the game based learning plays the most significant role [8]. This learning system has motivated the students to improve their academic performance and improve results. This learning system has collected feedback from the student to improve the learning structure. Social cohesion is another most important aspect of game based learning. In this learning system, the learner can play games with others, for this reason, this game based learning has increased social cohesion and interaction.

Theme 2: Application of Game Based Learning to Enhance Student Learning

Application of game based learning has helped to improve the students learning capabilities in the

marketplace. This game based learning has helped the student to increase their knowledge in a particular subject. The game based learning has sharpened the memory of the child. Visual learning is the most effective way [9]. In the video game based learning system, the students can grab the information faster than the traditional learning process. In game based learning, the child gets the chance to enhance real world skills. In the present time, learning games are based on the real world. In this context, the child can enhance their real-world skill through game based learning.

The application of game based learning has increased the engagement of the students in the learning process. Moreover, this learning system has included different types of kerning techniques to enhance the student's performance. In this game based learning the student has got the chance to practice the learning different subject game to increase their learning knowledge about this particular subject [10]. One of the most significant benefits of game learning is visualization. In the learning process, the visual teaching system has helped the student to grab the information successfully. In this regard, the video game based learning application has provided the students' different concepts about the learning.

Theme 3: Benefits of Game Based Learning to Enhance Student Learning

Technological implementation is the most effective aspect that helps to enhance students' learning. This technology based learning process has provided benefits to the kids. The most effective benefits of game based learning are to boost self-confidence. In the present time, competition in the learning process has increased and that creates problems for the children. In this regard, the game based learning system has helped the child to enhance technological knowledge. Moreover, this learning process has helped to boost self-confidence. In the other words, another most effective benefit of game based learning is better conceptual knowledge. Globally, 11% of children have increased their conceptual knowledge through game based learning [11]. In this game based learning process, interactive gaming has helped to enhance student conceptual knowledge.

Game-based Learning by Region***	2012 Revenues in \$US Millions	2017 Revenues in \$US Millions	Five Year CAGR 2012-2017
North America	\$359.18	\$582.00	10.1%
Latin America	\$26.94	\$71.59	21.6%
Western Europe	\$96.98	\$113.49	3.2%
Eastern Europe	\$13.65	\$29.10	16.3%
Asia	\$1,029.43	\$1,475.01	7.5%
The Middle East	\$4.31	\$9.89	18.1%
Africa	\$17.96	\$28.52	9.7%
Total	\$1,548.44	\$2,309.60	8.3%

Figure 3: Global revenue of Game based learning
(Source: [12])

In the present time, game based learning is used in most of countries. North America has used the game based learning most effectively and also got revenue from this learning system. In the year 2012, revenue was 359.18 million. In other word, in 2017, revenue of this country was encased in 582.00

million. From the year 2012 to 2017 this country has got 10.1% more revenue from game based learning [12]. Africa got the revenue in the year 2012 17.96 million and the year 2017 that revenue increased 9.7%. From these data, it has been clear that game based learning has enhanced student learning.

CONCLUSION

After all these discussions it can be concluded that the game based learning system has helped the student to enhance their knowledge. The game based learning has motivated the student to increase their learning performance. In this learning system, the student can enhance their knowledge in a particular subject. Moreover, this game based learning has helped to increase social cohesion and social interaction. This technology based learning system is now used in most of the countries in the world. In this regard, most of the countries have increased their revenue through this game based learning system.

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Role of Educational Psychology in the Study of Memory, Conceptual Processes, and Individual Differences (Via Cognitive Psychology) in Conceptualizing new Strategies for Learning Processes in Humans

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ABSTRACT

The study sheds light on the concept of educational psychology and its impact on the learning processes. The purpose of this particular research study is to analyze the importance of educational psychology for the learning processes. The researcher has adopted secondary methods for collecting data about the topic. Along with that, the researcher has adopted qualitative methods for analyzing all the data in the study. Thereafter the concept of the learning process and its impact on humans is analyzed in this particular research study. Along with that, the concept of educational psychology and its importance in the learning process for humans is also analyzed properly in this particular research study.

Keywords : *Cognitive, education, human, impact, learning process, psychology.*

INTRODUCTION

Learning processes are used to gain knowledge and learn new skills for life. Therefore, there are several types of processes that help people to learn new skills, gain knowledge, new understandings, behavior, attitudes, values, and others. Apart from that, educational psychology is based on human learning and the process of learning that is appropriate for people. The purpose of this particular research study is to analyze the important role of educational psychology in conceptualizing new and accurate strategies for the learning process for humans.

On the other hand, the research has used several types of methods and techniques to analyze the concept of this particular research study. Therefore, the researcher has used secondary sources for collecting data about educational psychology and its importance in the learning process. In addition to that, the researcher has used qualitative techniques to analyze all the collected data about the research topic.

Concept of the Learning Process

Learning is a process that has some steps to support gaining knowledge and understanding new skills. Therefore, learning processes help people to develop their skills and learn new skills for their lives. There are 4 stages of the learning process such as unconscious incompetence then conscious incompetence thereafter conscious competence and then unconscious competence [1]. These stages are very important to gain knowledge about something by using the learning process. Furthermore, there are three major types of the learning process and the three learning processes have their different types of effectiveness. Categories of learning processes for humans are cognitive learning, affective learning and the last one is psychomotor learning.

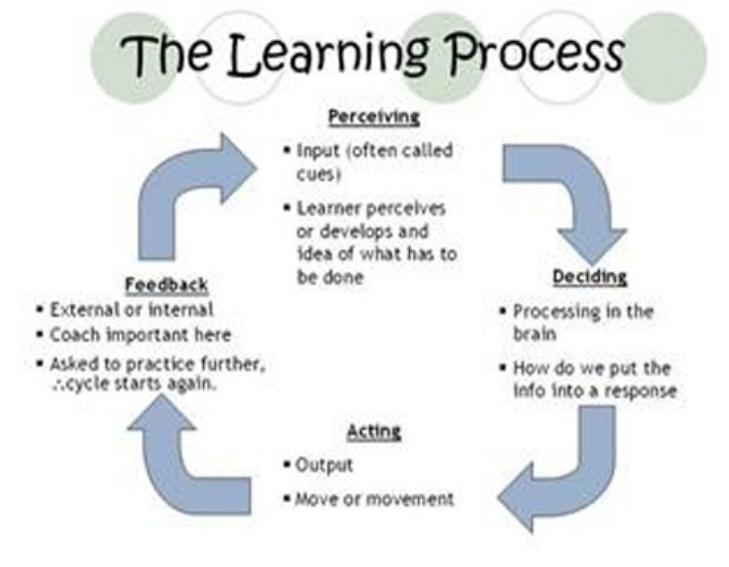


Figure 1: Learning process
(Source: [1])

On the other hand, there are some important components of a learning process and those components are very important to learn something new. Therefore, the components of the learning process are memory attention, thinking skills, language, organizing skills, writing skills, and others. These components help humans to interact with each other as well as helps to interact with the climate of the classroom, emotions, social skills, family, teachers, and behavior [2]. Apart from that, there are a lot of beneficial sites for using learning processes in educational sectors. First of all, the use of the learning process helps to improve the communication skills and critical thinking skills of the people. Along with that learning process helps to increase engagement with each other in a classroom.

Concept of educational psychology

Educational psychology supports the scientific study of humans and learning something new. The goals or purpose of educational psychology predicting understanding and controlling the behavior of humans in learning situations. Thereafter the concept of educational psychology is based on how people learn by using several teaching methods, different learning processes, and instructional processes [3]. Therefore, educational psychology impacts the learning of humans as well as it impacts the learning processes that humans adopt to learn. Thus, the impacts of educational psychology on the learning processes of humans are analyzed in this particular research study properly.



Figure 2: Educational psychology
(Source: [3])

METHODS AND TECHNIQUES

There are several types of methods and techniques that are used to create a reliable and readable and objective research study. Therefore, the usage of proper and accurate research methods in a research study is very important. Apart from that, choosing the appropriate method for the specific research study is more important [4]. Thus, the researcher has used a particular method for collecting data and a particular method for analyzing all the data in this research study. There are mainly two types of methods for gathering data such as primary methods and secondary methods [5]. The sources of these two methods are effective and efficient to collect appropriate data about the research topic. Thereafter the sources of primary methods are based on real-life experiences and activities.



Figure 3: Methods for gathering data
(Source: Self-made)

Apart from that, the sources of the second method are based on the sources of the primary method. Furthermore, the researcher has adopted the secondary methods for this particular research study and used several sources to collect proper data about the research topic. The sources of secondary methods are magazines, books, journals, articles, newspapers, public records, government records, and other information that are published by someone [6]. The researcher has selected some journals that are based on the concept of educational psychology and its impact on the learning process. Moreover, the research has said some guidelines for selecting the journals and the criteria are,

Inclusion Criteria

The journals must be based on the concept of educational psychology and the learning process of

humans. Apart from that, all the journals must be published from 2017 to 2021.

Exclusion Criteria

The exclusion criteria were that the journals must not be the doctoral dissertations. Along with that, the selected journals must be reliable and objective.

On the other hand, the research has used a specific technique for analyzing all the data. There are two types of techniques to analyze data such as a quantitative technique and qualitative technique. Both the techniques are effective and efficient to analyse data in a proper way in the research studies. Therefore, the researcher has used the qualitative technique to analyze all the data that are collected by using secondary methods [7]. The qualitative technique is efficient and effective to analyse the data in a thematic way which makes the research study more readable. Thus, it can be said that the selected methods by the researcher are appropriate for this particular research study.

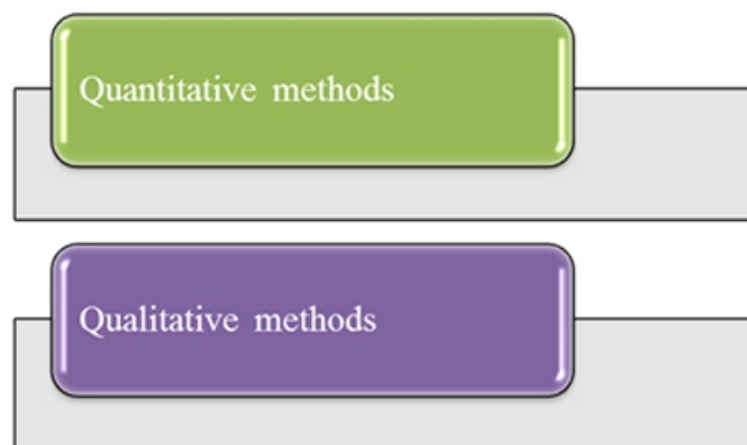


Figure 4: Techniques for analysing data
(Source: Self-made)

ANALYSIS AND DISCUSSION

Thematic analysis

Theme 1: Role of educational psychology within the learning process

Educational psychology plays the most important role in the learning process. Human psychology has impacted the learning process significantly. Educational psychology is the most significant part of psychology that mainly deals with human memory. In this human psychology, cognitive psychology is the most effective branch that helps to understand individual differences, human intelligence, motivation, self-regulation, affect personality, and self-concept. These aspects have helped to enhance human learning activities [8]. In educational psychology, educational activities, instructional design, classroom management, and assessment have helped to serve effective psychological facilities to the student. The main aim of educational psychology revolves around ways in how an individual learns and can retain vital information in the long run.

In the education process, several disciplines give psychological facilities to the student. Therefore, sometimes critical learning disciplines have created obstacles in educational psychology. Educational psychology is based on cognitive science and learning science. In the learning process, this scientific aspect has analyzed student mental ability and capability to enhance human learning [9]. The main focus of educational psychology is the study of human memory, analyze individual differences and learning

progress. In the present time, many schools have adopted the concept of intelligence text to provide specific educational facilities to the student. In this regard, daily classroom activities, educational technology, curriculum development, and special education have helped to improve educational psychology and progress human learning.

Theme 2: Conceptualisation of strategies in educational psychology, conceptual processes, and individual differences

In the education process, psychological improvement can make the human learning system more progressive. The mental ability has determined the learning enhancement for that reason, the education psychological analysis has increased learning development. Along with that, in recent times, new strategies of educational psychology have improved human learning progress effectively. In the present time, the education sector has taken the most effective strategies that help to understand student learning capabilities such as intelligence testing provide special education, improve regular classroom curriculum and technological practices [10]. These psychological strategies have helped to improve the learning enhancement of the student. In educational psychology, teachers are played the most significant role to develop the intelligence of the people. In this regard, the language and speech of the teacher have motivated the student and it also affected people's psychology positively [8]. The conceptual process of psychology, the effective motivational speech of teachers can improve the learning activity of the people. In the other words, the understandable language of the teacher has created a friendly environment in the educational process that impacts human psychology significantly. In the present time, the educational process has adopted psychological counselors to understand human mental ability and difficulties. In this approach, the counselor had tried to understand the student's mental situation through a question-answer session to understand the individual differences of the students [10]. Moreover, the psychological classroom setting is one of the most important aspects that help to progress human learning ability. Regular classroom activity has affected human psychology significantly. Along with that, regular classrooms have changed the traditional learning process and implemented technological curriculum to develop students' psychological ability in the learning system.

Theme 3: Analysis of learning process within humans (after implementation of new strategies)

Educational psychology is the new part of learning that helps to grow the educational field more. In the learning system, educational psychology has come up from individual differences, problem-solving, assessment, development, and transfer of learning [11]. This psychological learning has helped to understand human cognition, learning, and perception. In educational psychology, counsellors have played the most effective role to improve human psychological ability. In the past decades, the educational system has faced difficulties due to the shortage of psychologists in schools [12]. In this regard, in the present time, many schools have recruited psychologists to understand individual student intelligence and improve educational psychology. In educational psychology, the relationship between teachers and students is the most effective factor. In the learning system, the good relationship between student and teacher has made a positive impact on educational psychology.

In the study of memory in the learning process, new strategies have improved the student's learning success. In the education system, student psychological analysis has helped to improve human learning ability [11]. In the past decades, the education process has faced issues for lack of a psychologist and memory counsellor of the student. In this regard, at present time most of the education sector has adopted psychologists and memory counsellors to understand the student's psychological ability.

Table 1: Distribution of school psychologist

Characteristics	Albania	Cyprus	Estonia	Greece	North England
Ratio of psychologists to school children	1:580	1:9050	1:690	1:2578	1:5000
Percentage of receiving supervision as a school psychologist	80%	55%	14%	37%	66%
National school psychologist association (%)	100	0	66	14	44

(Source: [11])

In the present time, many schools have adopted psychologists to improve student mental capabilities. The most significant five countries are Albania, Cyprus, Estonia, Greece, and North England [11]. In Albania, 80% of schools have adopted the psychologist to increase student mental ability and improve human learning. Moreover, Cyprus has taken psychologists in schools 55%. In the other words, 14% of schools in Estonia, 37% schools in Greece, and 66% schools in North England [12]. This percentage has represented that the education sector has progressed human learning through educational psychology.

CONCLUSION

After all these discussions, it can be concluded that mental study has progressed human learning. Educational psychology is the branch of a new educational field that can change the learning system effectively. In the past decades, the educational system has faced difficulties due to a lack of psychologists. In this regard, in the present time, the learning process has adopted some new strategies such as effective regular classroom activity, technological curriculum, intelligence text, and others. Moreover, the educational system has adopted psychologists to improve human learning.

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Opportunities Provided by Technology-Mediated Learning in Creating an Environment in which the Learner's Interactions with Learning Materials, Peers

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ABSTRACT

This paper will represent many types of viewpoints and opinions about the opportunities of technology-mediated learning methods. This paper also highlights learning methods through materials and peers such as outcomes, current situations, needful techniques and many more other steps. On the other hand, the issues and its prevention plans will also be mentioned under this paper through a logical manner. However, the current situation of these learning subjects also needs to be noticed as this paper highlights the current process of this study's learning methods in a proper manner.

Keywords : *Attractive environmental conduction needs, learning interactions, Technology-mediated learning,*

INTRODUCTION

There is a lot of effort put into creating technology-mediated learning environments, but it does not always work to improve environments. Moreover, technological potential and benefits are underutilized. When it comes to designing technology-mediated learning environments, this article investigates how modern pedagogical concepts may inform and drive the design process. According to the article, it is important to create learning environments that are built around meaningful and relevant activities and assignments that are actively supported by the instructor. A framework for designing online learning environments that encourage knowledge creation is presented and described in this study. On the other hand, it includes three important strategies such as the selection of learning tasks, the selection of learning supports, and the selection of learning supports.

Rationale

Table 1: Positive and negative impacts of technology-mediated learning

Positive impacts	Negative impacts
● Learning outcomes of environmental care includes many different kinds of effective steps such as civil care plans, peers and other types of learning materials.	● As per the words of [5]. (2020), it is now widely accepted that a strategic environmental assessment (SEA) is the most effective way to integrate sustainable practices in policy and programmer creation. It

<ul style="list-style-type: none"> ● As the global internet usage rate is enhanced day by day, technology-mediated learning will achieve many different types of facilities such as attendance, civil care policies and many other things. ● As per the words of [8]. (2018), the digital revolution has had a profound impact on daily life, as proved by the pervasiveness of smartphones and the streamlined integration of technology into common tasks such as shopping, reading, and navigating. The use of computer systems, portable devices, and the Internet is at an all-time high. 	<p>is used at one or more of these levels in many nations across the world.</p> <ul style="list-style-type: none"> ● However, its growth and execution are dependent on elements such as decision-making culture, politics, and circumstance.
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(Source: [5], 2020)

According to the current global situations of environmental strategies, when Chile adopted a more strategic approach to environmental impact assessment (EIA) in 2010, it was to include sustainability objectives into the creation of policies and programmers (SEA). When it came to this new procedure, the Ministry produced a of recommendations outlining the emphasis and technique for an effective application, which can be seen on their website.

These principles have been extensively used as a reference for preparing environmental reports by a variety of stakeholders.

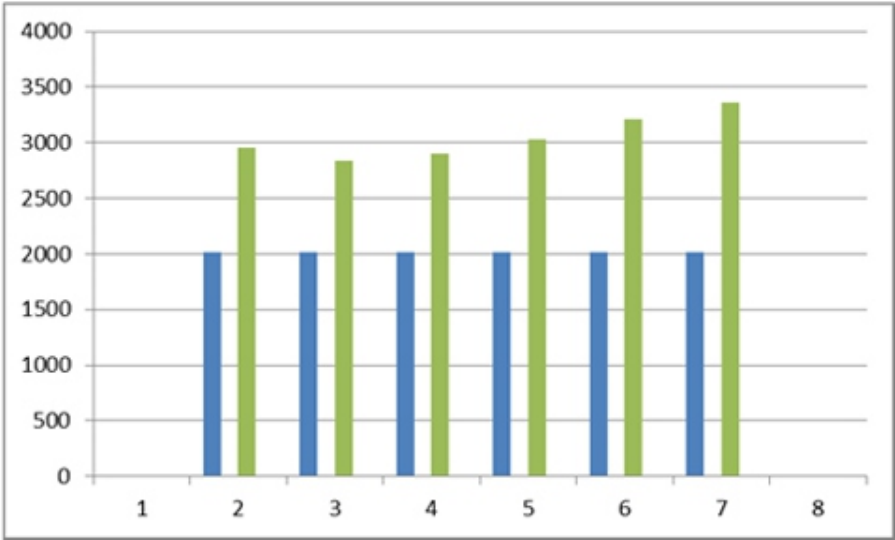


Figure 1: Global technology market spending from 2014 to 2019
(Source: Self-made)

The graph defines with huge results to global technology from 2014 to 2019. On the other hand, the global technology spending is expected to reach \$3,212 billion USD in 2018. Moreover, Telecom services, technology outsourcing and hardware elements, tech support and systems engineering services, software, communication devices, and computer equipment are all part of the global technology market. According to the learning and skill and advancement becoming more dire need among experts, several technology-enabled learning steps and tools have engaged in a logical manner. On the other hand, Massive open online courses, or MOOCs, provide many different types of benefits and facilities such as flexible, comfortable.

Concept of Technology-Mediated Learning

As the name suggests, technology-mediated educational environments are those where computer-based runtime environments, mobile computing devices such as smartphones or tablets, web-based platforms, online or length learning programmers. On the other hand, many studies on out of school learning have shown that there are a wide variety of situations and resources that help us improve understanding and become active participants. As per the words of [6]. (2017), study on technology-enhanced learning is frequently criticized for being under-theorized, such as the research on the use of internet technologies in formal learning environments.

According to technology learning, this study combines previously studied areas of research and theory to provide an integrated analysis and research. Premises are introduced first, followed by a discussion of major areas of research and theory pertaining to technology-mediated learning. To understand learning in situations where technology influences learning, these domains are compared and contrasted with one other. Implications for future technology-mediated learning research are explored, as well as their scope and circumstances. In order to understand learning in situations where technology influences learning, these domains are compared and contrasted with one other.

However, implications for future technology-mediated learning research are explored, as well as their scope and circumstances. Working professionals and businesses agree on the need to constantly re-skill and up skill, yet the limitations of distance, time, and outmoded learning methods make any learning attempt difficult. Therefore blended learning has become a realistic and popular alternative for working professionals.

Impacts of Technology-Mediated Learning in Creating an Attractive Environment

Underdeveloped nations have acknowledged the value of higher education in gaining wealth and developing human resources. For students in higher education to be successful, they need a flexible atmosphere where they may interact and work with their peers on a variety of activities and projects. As per the suggestions of [1]. (2021), higher education is widespread in western nations, and anybody, regardless of their gender or sexual orientation can meet, speak, or cooperate at anytime and anywhere they want. Depending on a society's social and cultural norms, there may be distinct regulations for men and women. Usually, women in a culture are subject to a distinct set of regulations than their male counterparts in the same community. However, if these regulations are enforced, girls may have less opportunity to study.

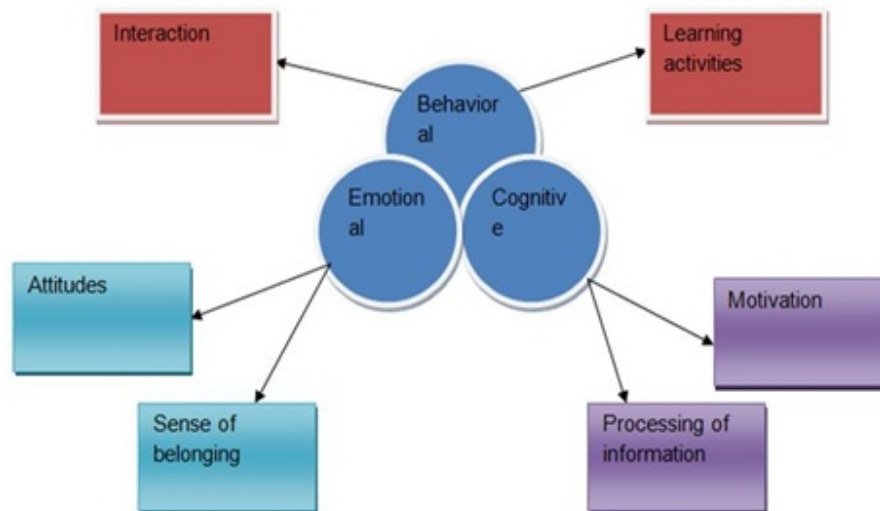


Figure 2: Type of engagement
(Source: Self-developed)

On the other hand, a hybrid teaching method is used in this research to tackle the question of how technology may transcend these constraints without breaking and modifying any existing social standards. As argued by [4] (2019), using a wide range of Internet-based technologies, students and teachers may interact, collaborate, and exchange materials in a technology-mediated learning environment. These tools enable anytime, anywhere opportunities for learners. For example, Blackboard, and internet Learning Management System (LMS) with discussion forums and assessment tools, as well as email and conference connectivity, have been utilized to conduct proper and strong environmental care strategies.

METHODOLOGY

In order to represent proper and suitable research methods and techniques, researchers must adopt many kinds of methods such as researcher philosophy, research approach, research design and data collection method. As per the words of [3]. (2019), there are a total of two types of research philosophy is pretend such as positivism and realism. In order to select a suitable method for this study, researchers adopt positivism research philosophy as it helps to make proper understandings about technology-mediated learning. Moreover, proper adoption of the research approach is one of the most important objectives of the researcher as it supports making ethical specifications about the study through a logical manner. On the other hand, there are a total of two types of research philosophy presented such as inductive and deductive. In order to conduct this study topic, researchers adopt an inductive research approach as it helps to rectify many different study related questions & answers about technology-mediated learning. As per the words of [7]. (2018), there are a total of three types of research design presented such as exploratory, explanatory and conclusive. In order to select proper and suitable research design, researchers adopt exploratory research design as it supports the research rot to represent conclusive answers and many other problems' rectifications. On the other hand, adoption of a suitable data collection method is one of the most important factors that must be measured by the researcher. As per the words of [12]. (2017), there are a total of two types of data collection method presented such as

as qualitative and quantitative research design. In order to conduct this research study, the researcher adopts both qualitative and quantitative research design as it supports the researcher to represent many different tulips of opinions and drawbacks about the study topic through a logical manner.

FINDINGS

The Current situation of Technology-Mediated Learning Learning that is enhanced by technological means is referred to as technology-mediated learning (TML). Despite its broad definition, TML encompasses any technology that improves the learning experience. In recent years, learners and students have seen that TML is taking over education through the employment of different forms of instructional software, which is referred to as digital TML. As per the suggestions of [9]. (2018), educational institutions are being transformed beyond recognition via TML. Consequently, it's difficult to disregard this fact and examine why TML is crucial for educators. Educators no longer have to rely on the textbooks provided by their universities because of TML. It is possible for students to study in many various ways by utilizing video, audio and interactive learning. Teachers can come up with innovative methods to engage their pupils. Due to various technologies, the learning environment has evolved to be more hands-on and interactive.

As per the words of [5]. (2020), there are numerous reasons why technology-enhanced learning is crucial. It's essential not just because it's the quality of education that's required today, but also because it has the potential to enhance education. An in-depth look into TML's value. Since children learn at their own rate, the typical classroom might make it challenging for them to study at their pace. As a result of technological advancements in education, students are able to learn at their own pace. Others who need more work can spend much more time going through the exercises until they understand, while those who don't require as much help can go on. As a bonus, it frees up the teacher to work with students who require more individual attention

ANALYSIS

Outcomes of Technology-Mediated Learning

Table 2: Learning materials and peers of technology-mediated learning

Learning Materials of online technology-mediated	Learning peers of practical technology-mediated learning
<ul style="list-style-type: none"> ● Globally, colleges immediately halted face-to-face teaching in reaction to COVID-19's imminent expansion and turned to technology-mediated education. ● Students from a variety of fields began to rely on technology to study, communicate, and cooperate for several months. ● According to societal norms, various regulations apply to men and women. Throughout the outcomes of online sessions, it can be stated that women in a culture are subject to a distinct set of regulations than their male counterparts in the same community. 	<ul style="list-style-type: none"> ● Higher education is crucial for gaining prosperity and developing human resources, and underdeveloped nations have understood this fact for a long time. ● As per the suggestions of [8]. (2018), students in higher education to be successful, they need a flexible atmosphere where they may interact and work with their classmates on various assignments. ● Higher education is widespread in western nations, and anybody, regardless of their gender or sexual orientation can meet, speak, or cooperate at anytime and anywhere they want.

(Source: [8]., 2018)

The current study examines whether or not students' learning results are equivalent while using technology to facilitate learning. Individual differences are examined, with an emphasis on gender and learning style as influencing factors. As per the words of [5]. (2020), by using methodologically rigorous designs, numerous learning outcome measures and previously validated measurement scales, researchers carry out two experimental steps. As a comparison to classroom-based face-to-face instruction, learners look at the efficacy of learning, reported ease of understanding, and satisfaction with technology-mediated learning in particular.

CONCLUSION

In order to represent the conclusion it simply can be stated that the exact methods of technology-mediated learning is one of the most difficult things. According to the global educational report, it also can be stated that, after the COVID-19 pandemic, most of the learning elements and subjects have been planned to teach through online classes. In this case, the practical methods and learning of technology-mediated cannot be conducted through online classes.

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Use of Blended Learning for Combining Digital Learning Tools with More Traditional Classroom Face to Face Teaching in Educational System

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ABSTRACT

Research article sheds light on the concept of blended learning in the educational system of India. Therefore, blended learning is a type of learning process which supports the combination of the tools of digital learning and face to face education. The educational system of India is developing by using several components and the uses of digital learning tools for developing educational systems can be noticed. Thereafter different types of digital learning tools such as mobile internet laptop computers are now used by educational institutions as well for developing their traditional education system. Thus, the purpose of this particular research article is to describe the usage of the blended learning process for developing the educational system in India. Mostly the process of traditional education is used in the institutes of India but during the pandemic situation while the education of the students was stopped then the uses of online education increased. Therefore, the use of online educational tools and digital applications for continuing education became important at that time. Furthermore, the use of several digital education tools impacted the productivity of the students positively and because of that the use of digital educational tools in the traditional education system is increasing. Moreover, the researcher has adopted several methods and techniques for gathering data and analysing them in this specific research article. Therefore, the researcher has adopted the secondary method for gathering data through several sources and the qualitative method for analysing all the data in a thematic way. The data and information about the concept of blended learning is analysed in this specific research article properly.

Keywords *Blended learning, combination, educational system, face to face education, traditional learning.*

INTRODUCTION

Blended Learning is a process that supports the combination of online education and traditional education. Therefore, traditional education refers to the learning process that requires face to face interaction between teachers and students. Apart from that online education refers to the learning process that requires some components such as mobile laptop computers and others for learning and it does not require face to face interaction. When the components of online learning are used in face-to-face education then it is called blended learning. Furthermore, the use of blended learning in several educational institutes is increasing day by day in India. There are several beneficial sites of the blended learning approach, and this process impacts the productivity of students largely. The specific research article is based on the concept of blended learning and its impact on the educational system.

On the other hand, the purpose of this research article is to analyse the importance of blended learning in the educational system in India. Apart from that, the increment of using online learning during the pandemic situation and its impact on the educational system of the country is analysed in this research article. Therefore, so many educational institutes are using several components of online learning in

their traditional learning process for modernization. The impact of modernization of the teaching process is analysed in this research article. In addition to that the researcher has used several methods for collecting data and describing them and those methods are also analysed in this research article. At the end of this research article a summarisation of all the findings are analysed.

Modernization of Teaching Process in Educational Institution

Modernization of the teaching process supports the usage of several digital components in the educational system. The use of modern technology in the teaching process is called modernization of the teaching process. The use of modern technology in education has increased during the covid-19 pandemic situation in India and that impacted the productivity of the students positively ([2]. 2020). Therefore, the use of modern technologies in the traditional learning system of India will help to increase the effectiveness and efficiency of the educational system of the country. The educational institutions can use computers, internet, and other components in their traditional learning system to modernize the teaching process.

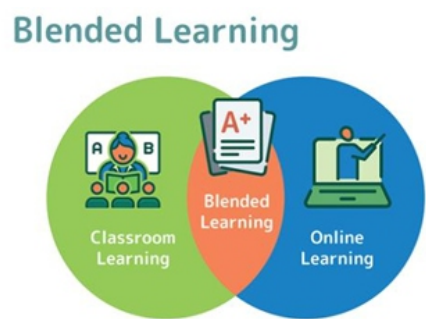


Figure 1: Blended learning process
(Source: [2]. 2020)

Furthermore, the modernization of the teaching process in India will help the teachers to teach the concepts properly and will help the students to understand the concepts appropriately ([9]. 2019). Thus, the Government of India will have to train the teachers to enhance the technological and computer skills so that they can use several digital devices to teach students. Moreover, the modernization of the teaching process in several educational institutions in India will help to enhance the productivity of the students.

Impact of Covid-19 on traditional teaching process

The covid-19 pandemic has impacted the entire educational system of India and along with that it impacted the productivity of the students. The educational system of India is based on the traditional teaching process which requires face to face interactions. During the covid-19 pandemic government has provided some precautions for all the citizens to avoid the mortality rate of the country ([1], 2020). Therefore, social isolation was one of the most important precautions provided in the guideline by the government. In that situation the traditional teaching process of India was impacted as face-to-face interactions were restricted. Furthermore, several types of digital tools have been used by the students for or continuing their education and the uses of digital tools increased. Thereafter the traditional teaching process of India has impacted negatively by the covid-19 pandemic in the year 2019-2020.

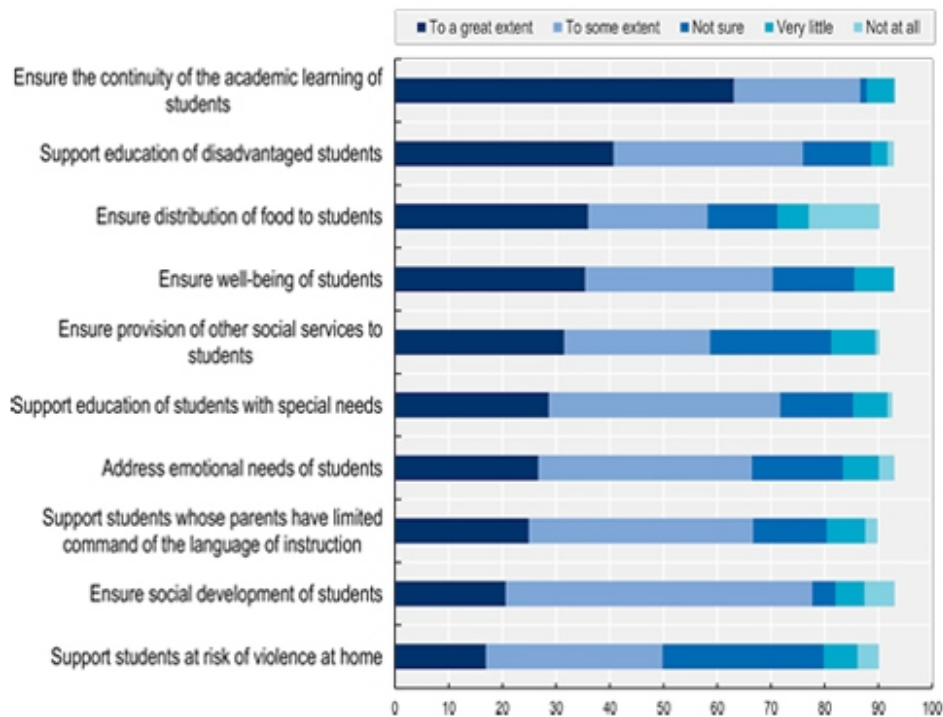


Figure 2: Impact of COVID19 pandemic on education
(Source: [1], 2020)

METHODS AND TECHNIQUES

There are several methods and techniques that can be used in the research articles to gather and analyse the data about the research topics. Therefore, there are different types of data for collecting data and analysing those data in the research articles. Furthermore, there are two types of methods for gathering data such as “secondary methods” and “primary methods”. Both the techniques of gathering data are equally efficient and effective to gather informative and objective data for the research article ([3]. 2018). As the primary methods of collecting data is based on real life activities therefore the researcher has used the secondary methods for this specific research article due to the pandemic. There are some restrictions due to the pandemic that are provided by the government and because of that the researcher has maintained social isolation and used the secondary method.



Figure 3: Methods and techniques
(Source: self-made)

On the other hand, there are several sources of the secondary methods such as books, journals, magazines, articles and other sources that are published by some primary users. Thus, the researcher adopted these sources and gathered possible and important information about the educational system of India and the usage of blended learning process in the educational system in the country. Apart from that, the techniques for analysing data in research articles are qualitative method and quantitative method ([10]. 2020). Furthermore, as the researcher has used the secondary method therefore the researcher has used the qualitative method for analysing all the data in a thematic way. All the collected data about the usage of the blended learning system in the education system of India is analysed below in this research article properly.

RESULT AND DISCUSSION

Theme 1: Impact of digital learning on education system of India

Digital learning is an innovative process to enhance the efficiency of the educational system. Therefore, the process of digital learning impacts the productivity of the students and the entire education system of India. Thereafter the covid-19 pandemic has impacted the education system of India in the year 2019 and 2020 largely. Furthermore, during the situation, the Government of India has declared a certain stoppage of education and that impacted the productivity of students negatively ([8]. 2020). Thereafter the uses of digital platforms became necessary to continue the education system of India. There are some digital applications that provide virtual classrooms for the students and teachers for learning. The process of digital learning requires some tools or components such as the internet, mobile, computer, laptop, and others. Along with that the process of digital learning needed some specific skills such as technological skills, computer skills and others.

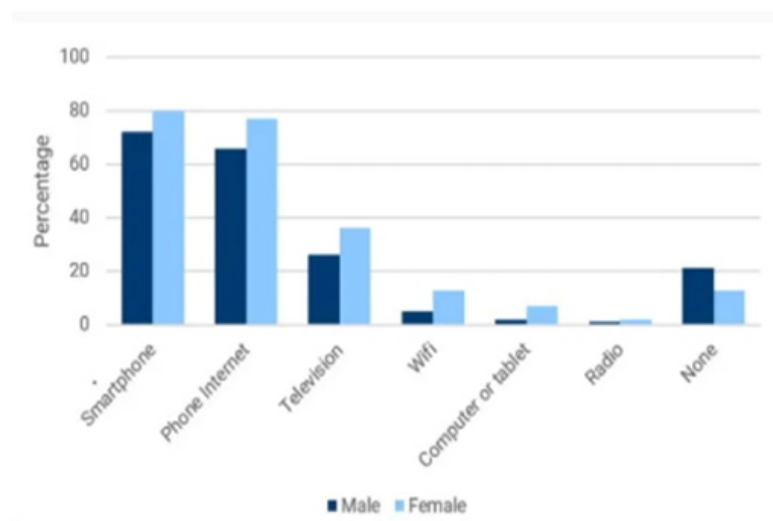


Figure 4: Usage of digital tools for education
(Source: [8]. 2020)

On the other hand, the process of digital learning helps the students to personalize their learning. Students can learn according to their interests by using the platforms of digital learning which help to enhance their attentiveness towards learning. Therefore, more attentiveness towards learning helps to enhance the productivity level of the students. Apart from that there is no time limit in the digital learning process so students can learn whenever they have time and that also helps them to increase their

productivity ([7], 2020). In addition to that the students can learn from anywhere by using the digital platforms of online learning. It is helpful for the students to manage their time for education. The usage of digital learning platforms has increased during the pandemic situation, and it can be said that the process of digital learning impacts the education system of India positively.

Apart from that the process of digital learning impacts the productivity of the students negatively as well. All the teachers do not have proper knowledge of technology and computers and because of that some of the teachers cannot use the components or devices of digital learning. Therefore, those teachers became unable to teach the students properly and that impacted the productivity of the students ([5], 2020).

In addition to that, some of the students that cannot afford the device have a need for digital learning and because of that they cannot use the process for their education. During the pandemic situation while the process of digital learning became the only way for continuing education then the productivity of those students was impacted negatively.

Theme 2: Importance of blended learning process in the educational system of India

The educational system of India has impacted largely during the situation in 2019. Therefore, the use of the digital learning process in the educational system of India to continue the education has also impacted the entire educational system of the country. There is a certain stoppage in education of India still now and that is impacting the productivity of the students. It is important to adopt some strategy to enhance the effectiveness and efficiency of the educational system of India for increasing the productivity level of the students ([4], 2019). The use of a blended learning process in the education system will help the students to enhance their efficiency of understanding concepts. Apart from that the tools of digital learning will help the teachers also to teach the concepts of learning properly to the students.

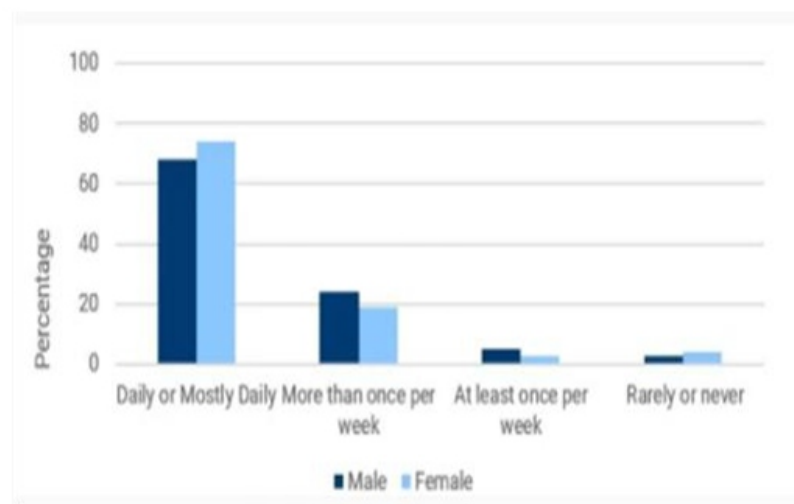


Figure 5: Decrement of attentiveness towards education among students
(Source: [6]. 2019)

On the other hand, the students become inattentive towards education during the stoppage of the educational system in India. Therefore, there should be some components that will help the students to be attentive towards their studies after the pandemic situation. Several digital components such as mobile, laptop, computer and others are not only used for education but also used for several aspects ([6]. 2019). The uses of these components will help to enhance the attentiveness of the students towards

their education in the traditional learning system. Thereafter it can be said that the blender learning process is important for enhancing the productivity level of the students of India after the pandemic.

CONCLUSION

It is identified that the blended learning process is very important for the educational system in India. The combination of traditional teaching processes and digital learning tools is significant to increase the effectiveness and efficiency of the educational system of the country. The certain stoppage of education during the pandemic situation has impacted the productivity of the students negatively and also impacted the educational system. Therefore, the uses of blended learning processes will be appropriate to increase the productivity of the students and growth of the educational system of India.

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