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Smart Academic and Professional Education

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Abstract: The evolution of technology brings closer the endless possibilities of education, allowing a human to learn something new anywhere and anytime. With the crisis created by the pandemic situation for the last two years, new ways of education have taken form to maintain the flow of learning and qualification; thus, the term "distance learning" has been implemented in all types of learning, from primary education all the way to tertiary education. This paper covers the image of tertiary education, mostly at the level of universities. Many changes took form at this level, such as developing new ways for the distance learning implementation by creating new programs dedicated for this new method of education. We will present to you how these changes took form and how they can evolve with the help of various technologies such as Blockchain and XR, and other strategic learning methods such as Massive Open Online Courses (MOOCs) and gamification. Universities start to create new programs based on their unique crypto coin, which help students pay for their studies, such as articles, new disciplines, and exchange programs. The gamification of these programs raises the interactivity that students have during class hours, thus motivating them and creating an optimal curve of learning, combined with the implementation of XR technology.

Keywords: blockchain; cryptocurrency; education; MOOCs; gamification; tertiary education

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1. Introduction

In order to better understand the subject of this article, we must understand the basics of the subject: blockchain, MOOC, gamification, distance learning, and how these combine to create new ways for large-scale educational development. To bring these parts together, universities must develop new technologies, such as creating dedicated cryptocurrencies and platforms where students can observe their development, register for new courses, and have complete control and security of their data. The aim of this paper is to bring all these pieces together and create the image of a new way of academic education.

Blockchain is the underlying technology that is utilised to produce cryptocurrencies; Satoshi Nakamoto introduced it in 2008 by keeping an immutable distributed ledger across thousands of nodes, and this disruptive technology has had a considerable influence on institutional functions, commercial operations, and education. Blockchain has converted the existing Internet from the "Internet of information sharing" to an "Internet of value exchange". Because of the immutability, transparency, and integrity of all transactions completed in the blockchain network, this novel technology offers a wide range of possible applications, and one of them will be discussed further herein. One of the foremost vital aspects of blockchain technology is the number of nodes within the distributed blockchain network maintain accord. One such example is the Bitcoin blockchain network, which

employs a hash-based Proof of Work (PoW) distributed consensus algorithm technology, which can also be used to enhance the security of academic data (e.g., student and teacher personal information, essays, etc.) and limits the bureaucracy required to submit, collect, or verify documents [1].

For the field of education, distance learning and its link with developing computing technologies hold a lot of promise; in practice, however, this combination frequently fails to deliver the desired results. Some flaws are caused by technical faults, while others are caused by the administration, instructional techniques, or pupils. Distance learning has been around for over a century, despite the fact that it is a relatively new phrase, and the word can be applied to a variety of instructional scenarios. Correspondence courses, which began in Europe, were one of the first kinds of distant learning; until the mid-century, when radio and television instruction became more prominent, this was the most popular mode of remote learning. The definition of distance learning evolves in tandem with technological advancements. Video lectures have become the norm in college and professional courses over the last two decades. Mail-in tapes and lessons have been used in correspondence courses to teach subjects such as foreign languages for a long time. Distance learning has taken a new turn thanks to the internet and compressed video; remote teaching can be done in real-time, and real-time video teaching is the most popular and fastest-growing mode of instruction [2].

Massive Open Online Courses (MOOCs) have the advantage of being open to anyone and accommodating an unlimited number of students. The fact that 220 million learners in 190 countries use MOOCs confirms their convenience and usability in Digital Languages. The success of MOOCs is largely determined by participant interaction, which is facilitated by discussion boards; they are totally educational online courses by definition, as they are both accessible and scalable, allowing anyone to take them, and were initially provided by the University of Manitoba in 2008 for information sharing. In addition, the emphasis on social engagement has been extended to small face-to-face groups, suggesting that MOOCs have a better impact on graduation [3].

Gamification is the application of game thinking, techniques, and components outside of games to improve motivation and learning in both formal and casual contexts. Gamification, which is thought to make learning more motivating and engaging, has become a buzzword in recent years in all fields of education and training. It is being utilised to increase things such as learning, staff performance, customer engagement, and even crowdsourcing. Gamification is also on the rise in education, as it is believed to support and motivate students, leading to better learning processes and outcomes. Before the validity (or the opposite) of this belief can be established, a better understanding of gamification in education is required, which essentially involves the "introduction of game elements into the design of learning processes" [4].

2. Further Implementation of Blockchain in Education

The aforementioned summarises the essence of blockchain well: data records that have become part of a blockchain and are maintained on a decentralised network so they cannot be modified. The distributed data will be cryptographically safe, since blockchain is peer-to-peer. It is essentially impossible for all records to change or even harm records on all network objects, since all existing records are controlled by a set of nodes that cannot be held by a single entity. Because all transactions made by a block are linked to one another, the blockchain and its volunteers can employ cryptographic proof to confirm and sign them. The first stage in forming a node is to create a block that contains several transactions. For verification, about half of the nodes in the network will check the block. Verified blocks will be added to the chain when all systems have archived them, not just to provide a unique historical record, but also to record proof of corruption [5,6].

Blockchain technology consists of six main characteristics:

1. Decentralised: A blockchain is a public ledger that consists of nodes that are all linked together in a network. Decentralisation, not political power, is what gives the

blockchain its power; this decentralisation refers to the process of storing, conserving, verifying, and sending data in the blockchain, based on the distribution framework's structure [7,8].

2. Currency: Bitcoin is the world's first digital currency in the present period of change, out of all existing cryptocurrency ideas. Part of the cryptocurrency property is blockchain technology, which is a virtual or digital currency that ensures end-to-end transactions are safeguarded and trusted. Different development algorithms were utilised to create these currencies. As a result, the integrated cryptocurrency and blockchain product may be utilised in a variety of fields, including finance and accounting [1,7].
3. Traceability: All transaction data on the blockchain will be grouped by indexing the data sequentially, and a cryptographic hash will be used to link two adjacent blocks. All current blockchains will be analysed through a cloud-based portal, and a reward will be given when the mining pool has kept the blockchain up to date [1,7,9].
4. Consensus Mechanism: In the case where the network is between multiagent frameworks or distributed processes, the consensus mechanism is utilised in the blockchain and PC framework to establish agreement on a single data point; this feature is quite useful throughout the recording process, and is a mechanism that contains numerous operations, including DPOS, POW, and POS [7,10].
5. Smart Contract: A smart contract is a blockchain system that allows developers to write financial agreements on the blockchain, which are then triggered by all parties involved. This contract greatly improves the quality and security of transactions while also lowering the external expenses associated with traditional transactions; indeed, the smart contract was created to safeguard transactions that take place on the blockchain, and it was initially designed by Nick Zabo in the mid-1990s [11].
6. Immutability: It means that once data hashave been entered, itthey cannot be modified. Existing data isare likewise impossible to change because it isthey are under the control of all parties involved. If you want to do harm (make modifications that are invalid), you must alter the records recorded in the system by more than 51% [12].

2.1. Educational Advantages of Blockchain Technology

Blockchain technology is a fascinating new area of research and development that has the potential to completely change the education business. The benefits of blockchain innovation in instruction extend from information administration to information confirmation without jeopardizing the keenness of the data. Information on the blockchain is open and unquestionable around the clock, seven days a week, with total openness [13]. Blockchain innovation is broadly utilised within the issue and confirmation of education-al accreditations, such as degrees and transcripts, as well as students' gifts, accomplishments, and proficient competences, which can be confirmed by bosses all over the world. The method of certification has been rearranged much obliged to blockchain innovation, and bosses will spend less time confirming scholarly discoveries. It helps the instruction industry by advertising a secure stage for sharing understudy information, expanding certainty, bringing down costs, and expanding straightforwardness [14].

2.2. Blockchain Technology's Potential Use in Several Aspects of a Learning Institution

Blockchain technology is extremely beneficial in terms of secure data storage, sharing, and networking. Many operations can be made faster, simpler, and safer with distributed ledger technology, as presented in Figure 1. The technology may be used to improve the admissions process, examine extracurricular activity participation records, develop alumni networks at schools and colleges, and administer library and information services; it can also be used to provide transportation for students and employees. Through the protection of intellectual property rights, the technology may also aid instructors and researchers at school.

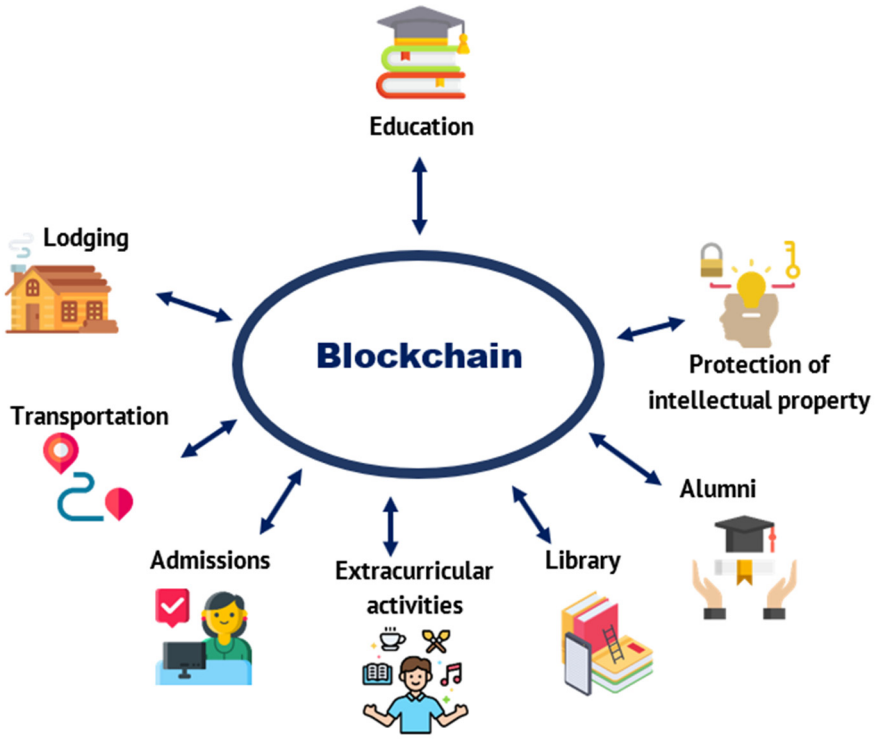

Figure 1. The potentials of Blockchain technology for learning institutions.

2.2.1. Information and Library Services

The library is one of the most important functions of any educational institution. Previously, either manual record-keeping or bar-code technology was used to distribute books to students. Distributed ledger technology can now be used to store and track all relevant data, such as book movement and the number of students using a particular book. The various operations in the library at schools, colleges, and universities can be well organised and handled using blockchain.

2.2.2. Extracurricular Activities Participation

In addition to their studies, students participate in a variety of extracurricular activities at school, college, and institutions. The certificate of achievement, which demonstrates a student's participation and contribution to an academic institute, can be kept and shared as needed with appropriate parties. Due to the complete proof system of the peer-to-peer network, the communication network between the various stakeholders of the educational institution will be improved.

2.2.3. Admissions

Most educational institutions employ a strategy in which they maintain control over their students' records and credentials. As a result, data may be tampered with, corrupted, or lost. Information can be shared in a secure way to interested parties utilising dispersed record innovation working on a decentralised network; moreover, it may be useful to ensure protection against being a victim of identity theft, and this would empower understudies to memorise in a versatile way, since they will be able to easily total the affirmation prerequisites of numerous colleges around the world.

2.2.4. Transportation and Lodging Options

Students and employees are usually provided transportation by academic institutions. Ridesharing apps that employ blockchain technology to organise carpools can be used to provide such services to students and staff with special needs, something desperately needed as a result of rising traffic and congestion in urban areas; this type of school effort

will ensure that students have a safe and comfortable trip while also easing the burdens of parents. Furthermore, the method can be used to assign hostel space to students in need.

2.2.5. Collaboration between Alumni

The system strengthens the relationship between teachers, staff, seniors, and junior students by greatly enhancing communication-related to lectures, subjects, and events, in addition to providing a platform for transparent record-keeping. A robust chain of blocks can be used to enhance all types of student learning and essential contact with pupils; this encourages students and faculty to form strong long-term bonds.

2.2.6. Protection of Intellectual Property

In addition to teaching, a university lecturer or professor must conduct research. It is impossible to tell whether similar academic research is being done in the traditional system. Additionally, research is not always devoid of plagiarism. The usage of blockchain technology aids in the resolution of these issues. Without placing constraints on source material, decentralised peer-to-peer technology can allow schools to distribute work publicly while tracking reuse. In the academic system, smart contracts can also track author citation details and provide research incentives.

2.3. Limitations and Roadblocks toward Blockchain Technology Adoption in Education

The Blockchain for Education platform is currently in prototype mode, but it can be enhanced and improved in a variety of ways. First and foremost, the identification scheme is strictly hierarchical, with the certification authority serving as a powerful root node. The entire system can be harmed if the certificate authority's private key is compromised or lost.

Educational institutions have vast volumes of student data to manage, and they must keep track of each and every part of students' data; indeed, they continue to progress from semester to semester, and their grades continue to rise. The student's information is kept on the blockchain network, which will result in a larger block size and increased transaction latency. Blockchain networks keep records in each block, which makes retrieving records based on the number of transactions per second repetitious and slow, producing scalability concerns. Infrastructure costs, the cost of handling huge data, the time cost of sluggish transactions, and the cost of processing power all contribute to the high cost of adopting blockchain technology [15,16].

Blockchain costs more every time a new feature is implemented. Due to regular updates and the installation of new features, data leakage might become a security risk. Some believe that, even if it provides privacy and security, malicious assaults and data breaches pose a threat to educational institutions, making it impossible for them to trust blockchain technology. Some educational institutions are hesitant to put all of their data on the blockchain network because they are unable to control the sort of data and services that are made available through the blockchain network. Most institutions already have regular procedures in place for administering educational activities, and blockchain technology necessitates significant adjustments to such procedures [17,18]. All student and educational data are integrated into the blockchain ledger through the blockchain system. It is difficult for educational institutions to deploy new information storage systems or amend faulty data because of the immutability feature [19,20]. Blockchain technology is still in its infancy, with issues such as limited availability and complicated settings. Because the data and value of each public key are publicly visible [21], it does not guarantee transaction privacy. Due to complex settings, challenging language, and a lack of technical skills, it is difficult for education stakeholders to comprehend [22].

3. Flexibility of Education

One of the major promises of distant learning is the convenience of time and space. Students do not need to be physically present with their advisors, and depending on

the technique, they may not even be required to be present on time. For non-traditional students who may not always be on time for class, this is a huge advantage. Practitioners and researchers have yet to agree on standard definitions and nomenclature for learning technologies and related domains, despite recent improvements [23]. As a result, making significant cross-study comparisons based on previous research findings is a difficulty for academia. As a result, the findings of research into distant learning, e-learning, and online learning environments have been varied. Furthermore, given the absence of exact meanings, terms are frequently used interchangeably. We began by reviewing the literature to discover how these learning environments were described.

When referring to distance learning, the term "distance education" is most commonly used. It is often defined as an effort to provide learning opportunities to people who are geographically distant. Various authors and researchers have characterised remote education and distance learning differently during the last two decades, according to the literature. A proposed definition of computer participation in education includes the distribution of educational materials via print and electronic media [24]. Instruction is delivered by a teacher who is physically separated from the student and who may provide instruction at different times; Dede expands on this notion by comparing standard teaching methods and referring to this type of instruction as "lecturative teaching" [25]. Distance education, according to the definition, makes advantage of developing media and related experiences to create distributed learning opportunities. Both definitions acknowledge the apparent shift in the field and attribute it to the new technology available. Furthermore; furthermore, Keegan considers "the term distance education to be an umbrella term, meaning that the names correspondence education or correspondence learning were formerly used interchangeably and were recognised as a potential predecessor to distance education" [26].

Learning appears to be the focus of all types of education as new technologies evolve, and the term distance learning is used to stress limits associated to "distance", i.e., time and place [27,28]. The terms [29] have now been expanded to include online learning, e-learning, technology, mediated learning, online collaborative learning, virtual learning, web-based learning, and other methods of learning. As a result, the common denominator in all definitions is that some sort of education takes place between two parties (learner and teacher), occurs at different times and/or places, and employs various types of instructional resources [30].

When compared to traditional classroom training, e-learning offers numerous advantages, the most obvious of which are flexibility and cost reductions (travel and unemployment). There are also some benefits that may not be immediately apparent, such as:

- Students do not have to travel to attend classes: classes take place at your regular time of day or night, which is very convenient for many students;
- E-Learning allows the learner to control how they learn and how they prefer to learn. Because everyone learns in their own way;
- E-learning is beneficial to businesses because it saves learners or employees time and money by allowing them to learn on the job. It also improves their performance and helps the organization become more active;
- It is a self-paced course;
- Students will have a more accessible experience through e-learning as they learn from content and interact with others in online communities and networks. E-learning can facilitate "reflective and discussion learning" in this way;
- It operates anywhere and at any time because it gives constant information;
- It can be easily and rapidly updated;
- It can be readily handled for large groups of students—for example, health and safety information can be maintained up to date by upgrading the intranet site;
- Employees can complete the training whenever they choose and divide it into pieces as needed (eliminate inattention problems).

3.1. The Flexible Education Infrastructure's Foundation

The need for a robust and scalable system to help handle courses, resources, evaluations, and more was recognised in early 1995. As Auckland University's Business Online department could not find any information at the time on any tools that might be used for this purpose, the Computer Supported Learning System (CECIL) (Figure 2) was developed in late 1995 and released in March the following year; since then, more products such as Blackboard and WebCT have entered the market. Because of their minimal underlying data structures, these items were deemed unacceptable and rejected in comparison to the CECIL system's 200 tables and 1000+ characteristics; it is a system that combines teaching, assessment, and class management into a single platform. CECIL supports approximately 835 courses (almost a quarter of the University's offerings); this system is becoming increasingly widely adopted and used. CECIL contains all of the university's admissions information and can be used by any course. With over 3 million weekly visits, the site is one of the busiest in New Zealand. The Technical Support Center at the University is in charge of the operation.

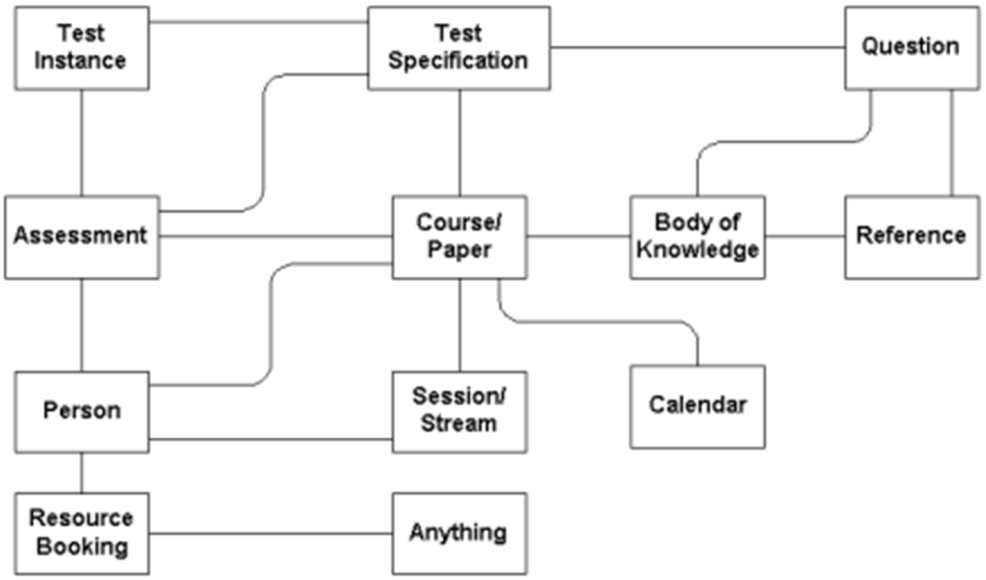

Figure 2. CECIL's data model.

CECIL includes a number of characteristics that make it suitable for use in both academic and professional settings; it promotes the internet by allowing users to use popular browsers on a variety of platforms to access the online, and deploys industrial-grade database and server software on ordinary hardware to deliver a dependable, responsive, and adaptable work environment. Every transaction is tracked and logged in a timely manner on the system. Clients should be provided pages in less than a second, according to design specifications. Because the safety subsystem is extensible, it can adapt to changing industry norms; it is possible to use secure connections, encryption, and biometric sensing devices.

The user system interface is one of CECIL's most important features. The student and teacher interfaces are separated into two sections. All registered courses, gradebook (latest markup), course materials, timetables, online exams with quick feedback, and communication systems are all accessible via the student interface (announcements, discussion groups, web conferences).

Access to pertinent student data, evaluations, photographs, and communication systems is available through the instructor's interface. There are tools in the writing interface for producing references, test projects, diagnostic feedback, course material, and other course activities. With minimal effort, authors may effortlessly integrate large project libraries from textbook publishers and batch load difficulties.

3.2. Perspectives and Strategies for Distance Learning COVID-19

The COVID-19 lockdown, which took place in March in the middle of the school year, forced educators to use a variety of ways to preserve the continuity and content of instructional programs without compromising quality. Lectures, tutorials, and laboratory work were the most common teaching techniques prior to the lockdown, and they all took up roughly the same amount of time. For distant classes, various solutions have been tested. Many classrooms became classes where students worked alone for the first two weeks of the emergency, reading class files (slides, books, etc.) or specific files sent by educators. Another strategy created in the early days of the epidemic was to use slideshow movies that had educational explanations and were complemented by online videos to flesh out certain themes.

All resources are available on Moodle, a free, open-source learning management system, or on paper if students want them; this strategy is increasingly popular with pupils. Students can watch videos many times, which helps them plan their schedule and concentrate for longer lengths of time; this is an opportunity for students to hone their talents, inventiveness, and adaptability. As a result, huge files must be shared using file transfer services or the university's video hosting platform. The advantage of this last option is that video capsules can be embedded directly into teaching web platforms (such as Moodle), avoiding the loss of students who are inevitably drawn to other supports when commercial video platforms (comment sections, other videos, advertisements, etc.) are used [31].

4. MOOCs Implementation in Universities and Publicly

Through diverse professional programs in various training systems, the education system may diverge from the traditional school system. All systems are designed to move data from one person to another or between individuals. Despite the fact that advances in information and communication technology have had a significant impact on the development of alternative knowledge transmission models, traditional teaching methods continue to predominate. ICT primarily facilitates the virtualization and adaptation of the course, as well as improving the participants' understanding through its use; furthermore, online development and communication technology have substantially increased the availability of information in educational model construction while also speeding up, modernising, and facilitating the movement of information [32,33].

4.1. MOOC

MOOCs (Massive Open Online Courses) are a type of distance learning (DL). They shifted from the early deep learning environment as a result of the free-to-use learning resource movement (Open Educational Resources Movement (OER)). Furthermore, MOOCs are an important part of business knowledge transfer and exchange, which is accomplished through DL platforms such as Moodle, Blackboard, Iversity, and Edmodo [34].

MOOCs are founded on the notion that the majority of participants who can engage in online courses should not be limited, and that attendance should be completely free and unlimited across the Internet. MOOCs refer to the use of additional methods, such as interactive blogs, websites, and various other forms of contact via the web and mobile phones, in addition to the traditional types of course instruction that are completely free. The purpose of this platform is to collaborate with the general public in order to convey and spread knowledge to large groups of people who are interested in a specific topic, and it also ensures that all informal information about a topic is made available in tandem with the expansion of formal knowledge. This; this approach is driven by the fact that "peer-to-peer" network communication is possible unless the host's (trainer's) courses can connect with each other, thereby transferring knowledge and information about a specific field.

Following the release of the first MOOCs, a flurry of free online courses with comparable quality arose quickly, reawaken interest in deep learning as a platform.

4.2. cMOOC

cMOOCs are non-profit MOOCs that are built on open knowledge exchange and active engagement of all stakeholders in the production of knowledge in a certain topic (where c refers to the term MOOC connectionism or merger or collaboration). The main feature is that anyone can start the exchange rate; there really is no single moderator or speaker, but all active participants share information in certain areas, allowing them to broaden and enhance their knowledge. MOOCs have an unlimited number of participants, and all forms of literature and materials are free to utilise in the course. Due to the abundance of content available on the internet and the vast amount of very complicated information required to filter all of the data, it may be argued that such a platform is used by a big number of participants. Also, you may deduce from this that MOOC members can "spawn" new MOOC by focusing their interests in other areas in a split second, and MOOC is a topic built on this information. Furthermore; furthermore, because students speak freely within MOOCs, MOOCs discover users with similar interests and challenges, and MOOCs continue to engage with one another after that, allowing MOOCs to continue working on knowledge development and even establish a new MOOC [35,36].

4.3. xMOOC

The first non-free MOOC courses have been available since 2012. We can now see that universities and well-known enterprises, rather than non-profit groups and people, are the course providers. These MOOCs differ from traditional cMOOC platforms in their qualities. To begin with, these MOOCs are built on traditional knowledge transmission platforms and deep learning technologies. A moderator, or a group of moderators, is usually present. Managers and trainers have more influence over how the MOOC is implemented and how tasks are completed inside it in this situation. Participants are only a minor part of the process of developing material to improve knowledge development. Although there is no limit to the number of students, access to course materials is limited to those who have registered as participants. If a student wants a completion certificate, hethey must pay for it, which is generally expensive. These MOOCs are sometimes known as xMOOCs, and this platform has been designed for many well-known universities' courses [37]. This is done in part to broaden knowledge and in part to pique the attention of prospective students at these institutions. MOOCs meeting and speaking with people from varied backgrounds and with various views of the topic may also help to knowledge transfer and advancement in numerous settings.

The courses are non-formal forms of education since they do not constitute part of the formal components of education, regardless of whether they are developed by various educational institutions or corporations receiving professional training. Even though the majority of students do not achieve the requirements for a certificate, the knowledge of participants will definitely increase by the conclusion of the course.

The first and most important benefit of such informal classes is that they enlighten and educate individuals on how they can use their rights. Furthermore, certain countries, such as India, which has a big number of computer illiterates, aspire to increase the credentials of the working population in this way.

4.4. Mooc Providers and Platforms

The year 2012 was arguably the most significant in the development of MOOC platforms. Table 1 presents some examples of Nonprofitable and Commercial MOOC providers from various countries. This; this year, a group of prominent financiers teamed up with well-known colleges to launch multiple well-known MOOC platforms: the first is the Coursera platform, which includes qualified institutions including the Wharton School of Business, University of Maryland, and the University of Maryland. The University of Virginia, the University of Tokyo, the University of Houston System, Stanford University, and the University of Edinburgh, followed by Udacity, a platform developed by Google, Cloudera, Georgia Tech, Autodesk, San Jose State University, NVidia, Salesforce.com, Face-

book, and Cadence, as well as by Kyoto University, MIT, Harvard, Australian National University, UC Berkeley, University of Queensland, Dartmouth College, Indian Institute of Technology Bombay, and Madrid edX, supported by Autonomous University. These three platforms are the most well-known and established since they are supported by large financial institutions. These platforms host a vast number of courses in a variety of subjects. Let's just say Coursera MOOC hosts over 1000 courses in collaboration with around 120 partners.

Table 1. Nonprofitable and Commercial MOOC providers.

Course Type	Provider	Organization	Country
Nonprofitable	edX	MIT, Kyoto University, Universidad Autonoma de Madrid, University of Queensland, Harvard University, Dartmouth College, UC Berkeley, Australian National University, IIT Bombay, IIM Bangalore	USA
	MOOED	Queensland University of Technology, University of Queensland, Griffith University	Australia
	XuetangX	Tsinghua University	China
Commercial	Udemy	Professors from Universidad de Chile, George Washington University, University of Chicago Law School, and other institutions.	USA
	Udacity	Google, Autodesk, Cadence, Georgia Institute of Technology, Facebook, San Jose State University, Salesforce.com, Cloudera, Nvidia	USA
	openHPI	Hasso Plattner Institute at the University of Potsdam	Germany
	Eliademy	Aalto University Executive Education	Finland
	Coursera	University of Tokyo, University of Virginia, University of Maryland, Wharton School, Stanford University, University of Houston System, University of Edinburgh	USA

The notion of open access to MOOCs leads to a multinational and multicultural growth of communication and knowledge transmission in each situation, so that this type of platform benefits all participants, particularly those whose communities' MOOC-related themes are underdeveloped. The individual courses are also listened to by thousands of people from dozens of countries. Data reveal that around 45% of participants take courses in a language other than their mother tongue, supporting the idea of globalisation of this style of education. Depending on the wishes and needs, each student can easily find a platform and MOOC that he can attend.

4.5. MOOCs Effect on Motivation and Attendance

Some students that have attended MOOCs in the last year were given a satisfaction assessment questionnaire regarding the various aspects of the courses, including issues related to information and demonstration activities, and were questioned about their motives for attendance. As seen in Figure 3, a sizable proportion of students select the course where they expect the exchange rate to be more interesting than courses that they have previously observed. Second, participants in the course chose the reasons for wanting to increase their knowledge in present and past schooling. Their aim is to improve their abilities. They are based on the course level, and based on the information gathered, they do not have a priority to complete the course [37]. Some participants considered that the MOOC would be advantageous to their professional careers. These students are under a lot of pressure to finish the course and get the certificates they need to succeed in their jobs. According to the organisers, a number of customers take the course because they anticipate learning more from lecturers from famous educational institutions.

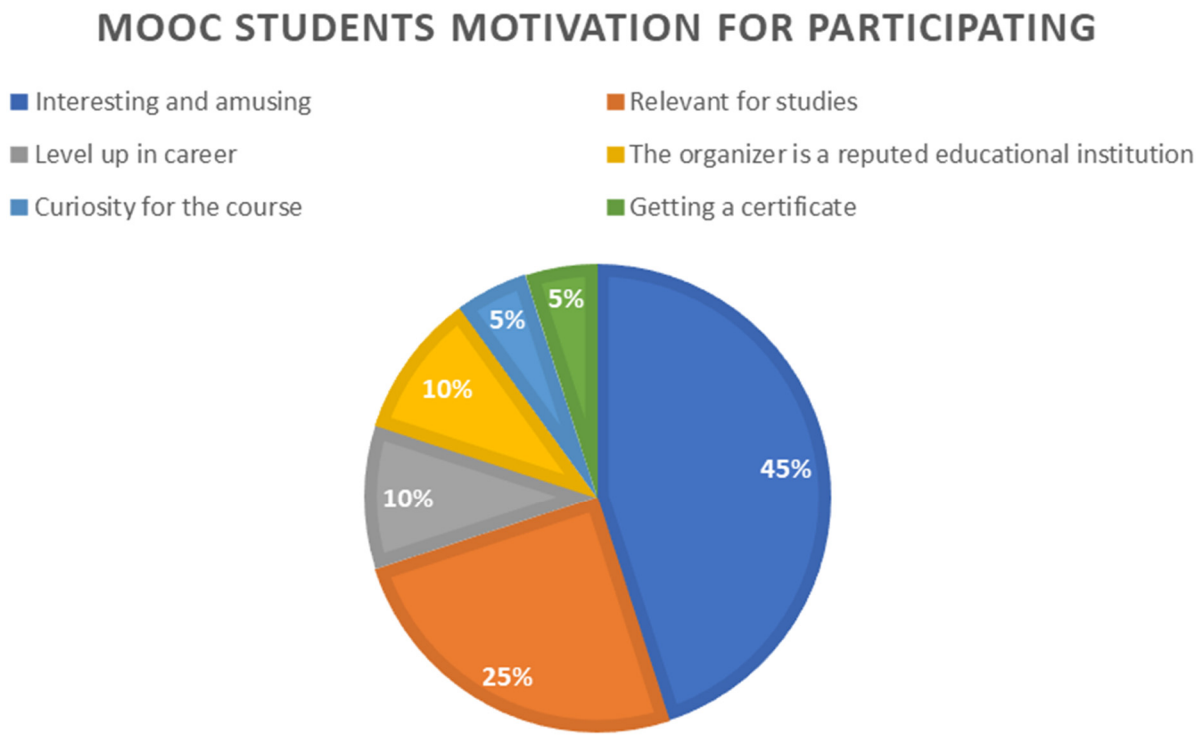

Figure 3. Students' motivation for participating in MOOCs.

While some of the participants participated out of curiosity, they indicate that they want to learn as much as they can from the course. These attendees are often persons who use the web on a regular basis and frequently do not complete the course; they exit the course when they have satisfied their demands for specific information. In reality, there is no precise cross-section of states when a portion of a student ceases to listen and attend a lesson. This; this is mostlymost evident in the fact that a completion rate of 6–10% of participants is considered extremely satisfactory, if not great.

4.6. MOOCs Risks

The downsides of MOOCs flagged as teacher professional risk are primarily related to the threat of unemployment due to the integration of online courses into traditional classrooms, especially "given that a teacher now has access to a wider audience, potentially taking a pay cut", so it is "fear of being unwanted and unnecessary".

Another occupational danger facing MOOC teachers, especially MOOC developers, is "transfer of ownership", where teachers transfer course copyright to their employer, the production agency. In this case, it is up to the institution, not the faculty, to choose the platform that provides the MOOC, along with the duration, type of access, monetization strategy, etc. Online platforms will only deal with course-related issues if the university has certain rights. The platform must address each MOOC instructor's organizational challenges individually. On the other hand, the assignment of the ownership agreement does not preclude discussing such decisions with the instructor and prohibits the institution from referring to another person as the MOOC creator, meaning that the copyright belongs to the instructor who made the MOOC.

5. Attractive Education with the Help of Gamification

Gamification is the application of game concepts, techniques, and features in a non-game situation. In both formal and informal settings, using game elements boosts motivation and learning.

The following definitions overlap and can be summarised: Gamification is the application of game features and game thinking to non-game activities.

Games have some specific characteristics that are important in gamification:

- Users are all participants—employees or clients (for businesses), students (for educational institutions);
- Ranking of users based on their achievements;
- Levels that users pass based on the points;
- Challenges/tasks that users complete and progress towards defined goals;
- Points earned as a result of completing tasks;
- Badges that serve as rewards for completing actions.

5.1. The Chemistry between Education and Gamification

Gabe Zichermann [38] claims that "using gaming mechanics boosts the ability to learn new skills by 40%, and so when users use game-based techniques they are more dedicated and driven to the activities and processes in which they participate". Because they have played or continue to play a range of games, consumers are familiar with game mechanics. Although this conclusion applies to corporations and their employees, it also applies to education. Students' lack of engagement and willingness to participate actively in the learning process is one of the most significant challenges in modern education. As a result, teachers are attempting to boost student engagement and enthusiasm to participate in training by employing unique strategies and approaches. One solution is to utilise prizes to acknowledge and reward efforts and outcomes, which will increase motivation for involvement and activity. This; this decision was made due to the incorporation of gaming components into the learning process.

Gamification in education refers to the inclusion of game mechanics and components into a learning environment. Because data processing and tracking are automated, and software tools can deliver full outcomes, e-learning, which is based on modern ICT, provides favourable conditions for gamification deployment. The use of game components in education makes sense because there are several truths that are common to games and training. In games, users' activities are targeted at accomplishing a certain goal (win) in the face of challenges. There is a learning objective in education that must be met by engaging in certain learning activities or interacting with educational content. The ability to track the progress of players in games is crucial, because subsequent actions and moves are determined by their outcomes. In education, it is critical to keep track of pupils' development in order to meet learning objectives. The degrees of information and skills attained by students define their learning path [39]. Collaboration in education is a critical component of effectively adopting active learning. Unlike training games, games with a strong competitive aspect have a strong competitive element. Rather than competing among students, the learning process should focus on developing skills for cooperation and teamwork, as well as accountability for the group's achievement.

Gamification has nothing to do with knowledge or abilities. Gamification influences students' behavior, commitment, and motivation, which can lead to knowledge and skill advancement [40].

5.2. How to Implement Gamification

An efficient plan of implementing gamification in e-learning necessitates a thorough examination of current conditions and software tools. The strategy's primary steps are as follows:

1. Establishing learning objectives

Specific and well-defined learning objectives are required. Because if the goal of education is not to achieve learning objectives, all activities (even gamification activities) would appear to be pointless. The objectives define which instructional resources and activities should be included in the learning process, as well as the game mechanics and methods that will be employed to accomplish them.

2. Identifying the characteristics of the pupils

Instructors must characterise students' traits (profiles) while presenting new approaches to the learning process in order to determine the acceptability of the new tools and techniques. The most significant and critical variables are students' tendency to engage with learning information and participate in competitive learning activities. It is vital for teachers to assess and remember what skills participants will need to achieve the goals —whether the tasks and activities will necessitate certain abilities from pupils. If tasks are too easy or too challenging, learners may become demotivated, resulting in a bad consequence [40].

3. Development of gamified instructive substance and exercises

Interactive, engaging, and multimedia-rich educational content is recommended. Training sessions should be tailored to the learning objectives and comprise the following components [41]:

Multiple performances: learning activities should be designed so that students can repeat them if they fail the first time. It is critical to establish the necessary conditions and opportunities in order to reach the final aim. Students' skills will increase as a result of repetitions.

Increasing the level of difficulty: each following activity is anticipated to be increasingly challenging, requiring more work from students and aligned with their newly acquired aptitudes, skills and knowledge.

Possibilities: the learning activities must be achievable. They must be individualised and tailored to the students' abilities and skill levels.

Multiple paths: in order to build a wide set of talents in students, they must be able to attain their goals via a variety of routes. One of the fundamental qualities of active learning is that it allows pupils to develop their own tactics.

4. Including game mechanics and aspects

The inclusion of activities that learners must perform is a key component of gamification. Task accomplishment results in the accumulation of points, promotion to higher levels, and the acquisition of rewards. All of these acts are intended to assist pupils in meeting predetermined learning objectives. The parts of training that will be covered are defined by the goals that have been specified ("what knowledge and skills should be acquired as a result of the task"). Individual awards are offered for tasks that require students to work alone (such as badges). The social component of training comprises activities that need contact with other learners; they make students members of a vast learning community, and their consequences are public and visible (such as leaderboards) [40].

6. Conclusions

In this article, we discussed the components of MOOCs and the implementation in academic education, as well as it is further implementation in universities. Our main result was to create an image of its implementation and conclude if it is worth it or it just creates more problems for the universities, teachers, and students as well. From the data collected, we can conclude that it can bring many good aspects and opportunities not only for students and the university itself, but also for the economic and governmental branches, further allowing companies to get in touch with the universities and its absolvents.

The Blockchain technology can increase pupils' drive to study by recognizing that "learning means creating money"; it can retain extensive and reliable records of educational activities in both formal and informal learning contexts, including strategies and outcomes, and it may also track instructors' teaching abilities and execution, which can be used as a model for teacher assessment. In conclusion, blockchain has significant promise for both learners and educators in terms of planning, documenting, and investigating behaviour, as well as developmental evaluation. Researchers, developers, and educators face both obstacles and opportunities as a result.

Gamification is a simple and effective way to include it into e-learning. Game strategies and processes can be utilised as activities in the learning process to assist students in

achieving specific learning objectives, increasing their motivation to finish them, and engaging them in friendly rivalry with other students.

Game-based learning is an effective method for influencing students' attitudes and behaviours toward learning, as well as enhancing motivation and engagement. The impacts of the alteration are bidirectional: they might affect students' grades and knowledge of educational content while also creating circumstances for effective learning.

We also observed how MOOCs can affect the motivation and attendance of students in education. MOOC providers were searching for ways to provide courses outside of colleges in 2021. Corporations and governments across the globe have boosted their use of online courses as a result of the epidemic. They are (and will be) seeking growth in this area in the coming years. The leading MOOC providers are expected to increase their library through non-university partners in 2022, as well as to grow their companies into the lucrative enterprise category.

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