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The Integration of Digital Game-Based Learning into Primary School Instruction: Exploring Teachers' Perceptions at Various Career Stages in Sargodha

Asia Malik¹ Muhammad Nadeem Anwar² Nayyab Naveed³ Hira Malik⁴

Abstract: This study looked at how teachers at different stages of their careers felt about using digital game-based learning (DGBL) in the classroom. It looked at factors that supported and opposed using DGBL in the classroom (a) and factors that drove teachers to use DGBL in the classroom (b). The study included twenty primary school teachers who incorporated DGBL into their teaching. Semi-structured in-depth interviews were conducted, focusing on their experiences and perceptions. The qualitative analysis of a semi-structured, in-depth interview was based on grounded theory. The findings show that instructors' views on DGBL integration differ based on where they are in their careers. Key findings include variations in motivation and perceived barriers among different career stages. When it comes to the factors that encourage, discourage, and motivate people to implement DGBL, the professional stage is a differentiating factor. This conclusion consolidates all the study's findings. The teachers' career stages thus highlighted common differences. The study's findings can be applied to teachers' professional growth at various stages of their careers.

Key Words: Digital Game-based Learning, Primary School Instruction, Teachers' Perceptions

Introduction

Recently, there was growing fascination with Digital Game-Based Learning (DGBL) as it has been correctly included into education programs in specific sectors inclusive of military, transportation, communications, and healthcare (Huang, 2013). It is well worth noting that the role of new technologies and Digital Game-Based Learning (DGBL) in education is expanding simultaneously (Ragni, et al., 2023). Education structures global have followed the incorporation of Digital Game-Based Learning (DGBL) packages into their teaching frameworks (Carrillo, 2019; Brooks, & Sjöberg, 2022). Teachers have emerged as critical dealers of exchange, playing a crucial function in integrating those packages and efforts into the school curriculum. The trainer's judgments have a crucial position in shaping the integration of DGBL into the instructional panorama, which includes aspects inclusive of timing, cause, and technique (Nieland, et al., 2021; Dubey, & Sinha, 2023).

DGBL is designed with the explicit motive of gaining and improving knowledge, gaining understanding, and developing competency and cognitive talents (Manuel, et al., 2019; Prensky 2006). The modern frame of studies on Digital Game-Based Learning (DGBL) predominantly facilities around its efficacy and the influence of DGBL-based coaching on college students' gaining knowledge of processes and results. The evaluation of this impact is performed by way of thinking about traits such as the purchase of understanding, motivation, and cognitive and behavioral abilities (Bourgonjon et al., 2010; Ijaz, et al., 2019; Wouters et al., 2013).

Nevertheless, there had been handiest a constrained variety of studies which have explored the topic of DGBL with regards to teachers' beliefs and perspectives. Nevertheless, teachers play a crucial position in facilitating the incorporation of DGBL (Bourgonjon et al. 2010; Li et al., 2021; Hwang, et al.,

¹ M.Phil. Education, Institute of Education, University of Sargodha, Sargodha, Punjab, Pakistan.

² Associate Professor, Institute of Education, University of Sargodha, Sargodha, Punjab, Pakistan.

³ M.Phil. Education, Institute of Education, University of Sargodha, Sargodha, Punjab, Pakistan.

⁴ M.Phil. Education, Institute of Education, University of Sargodha, Sargodha, Punjab, Pakistan.

▪ **Corresponding Author:** Asia Malik (asiamalik595@gmail.com)

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2023). Teachers' opinions and beliefs have a clear impact on their willingness to undertake academic improvements, such as incorporating DGBL into their school rooms. Teachers' viewpoints experience a profound trade throughout their professional growth and development (Spiteri and Rundgren 2018). Every professional level is distinguished by particular attitudes, movements, relationship dynamics, and developmental demands, claim (Meyer, et al., 2022; Price, 2012).

Research on the integration of (DGBL) indicates that instructors' educational qualifications have an impact on their viewpoints, motivations, and implementation of DGBL in their teaching methods (Brooks and Sjöberg, 2022; An, 2018; Jeon et al., 2008). Teachers' perspectives on integrating DGBL into their instructional approaches vary based on their level of training. Furthermore, educators at various stages of their careers frequently express concerns and apprehensions regarding the incorporation of Digital Game-Based Learning (DGBL). They are looking for help on how to successfully include it into their teaching methods and integrate it into the curriculum (Ivanović, 2024; Rhodes, 2021; Razak, et al., 2019).

The Pakistani education system is actively allocating sources to introduce innovation in classrooms, which includes training educators to impart abilities pertinent to the twenty-first century. The Ministry of Education in Pakistan has initiated the implementation of Digital Game-Based Learning (DGBL) packages in lecture rooms, aiming to ensure that education stays applicable amidst rapid socioeconomic changes. However, there may be presently no nicely-defined coverage framework governing the usage of Digital Game-Based Learning (DGBL) in Pakistani colleges. Understanding how instructors can successfully combine Digital Game-Based Learning (DGBL) into these programs is crucial for informing policymakers and equipping them with the necessary understanding to make informed decisions.

There is a loss of giant observe on teachers' views on incorporating Digital Game-Based Learning (DGBL) into their teaching methods. Some studies that have been performed in this topic are the ones through Meyer, et al., 2022 and Price, 2012. These studies emphasize that every segment of a career is marked via unique attitudes and perceptions regarding the incorporation of Digital Game-Based Learning (DGBL) into education. Significant disparities can be discovered within the views of teachers at the start of their careers in comparison to folks that are extra advanced in their careers. In moderate of this context, the present observe seeks to offer an in depth comprehension of the critical and essential role of teachers in incorporating Digital Game-Based Learning (DGBL) into their teaching techniques. The motive is to check the lecturers' views on this technique and the elements that avert, promote, and strength them to incorporate DGBL at precise factors in their careers. The take a look at's underlying principle is that instructors need to no longer be viewed as a uniform institution. Instead, at the same time as incorporating DGBL (Digital Game-Based Learning), it is essential to take into account the varying views of instructors at unique phases in their careers.

In the given educational situation DGBL has been implemented in various contexts, however, there is the shortage of investigated material regarding teachers' beliefs and perceptions of DGBL, particularly for teachers at different stages of their careers. A) Previous literature mainly concentrates on analyzing the efficacy of DGBL from the learner's side; therefore, there is a substantial research gap that can be seen in the lack of understanding of the educators' stance and the factors that might make them more inclined to use technologies to enrich their classes. This research intends to meet this gap in the following ways; First, this study shall seek to understand the extent of the involvement of teachers in the implementation of DGBL, changes in their perspective as they experience professional development and the enablers and barriers to the implementation of DGBL. The research questions guiding this study are: The first research question is: This study seeks to establish teachers' perceptions of the integration of DGBL at various career stages of primary school teachers. The following factors lead to the facilitation or the non-incorporation of DGBL into the classroom by teachers: Answering these questions, this work offers meaningful recommendations to policy-makers and educators on the reasonable application of DGBL in various learning contexts.

Literature Review

DGBL is one of the ways through which modern-day generation can be incorporated in the classroom as pointed out by Brooks and Sjöberg (2022). According to Li (2023), DGBL is teaching tool that enhances getting to know one another through interactions in novel ways. Prensky (2006) defined DGBL as a

philosophy of learning that follows the use of games for learning activities that is aimed at changing the participants' mentalities in the process of learning. Despite this, other studies design and explain this broad concept of Kuressaare's general advantages in diverse manners. In this study, Carrillo (2019) observes that the definition of DGBL as used in this study was very broad and encompassed internet, video as well as computer games. The tool that is the digital game, the use of simulations and virtual worlds, educate the development of 21st-century skills and templates for new social relations (An & Cao, 2017; Prensky, 2006). In its essence, therefore, learning is the context in which pupils willingly acquire information and build their own knowledge. For this reason, the approach recommends integrating competitive and incentive components that make teaching and learning complex and inventive (Nieland et al., 2021; Prensky, 2006).

Benefits of Digital Game-Based Learning (DGBL)

Advantages of Digital Game-Based Learning These are the following advantages associated with the digital game-based learning, Below are some of the advantages of the use of DGBL;

Therefore, educational systems in countries of Europe, Asia, Scandinavia, and North America have launched the process of integration of DGBL. Currently, there are Scottish, Australian, and Singaporean measures to introduce DGBL into scientific and math classes (Moca, 2021 & Ciussi, 2018). DGBL is ment for the explicit purpose of know more, get competent and polish cognitive skills (Manuel et al., 2019; Prensky, 2006). The existing literature on DGBL investigation centers more on its effectiveness and its ability to alter the students' learning processes and achievements acquired from such environments. In assessing this impact, the following characteristics of learning are taken into account; knowledge, motivation and cognitive/behavioral skills (Bourgonjon et al., 2010; Ijaz et al. 2019; Wouters et al., 2013).

Challenges in Implementation

The Pakistani Ministry of Education has also introduced such projects; however, there is no policy to officially allow the integration of DGBL in Pakistani classrooms. As such, there is a need to appreciate that the degree of integration of these programs depends on the teachers. Another factor that defines the successful implementation of these packages in the classroom is the level of identification of teachers with participants of change. Several studies reveal that the impact of instructors' perceptions regarding their roles in relation to the change emanates from their knowledge and stance regarding the change (Blömeke et al., 2021 & O'Reilly, 2016). However, the following challenges are encountered in the actual application of DGBL. Lack of resources, teacher's misperception and non-familiarity with technology and challenges in incorporating DGBL activities within the context of current learning environment are some of the challenges faced by teachers (Hébert et al. , 2021; Rogers, 2021). The management of students' behaviours and the measurement of success in learning is an issue which one faces when implementing DGBL. Teachers also share their worries and fears regarding the implementation of DGBL and ask for assistance on how to integrate it to their teaching practices (Ivanović, 2024; Razak et al., 2019).

Teacher Perceptions and Influences

A major factor in the implementation of DGBR is therefore teachers' attitudes. Which concern their perceptions of DGBL and their resulting willingness to successfully adopt and use this technology (Bourgonjon et al. , 2011; Li et al. , 2021). Teachers' views for or against DGBL depend on the stage of their professional experience and their professional development (Spiteri & Rundgren, 2018; Meyer et al., 2022). For instance, while PCTs' attitude towards DGBL is positively inclined, other teachers may find this approach problematic especially because of their concerns to curricular structure and teaching-learning resources (Brooks & Sjöberg, 2022; Jeon et al. , 2008).

Research conducted on this area shows that instructors' beliefs play a huge role in the incorporation of DGBL in teaching practices (Bell & Gresalfi, 2017). With regards to the study question, the teachers' attitudes have a significant influence on how and to what extent they integrate DGBL into training. Analyzing how these instructors implemented integration of the curriculum, and how they understand such experiences, enhances the possibilities of ascertaining their preparedness to include DGBL into their



teaching practice (Nieland et al., 2021). Research has thus found a gap between the perception of the educators towards the implementation of DGBL and the level of implementation of DGBL in their teaching practices. In one of the purposes of integrated DGBL, for example, 85% of participants expressed that they had perceived that incorporating DGBL into their teaching was a good idea; yet only a few more than a third of them reported that they had ever done it (Johnson, 2019). In a subsequent Scottish study, half of the writing teachers indicated the incorporation of DGBL in classrooms (Razak et al., 2019).

One of the reasons for this gap is teachers claimed it was difficult to integrate DGBL into their courses due to expert and perceptual barriers. Hébert et al., in their study, discussed various barriers that stopped the educators from implementing DGBL in their teaching-learning process, and these are: individual/organizational, technical, structural, and instructional. Among the most critical ones, it is possible to highlight the inability to purchase systems, lack of knowledge about DGBL, the challenge of modifying the DGBL activity for classroom use, difficulties in defining the learning outcomes, and concern about students' discipline in the class. Instructors also cited GDLB unawareness, new technology acceptance concerns accompanied by worry and skepticism, and the inability to play games as issues (Rogos, 2021). Submissions to equip educational facilities with modern technologies for learning do not live up to expectations because technology does not enhance the quality of teaching in the classrooms (Hayak & Avidov-Ungar, 2020). As a result of their inclinations to ignore the impact of instructors' perspectives and their statures or experiences, several initiatives to integrate technology advancement via the "top down" model were incapable of attaining sustainable change throughout the teaching practice (Hayak & Avidov-Ungar, 2020).

Role of Professional Development in DGBL Integration

According to Ivanović (2024), to favour learning in the classroom it is crucial for the teachers to be aware of the learning possibilities and confident in their ability to appropriately implement DGBL. Majority of the instructors were of the view that they would be able to incorporate DGBL into their instructional practices without help. Respondents also stated that they have never attended any PDP training courses or seminars related to the issue. In addition, Allsop and Jessel (2015) have pointed out that present curriculum will not encompass DGBL. The professional development takes a central place in the process of preparing teachers for the implementation of DGBL in their classes. Current research proves that sustainable training and counselling for teachers are the ways to eliminate difficulties connected with DGBL (Ragni et al., 2023). CPD programs oriented toward DGBL enhance the awareness of its concepts, ways of approach, and considering concerns that teachers might have (Dubey & Sinha, 2023).

Career Stages of Teachers

The concept of career stages has been focussed with reference to the stages in the professional development of teachers. Each phase of a career is characterized by certain activities, approach, perceptions, ways of interacting and, the requirements for continuous learning and growth (Meyer et al., 2022; Price, 2012). There also exists a number of models that proscribe the stages of a teacher's career and include education & training, working, and retirement stages as defined by the literature on professional development of teachers. The number of the stages contains, the definition of the stage, the degree of linear intensity, and the degree of the mobility of the stage differ the models (Toz & Sahan, 2024; Formosa, 2015). The professional development continuum is related to several models that describe three career stages: they are known as the unconscious level, the proficient level and the mastery level. The basic assumption is that teaching practice involves the process of learning that starts from the stage of education and induction and continues to the end of one's working career (Raduan & Na, 2020; Chamberlain et al., 2019; Lyon, 2015).

Using Esau (2017)'s categorisation, the beginner level is in between primary entry and incremental professionalism. Nowadays, teachers face questions and responsibilities regarding curricular and instructional approaches, professional crises, learners' misconduct, and management problems (Breeze, 2023; Winicki, 2017). The skilled level of teachers indicates that the teacher is confident in his/her career and has maybe reached an intermediate pre measurement of years in service. They are no longer at the subsistence level and are concerned with processes of teaching as well as relevant innovations, as they have developed useful interventions (Watters & Diezmann, 2015). The professional level comes after a

teacher has had more than fifteen years' experience of teaching (Oldham, [2021](#)). At this time, the teacher is capable of managing emergent events, control the classroom atmosphere, think and make decisions within a short span of time and fulfill academic tasks (Chikomba, [2024](#); Yağan, [2022](#); Amitai & Van Houtte, [2022](#)).

The point made by Brooks and Sjöberg ([2022](#)), An ([2018](#)), and Jeon et al. ([2008](#)) suggests that it is possible to establish a positive correlation between the professional category of teachers and their feelings regarding the integration of DGBL approach into the process of teaching. The following illustrates nature of this relationship. From the perspective of BtEC, the aims of which are the identification of best practices and recommendations for the promotion of Digital Game-Based Learning (DGBL) into educational practice, both educators and factors that make them include DGBL into their lessons differ depending on their career levels. The analysis conducted by Brooks and Sjöberg ([2022](#)) along with An ([2018](#)), also Jeon, H.S., and Koul, R. ([2008](#)) determine that the concern found amongst instructing personnel with the assimilation of DGBL in instructing appears to change with their career stage. The study by Chung-Yuan et al. ([2017](#)) suggested that DGBL was perceived more favorably by educators with less years of teaching experience; in particular, those with less than ten years' teaching experience. Teachers with less than ten years of experience also scores higher in competency of incorporating DGBL into their training, and higher in motivation towards the use of DGBL than their counterparts teachers with ten or more years in service; and better understanding of the subject matter and the pedagogy relating to DGBL use.

Teachers in different career phase have different opinions on how DGBL should be implemented. Specifically, lack of curricular flexibility within the context of the given pedagogical approach was found among more experienced instructors, more specifically those with over eleven years of experience, and was considered to be one of the factors that hinder them from implementing DGBL in their classes. Also, comparative analysis of qualified perceptions revealed that teachers with 1-5 years of experience believed that the lack of suitable pedagogical material and the conflict regarding study hours and course lengths are the causes for not enforcing DGBL. A published work by Scottish researchers said that there were indications that the teaching instructors' decision was primarily informed by students' enjoyment of learning through computer games. However, such factors as the instructors' reluctance to use computer games for teaching and the perceived inconvenience as a barrier compared to other non-DGBL related approaches presented significant barriers to the integration of DGBL (Razak et al. , [2019](#)).

Research Methodology

The present work aimed at analyzing instructors' perceptions of DGBL in class at different stages of their careers. First, the research centred on determining the enablers and barriers to using DGBL in the classroom (a) and the drivers for adopting the practice (b). The sample population for research consisted of 20 primary school teachers who incorporate DGBL into their teaching practices. The guidelines for the textual and data analysis of one semi-structured in-depth interview were based on the principles of grounded theory. The interview process was adopted to ensure proper and efficient collection of data during the interview. The interviews were on average 30 to 45 minutes long, depending on the schedule of the participants, and flexible in terms of format, being both face-to-face and online. To ensure rich information was obtained on different facets, the questions were posed to capture aspects such as the years of teaching experience as well as the career level of the participants, the extent to which DGBL has been adopted in the courses taught, the challenges and measures that have been put in place in tackling these challenges, perceived benefits as well as drawbacks of using DGBL in teaching and learning, and their visions and recommendations concerning the use of Thus, this detailed and multifaceted procedure guaranteed the collection of integrating and comprehensive data with the nuances necessary for the study. The findings presented here show that the views of teachers with regard to the integration of DGBL are influenced by the stages of their profession. The first is the professional stage as a distinguishing factor regarding the factors that enhance, restrain, and compel the stakeholder to employ DGBL. The conclusion comprises all the results of the study. The career stages of the teachers signified typical differences. It is suggested that the information provided in the study can be used with regard to the professional development of teachers, irrespective of the phase experienced.



Participants

The two inclusion criteria aligned with the study's organizing principles: Participants integrated DGBL into their courses in (a); participants' varied teaching experiences, commensurate with their seniority, were noted in (b). We inform the administrators of Sargodha primary schools in writing that we want to conduct interviews with teachers who are using DGBL in the classroom as part of our research. The principals of the schools made this request known to the teachers. Fifty instructors mailed back their responses. Two questions were now posed to the respondents: (a) how long had they been including DGBL into their training, and (b) did they use it on a regular basis when instructing? From the 50 respondents who filled out the questionnaire, we adopted the criteria of the number of years respondents have implemented DGBL in their teaching, and only the teachers with one-year experience were selected; they were only 20 teachers. Furthermore, the utilisation frequency was included, which specify that teachers, who used DGBL most frequently in their lectures, have a higher priority. Moreover, only the respondents who strictly responded positively to the enumeration of their interest in a more extensive interview were captured. The selection process for a total of 20 participants was based on these preliminary interviews: Ten male and ten female teachers were employed at various Primary schools in tehsil Sargodha. The participants were thus divided into three career stages: early, advanced, and late. The advanced career stage included individuals with six to nineteen years of seniority; the late career stage included those with more than twenty years of seniority.

Analysis

Familiarity with Digital Game-Based Learning

The first theme that arises is "familiarity with Digital Game-Based Learning." In addition to sub-themes, the participants were asked to express their comprehension of digital game-based learning, including specific information on their knowledge of the idea and how it is used in elementary school. The study uncovers a shared characteristic among the participants, emphasizing a favorable correlation with digital game-based learning.

Based on the feedback, participants consider digital game-based learning as the incorporation of instructional material into games to improve the learning experience. Most people exhibit a notable level of understanding regarding the topic and acknowledge its potential uses in primary school instruction. They believe that using games as a means to achieve educational goals can enhance the involvement, interaction, and overall satisfaction of learning for young pupils. The variety of reactions highlights a shared conviction in the potential advantages of digital game-based learning, with terms like "captivating," "interactive," and "pleasurable" repeatedly mentioned in the responses. The participants demonstrate a predominantly favorable disposition towards this concept, signifying their recognition of its potential to revolutionize conventional teaching methods and establish a more captivating and pleasurable educational setting for primary school pupils.

Perceived Benefits of Integrating Digital Game-Based Learning

The main theme derived from the participants' feedback centers on the "Perceived Benefits of Integrating Digital Game-Based Learning". The participants were asked to share their experiences using digital sport-based learning materials in their teaching practices, emphasizing the use of original examples. The investigation indicates that educators exhibit a positive and proactive approach towards incorporating digital game-based learning into their teaching methods. Members regularly attest to the fact that they actively include virtual sport-based learning tools into their teaching methods. Interactive math games, historical simulations, language-learning games, online science simulations, geography quiz games, coding games, academic simulation games, language arts games, and physics games are just a few of the many topics and ideas that are represented in the examples. These illustrations cover a broad range of topics via the application of digital recreation-based learning.

Teachers highlight how those resources are interactive and visually appealing, and how well they reinforce a variety of teaching abilities. The frequent use of terms like "practical" and "hands-on" indicates that there is a widely held belief that these methods help students learn more about their academics. The responses suggest that the organization believes there are advantages to using digital,

game-based learning resources in conjunction with traditional teaching methods. Teachers view those resources as helpful tools not just for enhancing students' understanding of the curriculum but also for fostering collaboration, critical thinking, and creating a more enjoyable learning environment for their students.

Challenges in Incorporating Digital Game-Based Learning

From the input provided by the participants, the third primary theme focused on "Perceived Benefits of Integrating Digital Game-Based Learning." With an emphasis on giving concrete examples, participants were asked to share their experiences using digital game-based learning materials in their teaching practices. The exploration suggested that teachers have a optimistic and practical approach towards integrating digital games as a teaching and learning strategy.

Participants unflinchingly endorse their pre-emptive incorporation of digital game-based learning resources into their methods of teaching. Cooperative math games, history mockups, language-learning games, online science models, geography quiz games, coding games, educational recreation games, language arts games, and physics games are just a few of the concepts and subjects that are demonstrated and illustrated by the given. These pictures show the range of topics covered by digital game-based learning. Teachers comment on these tools' engaging and dynamic nature, as well as how effectively they assist a range of academic abilities. Terms like "immersive," "hands-on," and "practical" are often used, which indicates that people generally think that these teaching methods improve students' educational experiences. The study suggested that digital game-based learning is more interactive than lecture-based learning. According to the point of teacher's game base learning is useful for developing student's understandings about the subject matters as well as fostering critical thinking, creativity, innovation etc.

Career Stage and Teaching Experience Influence

"Career Stage and Teaching Experience Influence" theme derived from the participant's viewpoints had a significant impact on how individuals recognize digital game-based learning (DGBL) in the primary school environment. The convolution of these impressions are closely linked to the participants' professional development phases and background of the teaching. As previously said, an independent and composed point of view is described by someone in the midst of their career. Their thought acknowledges the promise of Digital Game-Based Learning (DGBL) while accentuating the need for its successful implementation into the curriculum in order to have a positive impact. This has shown scholars' erudite knowledge of how to teach and positively approach the learning process in this modern world.

The idea of a new generation teacher in showing that, in spite of introducing a new method in the classroom, DGBL may first be seen as an innovative tool for education means that trainers should use more time managing it to understand its farther potential. Towards this point of view, one can indicate that their perspective develops during their work, and, therefore, have a wider understanding of the possible uses of Digital Game-Based Learning (DGBL) in elementary education. The predictiveness of Teaching experience comes into play especially since the time spend in the filed improves one's practical understanding of the students' preference. Understanding of DGBL is derived from this encounter, given the uniqueness of games that has to be balanced with the learning style of elementary school pupils. This standpoint is an example of a practical approach of teaching revolving around what is seen from the students. Furthermore, as one comes promotion epoch in his working place, he develops some consciousness on how DGBL can cater for all types of learners. The experience thus gained indicates a better probability for planning and executing the usage of each of these tools in a more calculated manner in the primary school. Furthermore, it is also disclosed that progressing in one's job, there is a better understanding of how DGBL fulfills another mode of teaching. As a result, game-based learning achieve experience and consequently, it proposes a more purposeful and precise manner how to use such tools effectively in primary school. However some begin with the thoughtful enthusiasm and even the rational hedonism, and yes, there are the creative type approaches. Reckless teaching might result to effective assessments, innovative approaches, or a combination of the two parts, interest and doubt. However, if all them are taken together, they depict how opinions are changeable depending on the phase of a career and experiences in teaching.



Collectively these replies support the idea that constructivist views are relative, as they are constructed from the teachers' career phases and/or experiences.

Instances of Integration and Implementation

'Concept mapping' as an example of 'Integration and Implementation' of Digital Game-Based Learning (DGBL) in primary schools is the focus of the 6th major theme of the study. It is possible to learn from these examples of how educators commendably incorporate gamification in order to engage and teach the students. Math classes may be more effective in terms of problem solving when an interactive mathematics application is utilized in a mathematics class. This is especially the case given that simulation games that are based on history make the pupils understand such events better; thus, enhancing their capabilities for critical thinking. That is why narrative games positively impact language arts teaching because students can engage in creative ways, and in teams. Incorporation of an interactive mathematics application can improve fun and efficiency in tackling problems during a mathematics lesson. Games that are based on history ensure that the students develop their critical thinking skills due to the improvement in their understanding of history. Students engaged in narrative games enhance language arts instruction as it creates a culture of brainstorming and teamwork. Virtual simulation games that are conducted online enhance understanding and memory of complex scientific concepts. As indicated above, quiz games raise the level of geographical knowledge and inspire participants to expand it. Coding sessions involve lot of interaction and can as well be said to be a form of playing games which leads to improvement of the expert's specialized skills. The use of physics simulation games and interactive language applications for language learning is highly beneficial in the following aspects: The cases we have seen above clearly illustrate how games ensure students' engagement and consolidate subject knowledge through practice.

Cooperative Problem Solving Games being a play pattern that involves cooperation, problem solving, use of higher order thinking skills as well as a tendency of using information practically, it helps in the enhancement of cooperation. This is why introducing narrative-based games for students as an addition to the main literature can contribute to students' improved understanding, imagination, and language expressiveness. The discussed integration and implementation examples demonstrate the variety and usability of DGBL (Digital Game-Based Learning) in several fields and reveal its positive effect on students' interest, comprehension, and mastery in an elementary school.

Suggested Strategies over Teaching Career

The last theme derived from the respondents feedback is "Evolution of Strategies across Teaching Careers". Diverse perspectives demonstrate how educators' beliefs toward the incorporation of gaming into the classroom are changing. The initial nervous selections give way to confident ones, showing a rising degree of ease in connecting game selection to curriculum objectives. When they move from experimentation stage toward strategy, teachers become have a strong stress on implementing that both are successful. Individual games are being replaced with a diversified, inclusive teaching approach as part of the continuing transformation. Although, current data suggest a shift from novelty to maturity particularly in the context of instructional fun-based games. To this, integrated techniques are supplemented by the creation of an integrated learning environment. Growing from an idea to a systematic curricular incorporation, the use of games appears. What pertains to ensuring alignment with the learning objectives is a shift or transition from technical to pedagogical elements. The choice of which game to play is an example of the cultivation from general towards specific. The later strategies are likely to incorporate formative evaluation and feedback in an effort to demonstrate moderators' responsiveness and student-oriented approaches. Lastly, logical ways of employing games for the achievement of learning objectives is illustrated. The present work aims to investigate how integration technique progresses over the course of the educators' career, and is a clear sign of their desire to enhance and adapt the DGBL for the fluctuating climate within education.

Conclusion

Teachers' attitude towards the DGBL supplementation in the primary schools of Sargodha show that the socio contextual environment is heterogeneous with regards to the phases of teaching career, training, and emerging approaches. The combination of the analysis of the introduction, literature review and the

analysis provides deeper understanding of teachers' dynamic professional activity regarding DGBL, which in turn reveals the awareness of their level of expertise, perceived advantages, difficulties, and DGBL incorporation in their practices. The introduction explained how the application of DGBL is progressively starting to gain a lot of importance in several global operations and how educational faculties are putting into practice these. This highlighted how key teachers are as the major actors of this basic development. The literature review sought to evaluate the amount of work that had been previously carried out and pointed out that, indeed, many papers have reviewed this or that, but the valuing of the views of the teachers, let alone, the professional development of the teachers. Research revealed that the instructors' stages affected their perceptions and attitudes towards DGBL relying on the dynamic evolution of their stances. Analyzing the materials, it can be stated that the research offers a clear comprehension of DGBL as it is organized around major themes. The first set of attitude components is based on the main concept of "Familiarity with Digital Game-Based Learning," which states that a group has a positive outlook toward other members and shows how they understand that DGBL can transform regular instruction. DGBL is widely known by teachers as a flexible and engaging technique complementary to their main mission of enhancing learners' experiences.

The topic entitled "Perceived Benefits of Integrating Digital Game-Based Learning" can be said to enlighten the audience on how enthusiastic educators have been in the integration of DGBL technologies across various disciplines. The examples provided show just how versatile DGBL is, and show how well it works at promoting cooperation and positively impacting a student's academic skills. We asked teachers to comment on the idea that DGBL is an effective means for developing a fun and entertaining approach to learning; as with the previous survey question, respondents' positive sentiments towards DGBL confirm that the concept is good for revolutionizing primary education. "Challenges in Utilizing Digital Game-Based Learning" is a special theme that may speak of existing limitations, including curriculum limitation, deficit of pedagogical capital, and management issues in the learning context. These problems persist in teachers' practices which imply their willingness to address obstacles in order to improve the processes of students' learning. With the help of the subject "Career Stage and Teaching Experience Influence," it is presented how the professional phases influence in a precise manner. The first stage of the viewpoints is usually fresh, full of energy and creativity, while the middle of the career viewpoints deal with success and balance with an all-round-view. Expert teachers demonstrate understanding of what DGBL offers since they acknowledge that it accommodates different learning needs. The problem raises awareness of the fact that NTs' beliefs are contextual, reflecting their experiences in the workplace. As for "Instances of Integration and Implementation," the topic emphasizes on how DGBL can be useful in various fields by presenting examples. These examples demonstrate just how well games can be applied when it comes to students' involvement and the promotion of problem solving and content learning.

The presented subject, 'Evolution of Strategies across Teaching Careers', helps to identify the drastic change in how teachers approach the use of digital game-based learning (DGBL) in class. There has been evolution over the short years' careers of the teachers in enhancing and modifying DGBL practices. It starts with the tentative attempts at incorporating technology and then shifts towards the effective and deliberate application. Thus, it emphasizes the further development and relevance of specific implementation in the context of students' requirements. Summing up, the present study offers relevant knowledge regarding a complex view of Sargodha primary school teachers' perceptions toward DGBL. This clearly demonstrates the roles of the educators in the process of implementing DGBL and stresses the point that it is necessary to develop policies and frameworks that are suitable for the teachers at their different stages of career. Due to the importance of education as a social process that is changing constantly, it is crucial to gain insights from educators about innovative technologies such as DGBL to make adequate decisions and implement the appropriate teaching strategies.

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