

October 2022

Parent Perspectives of Digital Learning Experiences: A Phenomenological Study

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Recommended Citation

Wilson, Keiyana; Washington, Kathryn; Brown, Kelly; Bellard, Quentin; and Thibodeaux, Tilisa (2022) "Parent Perspectives of Digital Learning Experiences: A Phenomenological Study," *School Leadership Review*. Vol. 17: Iss. 1, Article 6.

Available at: <https://scholarworks.sfasu.edu/slr/vol17/iss1/6>

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Parent Perspectives of Digital Learning Experiences: A Phenomenological Study

Digital learning is a rapidly growing educational medium today (Bozkurt, 2019; Glover et al., 2016; Jackman et al., 2021; Sadeghi, 2019; Tosun, 2018). When effectively utilized, the digital world provides learners with immediate access to an abundance of resources for knowledge acquisition and content exploration (Aslan & Reigeluth, 2016; Mcfarlane, 2019; Rahmi et al., 2020; Sezer, 2017; Wakil et al., 2017). More so, its widespread usage has increased enrollment in digital learning programs with multiple opportunities for immersion in technologically enhanced environments (Cingel & Hargittai, 2018; Glover et al., 2016; Symons & Pierce, 2019; Tosun, 2018). As a result, the popular medium has transformed the educational world to meet the needs of diverse learners worldwide (Glover et al., 2016; Mcfarlane, 2019; Rahmi et al., 2020).

In recent years, the number of students enrolling in full-time digital learning programs in K-12 has increased (Bozkurt, 2019; Jackman et al., 2021; Sadeghi, 2019; Tosun, 2018). Although the global pandemic warranted full-time enrollment for many learners in most recent years, enrollment in digital learning platforms is considered a viable option for many parents even now (Black et al., 2021). As this educational alternative is explored, there is a growing concern regarding the quality of instruction and its overall influence on academic success (Black et al., 2021; Mukhtar et al., 2020; Skiba, 2017). With limited literature examining parent viewpoints on the quality of instruction and academic success in digital learning environments, there exists a need for further research.

Review of the Literature

Digital learning has become a prominent source of education for various age groups worldwide (Bozkurt, 2019; Jackman et al., 2021; Sadeghi, 2019). With great accessibility and

convenience, digital learning platforms have placed educational opportunities at the fingertips of their consumers (Bozkurt, 2019; Hashim, 2018; Johnston, 2020; Schwirzke et al., 2018). In recent years, studies have shown an increased rate in digital learning methods among primary, secondary, and higher education students (Aslan & Reigeluth, 2016; Bozkurt, 2019; Mcfarlane, 2019; Roberts, 2019; Saykili, 2018; Sezer, 2017). However, for the purposes of this literature review, digital learning will be examined in the primary and secondary (K-12) sectors of education.

Anthony et al. (2021) defined digital learning as the process of effectively utilizing technology tools to acquire knowledge in various contexts. Digital learning provides students with opportunities to organize, analyze, plan, and manage the pace and depth in which information is obtained. Furthermore, Anthony et al. (2021) revealed the multifaceted approach creates strategic, systematic ways for students to report learning over time. The digital learning modality is commonly categorized into three distinct instructional methods: online learning, blended learning, and supplemental online learning (Barbour, 2018; Lock et al., 2017; Schwirzke et al., 2018). Each method of digital learning differs based on instructional pacing, interaction, student autonomy, and the amount of technology used during delivery of instruction (Cingel & Hargittai, 2018; Glover et al., 2016; Hashim, 2018; Johnston, 2020; Lock et al., 2017; Picciano & Seaman, 2019).

Online Learning

According to Lock et al. (2017), online learning is classified as the use of technological devices and resources to deliver 80% or more of instruction outside of the traditional, physical classroom setting. Researchers in the field of online learning often utilize terms such as virtual learning, distance learning, and e-learning interchangeably to describe this method of instruction

(Barbour, 2018). The digital learning approach is distinctively managed through interaction between teachers, parents, and students through synchronous and asynchronous instruction (Lock et al., 2017; Picciano & Seaman, 2019). Synchronous instruction incorporates interaction between instructors and students as they engage in learning simultaneously (Palvia et al., 2018; Yang et al., 2019). Instructors provide learning experiences through digital resources such as video sharing platforms and collaborative groups using a digital curriculum. Contrary to synchronous learning, Yang et al. (2019) noted asynchronous instruction includes independent activities engaged in by the learner, separate from digital teacher-led instruction. Parents and students collectively control the location and pace learning takes place. Through each form of instruction, technology is used as the primary learning resource (Picciano & Seaman, 2019; Sadeghi, 2019).

Blended Learning

Blended learning is described as a method of instruction that includes a combination of online and face-to-face teaching (Anthonysamy et al., 2021; Picciano & Seaman, 2019). Since this method of learning occurs in a traditional, physical school setting, the modality of learning is primarily between the students and teacher (Alqarni, 2018; Schwirzke et al., 2018). As instructors develop curriculum-based assignments and provide face-to-face instruction, students utilize technology learning platforms to complete assignments with guidance from the teacher (Moore et al., 2017; Schwirzke et al., 2018). Therefore, pacing and technology usage is collectively determined by students and teachers through a developed timeline. Ultimately, the digital learning method requires frequent communication between students and teachers as flexible timelines are developed and maintained to cover curriculum content (Alqarni, 2018; Spring & Graham, 2017).

Supplemental Online Learning

Supplemental online learning is provided in a traditional, face-to-face school setting with online options for select courses (Barbour, 2018; Picciano & Seaman, 2019). The unique difference between this method of digital learning is that most of the instruction is provided through face-to-face learning with few online options available (Barbour, 2018; Schwirzke et al., 2018). Teachers determine the assignments and pacing for students for much of their coursework. In the select classes offered online, students determine the pace and amount of technology usage needed to complete course content (Barbour, 2018; Saykili, 2018). While each method of digital learning renders various levels of technology integration, it is important to examine how the ever-growing learning platform came into existence.

The Evolution of Digital Learning Through Distance Education in the United States

Research suggests early evidence of distance education emerged in the 1800s with adults receiving education through mail correspondence (Bozkurt, 2019; Kentnor, 2015; Palvia et al., 2018; Sadeghi, 2019). The practice included correspondence educators using postal services to deliver instructional materials to students at work or home. Upon completion of material, instructors provided feedback to students for correction. Venkateshwarlu et al. (2017) claimed this form of learning aimed to provide underrepresented populations, particularly women, opportunities to receive formal education. However, Bozkurt (2019) argued early forms of correspondence education afforded all working-class, underprivileged individuals with equal access to formal education while balancing work and familial responsibilities. While the early start of correspondence education opened the door for adults to continue education efforts, the lengthy processing time due to mail delivery created communication barriers for instructors and

students (Heydenrych & Prinsloo, 2010; Kentnor, 2015; Oliveira et al., 2018; Palvia et al., 2018; Park & Shea, 2020; Sadeghi, 2019).

With the need to increase correspondence interaction, Mayer (2018) revealed instructors diligently explored ways to enhance the quality of education for students. The invention of the radio created an opportunity for higher education institutions to reach a broader audience of learners through educational broadcasting (Kentnor, 2015; Mayer, 2018; Saykili, 2018; Zawacki-Richter & Naidu, 2016). Daily sessions were broadcasted at local universities to educate students in music, science, history, and literature (Johnston, 2020; Park & Shea, 2020). Additionally, institutions employed tutors to assist students in subject areas over the telephone (Kentnor, 2015; Mayer, 2018; Oliveira et al., 2018). With convenience as a driving force, institutions managed multiple options to keep educational opportunities open and flexible for students unable to attend traditional, on-campus classes (Bozkurt, 2019; Johnston, 2020; Mayer, 2018; Oliveira et al., 2018; Sadeghi, 2019; Saykili, 2018). While this intricate way of educating learners provided a faster way of delivering instruction, the need for increased participation and interaction between teachers and students persisted (Ibrahim & Mishra, 2016; Oliveira et al., 2018; Xiao, 2017). The invention of the television provided a new avenue for learning.

Previous studies indicated the invention of the television augmented instruction delivery for distance education learners (Bozkurt, 2019; Johnston, 2020; Oliveira et al., 2018; Saykili, 2018; Zawacki-Richter & Naidu, 2016). Educators utilized audio-visual methods to increase participation and enhance learning for in-person and distance learners (Ibrahim & Mishra, 2016; Mayer, 2018). As students engaged in educational televised learning, assignments were completed asynchronously or individually. However, the issue of reliability surfaced as many learners found it difficult to see or hear the instructor due to poor video quality (Kentnor, 2015;

Park & Shea, 2020). As a result, the consistency of completed assignments posed an issue for distance learners. Xiao (2017) further asserted this method created a learner-content centered approach in which learners interacted with course material but were limited in the amount of interaction with instructors. Given the growing importance of interaction between instructors and learners, institutions were faced with the need to employ more reliable advancements that fostered learner-instructor interaction (Xiao, 2017; Zawacki-Richter & Naidu, 2016). With efforts to resolve the instructional calamities with televised learning, the invention of the computer created a new medium to deliver instruction and increase interaction (Zawacki-Richter & Naidu, 2016).

Literature denotes progress through telecommunication courses, but a need for innovative advancements to service the growing population of learners electing to further their education outside of traditional classroom settings remained (Bozkurt, 2019; Kentnor, 2015; Mayer, 2018; Saykili, 2018; Zawacki-Richter & Naidu, 2016). The invention of the computer created an efficient medium for distance learners to participate in lessons, interact with instructors and study material, and fulfill work/home responsibilities (Bozkurt, 2019; Oliveira et al., 2018). Eventually, the new method of learning paved the way for interaction between learners enrolled in the same courses of study (Xiao, 2017; Zawacki-Richter & Naidu, 2016). As the growth of computer-based distance learning gained popularity for its convenient and flexible approach, the development of digital learning emerged (Bozkurt, 2019; Oliveira et al., 2018; Saykili, 2018).

Lin et al. (2017) revealed the development of digital learning focused on increasing teacher-student interactions and minimizing the exclusivity of formal education. Through its evolution, it reached audiences with limited or no previous access to formal studies and offered various levels of participation such as online, blended, and supplemental learning options

(Bozkurt, 2019; Oliveira et al., 2018; Saykili, 2018). With origins in higher education institutions, the distance learning platform led to the development of digital learning structures in the K-12 setting (Alqarni, 2018; Barbour, 2018; Bozkurt, 2019; Oliveira et al., 2018; Spring & Graham, 2017). K-12 digital learning schools provided students, teachers, and parents the opportunity to explore fields of study with autonomy of location, time, and pace (Bozkurt, 2019; Hashim, 2018; Johnston, 2020; Schwirzke et al., 2018). Comparable to the paths of higher education institutions in reference to correspondence education, radio and television media, and computer-based instruction, digital learning has become a widespread choice of instruction for K-12 students worldwide (Alqarni, 2018; Barbour, 2018; Saykili, 2018; Spring & Graham, 2017).

Theoretical Framework

Moore's Theory of Transactional Distance is regarded as a seminal work for distance learning and used as the guiding framework for this research study. As an increasing number of K-12 students are enrolled in digital learning programs, opportunities are presented for learners to acquire knowledge and skill sets at rates comparable to peers receiving face-to-face instruction (Bolliger & Halupa, 2018; Weidlich & Bastiaens, 2018). However, through the instructional delivery method, interaction is critical for success. Instructors must ensure materials are accessible and comprehensible for distance learners. According to Moore (1993) the theory of transactional distance suggests instructor-learner interaction influences the level and rate of achievement. Physical separation or distance should not impede a learner's access to content, interaction with instructors and peers, or feedback received (Bolliger & Halupa, 2018; Moore, 1993). Ultimately, with learning modalities outside of the traditional face-to-face environment,

instructors and learners must develop new behaviors and patterns to construct knowledge in the digital world (Moore, 2018; Roberts, 2019).

Transactional distance is defined as the level of understanding and perception of learning created when instructors and learners are separated by space and time (Bolliger & Halupa, 2018; Moore, 1993; Swart & MacLeod, 2021). This form of separation takes place in both traditional and distance learning environments, but increases the more instructors and learners are physically separated. As a result, it is likely for learning misconceptions to occur as online learning requires a high level of self-directedness (Moore, 1993). Moore's theory of transactional distance revealed the amount of interaction between teachers and students influences the amount of transactional distance experienced in digital learning programs (Moore, 1993, 2018; Swart & MacLeod, 2021). Furthermore, he emphasized the importance of recognizing the transactional gaps present in distance learning programs and utilizing forms of interaction to minimize their existence (Moore, 1993, 2018). This is critical as interaction is considered a continuous transaction that influences content engagement and the rate at which knowledge is acquired (Weidlich & Bastiaens, 2018). Thus, examining the type and level of interaction between instructors and learners can influence overall success in the digital learning environment (Sadeghi, 2019; Swart & MacLeod, 2021). To achieve this, Moore (2018) and Roberts (2019) argued that distance education requires all parties (teachers and students) to adjust practices and learning behaviors to adapt to the distance learning pedagogy.

Deriving from the early works of John Dewey, Moore viewed learning as a social construct, thereby rendering interaction an integral part of effective distance education (Forte et al., 2016). Moore (1993) identified dialogue, structure, and autonomy as key elements influencing interaction and the transactional distance experienced during digital learning. Each

element systematically contributes to the knowledge acquisition and the overall level of success within the online environment. Consequently, it is important to note that each transactional element can increase or decrease at any time as the level of interaction fluctuates (Bolliger & Halupa, 2018; Schreiber & Jansz, 2020; Weidlich & Bastiaens, 2018). Close monitoring is suggested as the interrelated elements influence overall success in digital learning programs (Forte et al., 2016; Moore, 2018).

Dialogue

Dialogue is regarded as a critical component of digital learning (Huang et al., 2016). It involves communication and interaction between instructors, learners, and content (Sadeghi, 2019; Schreiber & Jansz, 2020; Weidlich & Bastiaens, 2018). Yet, dialogue is not solely dependent upon the instructor or learner (Huang et al., 2016; Sadeghi, 2019). Its value is held within digital learning programs employing a balance between course structure and interaction (Forte et al., 2016; Sadeghi, 2019). The depth of dialogue is set in the structure or design of online learning (Huang et al., 2016; Moore, 1993; Schreiber & Jansz, 2020). Studies revealed initial dialogue is prompted by the instructor and continued with further communication with learners and their peers (Huang et al., 2016; Schreiber & Jansz, 2020; Weidlich & Bastiaens, 2018). When courses are designed to provoke dialogue with learners, new discovery and learning is enhanced through opportunities for communication. When courses are structured for minimal dialogue between instructors and learners, learning is minimized due to a lack of communication and feedback.

Research shows an instructors' educational philosophy serves as the foundational premise of the type and extent of dialogue between instructors and learners throughout digital learning (Huang et al., 2016; Moore, 2018; Weidlich & Bastiaens, 2018). More so, the instructors' and

learners' communication styles and personalities influence the level of meaningful dialogue. Since digital learning involves separation between instructors and students, Garrison (2020) revealed the amount of transactional distance is created by the depth of dialogue happening in online environments. When dialogue is limited, transactional distance is widened (Huang et al., 2016). However, when dialogue is constant, the transactional distance gap is minimized, warranting higher quality of instruction (Huang et al., 2016; Moore, 1993; Schreiber & Jansz, 2020; Weidlich & Bastiaens, 2018).

Structure

Structure is the second dimension of Moore's theory and refers to the design of a digital learning course (Forte et al., 2016; Huang et al., 2016). The structure of a course is vital as it is one of the initial communication mediums used to convey the objectives, goals, and evaluation process for learners (Moore, 2018; Schreiber & Jansz, 2020). The design of the course must invoke continuous learning with consideration of the feasibility and flexibility of learners at various levels (Forte et al., 2016; Garrison; 2020; Huang et al., 2016). In an earlier study, Saba and Shearer (1994) proclaimed structure is a significant component of online learning as it is heavily based on instructors meeting the individual needs of learners. Fotiadou et al. (2017) later affirmed the needs of learners must remain as the driving force of course design to help foster knowledge acquisition throughout the learning process. More so, as the educational demands of distance learning programs differ, instructors must adapt course designs to adequately assess, reinforce, and reteach content for learners (Bolliger & Halupa, 2018; Forte et al., 2016; Schreiber & Jansz, 2020).

Moore (2018) emphasized the interrelatedness of the course structure and dialogue dimensions as highly structured courses are intended to increase the level of interaction through

dialogue. When learners can access course content through well-organized, flexible course designs, they have more opportunities to communicate with instructors and peers (Forte et al., 2016; Schreiber & Jansz, 2020). Furthermore, the design of the course can decrease the transactional distance experienced by instructors and learners (Huang et al., 2016; Moore, 1993). Similar to the depth of dialogue, when planning is expended on designing learner-centered course structures, engagement and overall success in digital learning programs increases (Bolliger & Halupa, 2018; Schreiber & Jansz, 2020).

Autonomy

The final dimension of Moore's theory is learner autonomy. Learner autonomy refers to the extent to which learners are self-directed and in control of the learning process (Fotiadou et al., 2017; Huang et al., 2016). Learners determine the pacing of content interactions, resources used, goals set, and the evaluation of learning (Firat, 2016; Schreiber & Jansz, 2020). Additionally, autonomy helps learners to develop a sense of ownership in coursework and accountability for the rate of knowledge acquisition. Early on, Moore (1993) recognized the need for a balance between structure and autonomy. He emphasized that effective distance learning courses provided appropriate amounts of instructor guidance while considering a learner's need for creativity. Years later, Firat (2016) further confirmed the concept by revealing that as learners interact with course content, they encounter tasks that challenge their thinking. As a result, they must critically evaluate their level of understanding to correct or acquire new knowledge (Abuhassna et al., 2020; Firat, 2016). Consequently, this form of knowledge acquisition creates a deeper sense of retention and appreciation for learning (Abuhassna et al., 2020; Bolliger & Halupa, 2018).

According to Bei et al. (2019), it is worth noting a high level of learner autonomy does not replace the need for student-instructor dialogue, interaction, and feedback. In fact, relevant studies have concluded high levels of autonomy have increased participation and interaction between learners, instructors, and content (Abuhassna et al., 2020; Bei et al., 2019; Bolliger & Halupa, 2018). Comparable to the dialogue and structure dimensions, the level of transactional distance experienced has also been linked to the amount of autonomy embedded into distance learning programs (Huang et al., 2016; Moore, 1993; Schreiber & Jansz, 2020). Increased learner autonomy decreases the transactional distance experienced by learners in online environments. In this respect, it is argued that gauging the level of autonomy present in distance learning programs is critical as it can contribute to life-long learning and continued education (Bei et al., 2019; Bolliger & Halupa, 2018; Firat, 2016; Fotiadou et al., 2017).

Research shows the theory of transactional distance is contingent upon dialogue, course structure, and learner autonomy (Bei et al., 2019; Bolliger & Halupa, 2018; Huang et al., 2016; Moore 1993; 2018). Each of the dimensions are interconnected to cultivate interaction needed for success in distance education programs (Garrison, 2020; Huang et al., 2016; Schreiber & Jansz, 2020). With research supporting the importance of each, the theoretical model continues to support distance education and digital learning programs today (Huang et al., 2016; Weidlich & Bastiaens, 2018).

A Need for Digital Learning

Research indicates a rapid growth in technology usage during the digital age (Mukhtar et al., 2020; Soto-Acosta, 2020; Tanis, 2020; Yuhanna et al., 2020). Digital learning platforms have provided access to resources needed to help learners thrive in future careers (Blundell et al., 2016; Trust, 2018). According to Branekova (2020), distance learning platforms support learners

in developing high-leveled competence in various areas of the workforce. In fact, digital proficiency is noted as a vital skill set as employers often offer advanced job training through online portals (Soto-Acosta, 2020; Trust, 2018). As a result, what was once considered optional knowledge and skills in career fields, are now leveraged for effective organizational growth.

Enrolling in digital learning programs during the K-12 sector can provide an advantage by acclimating learners to the online environment earlier in life (Blundell et al., 2016; Branekova, 2020). Digital learning platforms serve as a convenience measure for learners and create opportunities that otherwise may be unavailable (Blundell et al., 2016; Branekova, 2020; Mukhtar et al., 2020; Trust, 2018). Ultimately, digital learning offers convenient and flexible options, a wide selection of programs, and a customized learning experience for learners while preparing 21st century careers (Blundell et al., 2016; Mukhtar et al., 2020; Trust, 2018).

Advantages to Digital Learning

Convenience and Flexibility

Digital learning programs offer many advantages that are limited in traditional face-to-face structures (Bolliger & Martin, 2018; Mukhtar et al., 2020; Trust, 2018). Traditional school settings are restricted to specific times, locations, and the types of interaction experienced by learners (Sadeghi, 2019; Yuhanna et al., 2020). However, digital learning allows students to interact with instructors, peers, and content in varying circumstances without limitation to location or time (Abuhassna et al., 2020; Bei et al., 2019; Bolliger & Halupa, 2018; Moore, 1993). Moreover, as the roles, needs, and responsibilities of caregivers and learners shift, the need for flexible learning options increase (Bolliger & Martin, 2018; Mukhtar et al., 2020; Sadeghi, 2019). As a result, the convenient and flexible designs of digital learning programs serve as one of its leading marketing factors (Bolliger & Martin, 2018; Carter et al., 2020;

Mukhtar et al., 2020; Soto-Acosta, 2020; Yuhanna et al., 2020). With the ability to access online content from various locations, learners are not confined to time zone restraints and locations (Sadeghi, 2019; Trust, 2018). Thus, online learners experience networking interactions with people all over the world and create experiences that may be otherwise unavailable in a face-to-face setting (Branekova, 2020; Carter et al., 2020).

Wide Selection of Programs

Digital learning provides a wide selection of programs and classes (Palvia et al., 2018; Soto-Acosta, 2020). In a recent study, Gherhes et al. (2021) referred to digital learning as a transformative approach to education due to the variety of exposure provided to learners. In fact, digital learning has expanded its outreach to learners in ways deemed unattainable in the past (Blundell et al., 2016; Branekova, 2020; Mukhtar et al., 2020; Trust, 2018). The online learning structure minimizes a learner being limited to specialized programs only offered at specific institutions (Thi & Dung, 2020). Comparable to the findings of Gherhes et al. (2021), Afacan et al. (2021) discovered school choice is widely dependent upon the opportunities provided to increase knowledge exposure through course offerings. As a result, learners and families are attracted to or partial to schools based on enrollment space, zoning, or the availability of course offerings to support future endeavors (Afacan et al., 2021). However, when enrolled in a digital learning program, students have access to a variety of courses that may not be offered in traditional school settings (Palvia et al., 2018; Yuhanna et al., 2020). Ultimately, enrollment in digital learning programs allows for learners to gain access to wider course options while expanding their knowledge base for future careers (Soto-Acosta, 2020; Yuhanna et al., 2020).

Customized Learning Experiences

According to Mathis (2017), the average student-to-teacher ratio is continuously increasing in traditional classroom settings. As a result, teachers are challenged with meeting the individual needs of learners while managing on-task behaviors, conflict resolution, and the lack of resources (Gherhes et al., 2021; Solheim & Opheim, 2019). As educators work to minimize challenges, Parks-Stamm et al. (2017) highlighted that digital learning programs address these issues while meeting the needs of diverse learners. The researchers further noted the online learning environment cultivates learning opportunities with consideration of language, learner personalities, and communication style. Consequently, an increasing number of families are transitioning to digital learning formats as it has created a more student-centered approach to learning (Carter et al., 2020; Gherhes et al., 2021). Traditional school settings have proven the quality of education is highly reliant upon teacher attitudes and perspectives toward the profession (Bilgin & Aykac, 2016; Gherhes et al., 2021). However, with an abundance of resources and adaptive features, digital learning programs have provided an expansive network of customized learning experiences to transform traditional practices of knowledge acquisition (Carter et al., 2020; Palvia et al., 2018; Trust, 2018; Yuhanna et al., 2020).

Disadvantages to Digital Learning

Research indicates technology can be beneficial for all populations without attention to race, age, gender, or socioeconomic background (Cingel & Hargittai, 2018; Gallagher et al., 2019; Glover et al., 2016; Huffman et al., 2019). By enrolling in digital learning programs, learners are provided with the flexibility to explore content in realms that may not exist in traditional school settings (Blundell et al., 2016; Mukhtar et al., 2020; Trust, 2018). Although the benefits are abundant, digital learning programs can present limitations that may influence the overall decision to enroll in an online learning platform (Glover et al., 2016). It is essential to

examine the key elements that may influence the digital learning environment such as the affordability of devices, the digital divide, and the technology training received (Cingel & Hargittai, 2018; Glover et al., 2016). The analysis of each can provide insight into one's choice for their selected method of instruction.

Affordability

Previous research found numerous benefits of technology usage during instruction (Symons & Pierce, 2019; Tosun, 2018). In fact, Chun et al. (2016) revealed the increase in technology usage has resulted in instructors experiencing growing pressure to prepare students for a technologically interconnected society. This is largely attributed to digital learning being linked to increased academic achievement when effectively implemented (Bendici, 2020; Gallagher et al., 2019; Rowsell et al., 2017). As a result, districts and schools worldwide have encouraged the integration of technology during instruction (Lee et al., 2018; Raman et al., 2019; Symons & Pierce, 2019; Tosun, 2018). However, the key issue with this shift is highlighted when schools have limited funding for technology and families are not able to afford the cost of in-home devices needed to enroll in digital learning programs (Aslan & Reigeluth, 2016; Carver, 2016; Gallagher et al., 2019; Lee et al., 2018; McFarlane, 2019; Sezer, 2017). More specifically, Barbour (2018) reported many families have experienced financial hardship while attempting to sustain device compatibility for instruction. Technology restriction due to expenses can create a gap in learning and accessibility to resources, thus contributing to the digital divide (Barbour, 2018; Symons & Pierce, 2019).

Digital Divide

Serrano-Cinca et al. (2018) defined the digital divide as an inequality in internet or technology access due to geographic location or socioeconomic background. The affordability of

technological devices can create financial challenges for families regarding accessibility and operation, hence, limiting learners from enrolling in a digital learning program (Aslan & Reigeluth, 2016; Carver, 2016; Gallagher et al., 2019; Lee et al., 2018; McFarlane, 2019; Sezer, 2017). Although an increasing number of learners utilize digital platforms, there continues to be a wide-ranging number without access to technology (Gallagher et al., 2019; Sung, 2016).

Research has indicated access to digital learning resources aim at mitigating issues of equity and academic achievement for learners in low-income areas (Bendici, 2020; Gallagher et al., 2019; Rowsell et al., 2017). However, if the equity of resources is not investigated, the digital divide increases thereby, broadening the achievement gap (Bendici, 2020; Rowsell et al., 2017). Moreover, the digital divide described by Serrano-Cinca et al. (2018) is at risk of widening as the demand for technology access and digital literacy surges. Instructors must strategically address the academic decline that may surface due to the disparity (Gallagher et al., 2019; Serrano-Cinca et al., 2018).

Technology Training

While digital learning provides access to multiple learning opportunities, comparable to traditional school settings, training for instructors is needed in the virtual environment (Bendici, 2020; Blundell et al., 2016; Branekova, 2020; Carver, 2016; Cingel & Hargittai, 2018; Serrano-Cinca et al., 2018). Previous studies affirmed students enrolled in K-12 digital learning programs not only battle the accessibility of technology and knowledge of platform navigation but are also faced with the challenge of having instructors with limited advanced technology training (As, 2018; Blut & Wang, 2019; Gallagher et al., 2019; Majid & Shamsudin, 2019). As a result, digital learners must often seek assistance from parents or explore content on their own (Bicen & Taspolat, 2019; Huffman et al., 2019). Consequently, when exploring content entirely on their

own, learners are at risk of reduced academic engagement and more susceptible to cyber threats or inappropriate online behavior (Bendici, 2020; Cingel & Hargittai, 2018; Huffman et al., 2019). Although parents serve as a primary resource in digital learning environments, Cingel and Hargittai (2018) further revealed with multiple technology enhancements, many are without knowledge of how to navigate platforms utilized by learners. Parents are then restricted to the amount of instructional assistance they can provide in the home (Cingel & Hargittai, 2018). With insufficient training, a barrier is created, thereby limiting a student's access to resources, deepening of learning through instructor facilitation, and the level of parental involvement during learning (Cingel & Hargittai, 2018; Huffman et al., 2019).

Academic Success

Academic success is an essential part of the education system (Blut & Wang, 2019). Singh (2018) defined academic achievement as the ability to obtain desired outcomes within any given field of study. As schools primarily focus on the learner's achievement, it is vital for stakeholders to generate a common knowledge of factors contributing to academic success in a digital learning environment (Bolliger & Martin, 2018; Cingel & Hargittai, 2018; Tanis, 2020). Furthermore, it is critical to examine the schools' and parents' perception of standards influencing a learner's academic success (Lee et al., 2018; Martin et al., 2018). While learners engage in digital learning with instructors, peers, and content, their level of success is gauged by the amount of knowledge acquired (Abuhassna et al., 2020; Bei et al., 2019; Blut & Wang, 2019; Bolliger & Halupa, 2018; Moore, 1993). However, researchers have concluded academic success can be evaluated through various lenses (Bolliger & Martin, 2018; Tosun, 2018). The level of academic success can be evaluated through the motivation experienced by learners, the level of rigorous instruction, and the overall quality of instruction provided through digital learning

programs (Engin, 2020; Nasution et al., 2018; Viberg et al., 2020). Each is further examined through the lens of digital learning.

Motivation

Academic success is influenced by the level of motivation experienced by a learner (Erol & Turhan, 2018; Martin & Bolliger, 2018). Engin (2020) emphasized the level of motivation is propelled by internal and external factors. Since academic success is linked to the level of motivation experienced by learners, it is imperative to examine the internal and external factors that exist in digital learning environments.

Chaudhry and Shabbir (2019) stated the internal factors influencing motivation in digital learning programs include being a self-directed learner and displaying adequate self-discipline for time management. The authors further described key external factors including one's socioeconomic status and the availability of help during learning in the home environment. While studies have suggested motivational factors develop during early endeavors, researchers have advised monitoring for appropriate influence (Blut & Wang, 2019; Chaudhry & Shabbir, 2019; Engin, 2020). Martin and Bolliger (2018) proposed that if learners are provided opportunities to participate in self-directed activities, their innate ability and willingness to seek new learning will likely flourish. Contrarily, if external motivational factors overpower a learner's ability to participate in learning activities, their level of motivation to acquire new information diminishes. Each factor provides insight into the overall academic success in a digital learning program.

Internal Influences

Self-Directed Learning. Self-directed learning serves as an internal motivational factor that influences one's ability and willingness to thrive in a digital learning environment (Beach,

2017). Tarhan (2020) suggested self-directed learning follows a linear structure deriving from identifying a need for learning, locating resources, and appropriately evaluating and reflecting on the success of the overall process. In a digital environment, this method of learning is the driving force of knowledge acquisition (Beach, 2017; Mukhtar et al., 2020; Walt, 2019). As learners are required to initiate the learning process in digital learning platforms, they must continuously discover relevant resources to effectively engage in and acquire knowledge during instruction (As, 2018; Beach, 2017; Walt, 2019). As a result, self-directed learning demands a high level of independence as learners engage in experiences to contribute to their overall academic success (Brits, 2019; Tarhan, 2020).

Time-management and Self-discipline. The academic success experienced during digital learning is contingent upon the learners' ability to manage time and course workloads (Martin & Bolliger, 2018). While most of the coursework is self-directed, learners must find a balance between acquisition of new learning, research for supporting resources, and evaluation of the content learned (Beach, 2017; Mukhtar et al., 2020; Walt, 2019). While learners balance completing coursework, determining when to seek instructional guidance is also pivotal during this process (Barbour, 2018). Although digital learning offers a high level of convenience and flexibility, time management and self-discipline are key components to discovering a successful balance between instruction and independent knowledge acquisition. However, if learners are not cognizant of time management strategies, content knowledge is limited and ultimately influences the overall rate of academic success (Martin & Bolliger, 2018).

External Influences

Socioeconomic status. Comparable to the influence of internal factors, external factors equally contribute to a learner's academic success in the digital learning environment (Blut &

Wang, 2019; Chaudhry & Shabbir, 2019; Engin, 2020). The socioeconomic status of families contributes to a learner's digital platform accessibility and effective use of resources (Cingel & Hargittai, 2018). Closely related to research on the digital divide, families of low socioeconomic status have limited access to compatibility platforms needed in digital learning (Aslan & Reigeluth, 2016; Carver, 2016; Gallagher et al., 2019; Lee et al., 2018; McFarlane, 2019; Sezer, 2017). In fact, previous studies have revealed families of low socioeconomic status lack the knowledge and internet access to support learners in a full-time digital learning atmosphere (Carver, 2016; Cingel & Hargittai, 2018; Gallagher et al., 2019). As a result, parents elect for face-to-face instruction where students are exposed to technology resources but are not solely dependent upon its availability in the home to academically excel (Glover et al., 2016).

In-home Assistance. Another factor influencing academic success, is the availability of in-home assistance during learning (Engin, 2020). In the digital learning environment, parental assistance is imperative for students in the primary and secondary sectors of education (Chaudhry & Shabbir, 2019; Cingel & Hargittai, 2018). As learners navigate digital resources, adult assistance is often needed to connect with learning by guiding time-management and the development of self-directed learning strategies (Engin, 2020; Erol & Turhan, 2018). Since research shows online teachers may not be available for immediate interaction during instruction, parents are required to serve as a resource for students on how to navigate digital platforms (Cingel & Hargittai, 2018; Gallagher et al., 2019; Gherhes et al., 2021; Solheim & Opheim, 2019). However, when learning is not fostered through frequent, additional support, learners are required to develop effective routines on their own (Cingel & Hargittai, 2018; Huffman et al., 2019). When this method is proven insufficient, it directly influences the overall academic success of the students in the digital learning environment (Brits, 2019; Tarhan, 2020).

Rigorous Instruction

Academic rigor is defined as the complexity of engagement encountered and fostered as students extend learning beyond the surface level of thinking (Huffman et al., 2019; Keller, 2018). Viberg et al. (2020) regarded the level of rigor learners experience while engaging with content as one of the greatest indicators of academic success in the educational world. The appropriate amount of rigor includes the learner's ability to assemble information from the instructor, peers, and course resources to strengthen knowledge acquisition (Abuhassna et al., 2020; Bei et al., 2019; Bolliger & Halupa, 2018; Lin et al., 2017). While digital learning programs offer adaptive learning options for learners of diverse levels, the degree of complexity and content accessibility greatly influence the outcome (Carter et al., 2020; Gherhes et al., 2021; Parks-Stamm et al., 2017). If learners are not challenged to extend their thought processes, it may result in limited engagement and a lack of in-depth discussion centered around new learning (Bolliger & Halupa, 2018; Lin et al., 2017). Conversely, if students have access to in-depth practices that evoke learning, they display a more cohesive knowledge base and seek ways to apply new learning to real-world contexts. Ultimately, the examination of the level of rigor is critical in digital learning programs as it influences a learner's academic success as compared to learners in traditional school settings. (Gherhes et al., 2021; Keller, 2018; Parks-Stamm et al., 2017; Viberg et al., 2020).

Quality of Instruction

The final significant aspect considered for academic success is a program's overall quality of instruction to prepare learners for the future (Mukhtar et al., 2020; Skiba, 2017). While digital learning provides students with a variety of avenues to utilize technology, it also creates

opportunities for future success. Quality digital learning programs incorporate opportunities for college readiness and entering the workforce (Chun et al., 2016; Sousa & Rocha, 2019).

College and Career Readiness

According to Nasution et al. (2018) learners must have a basic working knowledge of digital learning and resources upon entering college. As learners worldwide were required to engage in digital learning instructional methods due to the recent pandemic, educational institutions naturally increased the amount of technology utilized for instruction (Mukhtar et al., 2020; Soto-Acosta, 2020). More so, it has required learners to engage in digital learning without adequate preparation (Inbal & Blau, 2021). Learners had to adapt to the online learning environment as it became their sole source of instruction (Nasution et al., 2018). However, students enrolled in K-12 online programs held an increased advantage in obtaining academic success as they were acclimated to the digital learning environment (Inbal & Blau, 2021). Furthermore, learners immersed in digital learning during the early stages of development are prepared to enter college with digital competency needed to academically achieve in the post-secondary sector of learning (Chun et al., 2016; Inbal & Blau, 2021; Sousa & Rocha, 2019).

Quality instruction also constitutes academic success by measuring a program's overall ability to prepare learners for entering the workforce (Chun et al., 2016; Sousa & Rocha, 2019). Studies show that learners must have advanced levels of digital literacy and skill sets to enter most career fields (Soto-Acosta, 2020; Sousa & Rocha, 2019; Trust, 2018). While this may be viewed as a challenging task, it reinforces the learning of skills needed to be successful in the real world. As a result, quality instruction through digital learning platforms can provide opportunities and experiences for learners to succeed in their personal and professional lives (Mukhtar et al., 2020; Skiba, 2017).

Methodology

The purpose of this qualitative study was to examine parent perspectives of K-12 digital learning programs in southeast Texas. Additionally, the study explored how parents' perspectives of digital learning in relation to academic success influenced the selected mode of instruction for their child. The following research questions were used to examine each in the digital learning environment.

1. What are parents' perceptions of online learning and its influence on their child's academic success?
2. What are parents' perceptions of the quality of instruction provided by teachers related to their online students' academic success?
3. How did parents' perceptions of online learning influence their decision for the mode of instruction they selected for their child's academic success?

Research Design

The qualitative study utilized a phenomenological approach to examine posed research questions. Creswell et al. (2007) described the phenomenological research design as a collection of individual views or perspectives positioned around a shared or lived experience. Additionally, the research design concentrates on a small group of 13 participants to gain a deeper knowledge of the thoughts, feelings, and emotions throughout the experience (Castillo, 2018). For this study, the research design was appropriate as the researcher aimed to understand individuals' perspectives of a shared experience. Specifically, the study was designed to understand parents' perspectives of digital learning and its influence on their child's academic success. Furthermore, parent perspectives were explored to determine how they influenced the selected mode of instruction for their child.

Interviews were individually conducted to collect data from participants about their lived experiences. Creswell and Guetterman (2019) noted the importance of analyzing the shared experiences to create a comprehensive understanding of the explored central phenomenon. In the study, the one-on-one interviews recounting the shared experience allowed the researcher to gain a greater understanding of the phenomenon as themes emerged. Upon the conclusion of the interviews, the researcher transcribed and analyzed responses to generate a common understanding of the shared experiences to answer the study's research questions.

Setting and Participants

The targeted participants in the study were parents of K-12 learners who have participated in a digital learning platform in southeast Texas. Participants in the study were selected by way of convenience sampling. Etikan et al. (2016) noted convenience sampling allows the researcher to access a targeted population meeting the study criterion. Also, participants have a willingness to contribute to the study at any given time. The participant sample size and location served as a delimitation for the study by providing a convenient way to collect and organize data. For this study, the researcher contacted 13 participants who were willing to participate in the study and were available for a one-on-one interview. Additionally, each participant met the following criteria: legal parent or guardian of at least one child, their child was enrolled in a primary or secondary school, and their child is currently or was previously enrolled in a digital learning program.

Following sample identification, qualified participants were initially contacted via telephone by the researcher. The purpose of the study was explained, and participant email information was requested for the researcher to send a consent form. An email containing consent to participate was sent and requested for return. Upon obtaining the signed consent form,

a meeting date and time convenient for the participant was scheduled via email. Due to its convenient and flexible approach, all interviews were conducted via recorded sessions on Zoom. This method of interviewing alleviated travel time and allowed for more focused time in interview sessions (Creswell & Guetterman, 2019). Additionally, the recorded sessions allowed for the researcher to revisit the interview session for transcription. Finally, a formal invitation was provided to the participant containing a link and password for the video-recorded interview session. Notes were recorded during and immediately following the interview to document significant comments or statements that contributed to a deeper understanding of the research topic.

Data Collection

The data collection began with the researcher obtaining Lamar University's Institutional Review Board's (IRB) permission for research. After permission was granted, the researcher obtained written and oral participant consent to protect human rights while conducting recorded individually-structured interviews. Additionally, before each interview session, the researcher maintained participant confidentiality by assuring names, school/district names, and any other personal identifying information was excluded from all interview responses. Participants were notified of the risks and benefits associated with the study. Also, they were reminded that their names are not associated with the research, and all collected data would be stored and protected using a password-secured device. More so, the researcher informed participants that a copy of the interview transcript would be available for review once transcription was completed. Further, participants were reminded they were free to withdraw from the study at any time without penalty. Continued participation in the interview represented the participants' consent, acknowledgment, and understanding of rights during the study.

Data collection included individually-structured interviews recorded via Zoom. Each interview was scheduled on a day and time convenient for the participant and anticipated to last approximately 30 minutes. All participants met the following criteria: legal parent or guardian of at least one child, their child was enrolled in a primary or secondary school, and their child is currently or was previously enrolled in a digital learning program. Creswell and Guetterman (2019) expressed the importance of researchers utilizing an interview protocol to structure the process and record significant statements. For this purpose, a structured interview protocol with predetermined questions was used for each recorded individual session. The researcher utilized the following protocol questions to answer the proposed research questions:

Rapport building questions

1. How many children do you have?
2. How would you describe their personalities?
3. Do you think their personalities play a part in determining if they attend school online or in person? If yes, how so? If no, why not?
4. How do you define success?
5. Describe your idea of academic success in the school setting?

Content questions

1. How would you describe your child's motivation to learn while enrolled in a digital learning program?
2. What increased/decreased their motivation?
3. What helped your child adjust to the digital learning environment?
4. Describe how your child interacted with teachers, peers and course material during digital learning?

5. In a digital learning program, how would you describe the teacher's overall knowledge and ability to help with technology issues?
6. Describe the type of support/help your child received when he/she did not understand a concept while enrolled in digital learning courses.
7. Do you feel your child was adequately challenged in the digital learning environment? If no, why not? If yes, in what ways?
8. Do you feel the digital platform your child used to access assignments was easy to navigate? If yes, how so? If not, what was most difficult?
9. If your child experienced issues with their digital device, who was responsible for repairs?
10. What did you find most challenging/rewarding for your child while enrolled in a digital learning program?
11. In what ways do you feel digital learning helped or hindered your child in preparing for future careers and college success?
12. Did your child's college or career interests change while being enrolled in a digital learning program? If yes, how so?
13. What do you consider as some of the advantages/disadvantages of your child participating in a digital learning program? Why?

The developed interview protocol served as a focused guide for interaction between the researcher and participants. Each question was designed to capture the perceptions of parents regarding digital learning programs in southeast Texas schools and their child's academic success. Furthermore, the interview questions helped to examine how their perceptions influenced the mode of instruction selected for their child.

Treatment of the Data

Saldana (2015) described coding as the process of organizing ideas into common themes and relationships. To determine the common relationships and themes of parent perspectives regarding digital learning programs, its influence on academic success, and the selected mode of instruction for their child, interviews were conducted and recorded via Zoom. The recording of each interview allowed the researcher to revisit each session for transcription purposes. Multiple participants were interviewed to increase the accuracy of collected data and the trustworthiness of conclusions. Interviews were transcribed using transcription software and reviewed for accuracy. After transcription, a descriptive coding method was utilized to analyze collected data. An initial analysis was conducted for general concepts and perspectives. A second analysis was conducted for repeated key ideas and the emergence of themes. Shared perspectives were combined for the emergence of sub-themes and categories. Finally, through analysis of all interview transcriptions, findings were used to answer research questions. Findings were verified for commonalities using existing literature. Results provided the researcher with an understanding of parental perspectives about digital learning, academic success, and its influence on the mode of instruction selected for their child. More so, new findings contributed to the lack of research in the field.

Summary of Findings

The qualitative study utilized a phenomenological approach as parents recounted a shared experience that shaped their beliefs regarding digital platforms and their decision for the selected mode of instruction for their child (Creswell et al., 2007). Moreover, the research allowed participants to share their experiences and perspectives regarding digital learning. Through individual interviews, themes emerged regarding the topic to answer posed research questions.

Online Learning and Its Influence on Academic Success

Based on parent responses, three common themes emerged for the first research question. The themes contributing to parents' perceptions of online learning and its influence on their child's academic success included accountability, proficiency, and knowledge.

Accountability. Parents claimed digital learning increased the level of accountability for both students and parents. Due to the high level of self-directedness required in digital learning programs, students and parents must take on a greater level of ownership for content acquisition and access to resources. Additionally, findings revealed academic success in the digital learning environment is contingent upon factors such as logging into class on time, contacting teachers for assistance, and frequent communication between parents and teachers to ensure students are completing assignments and attending class. As a result, parents perceive the level of academic success for their child as a fluctuating force dependent upon the amount of accountability assumed throughout the course.

Proficiency. The researcher discovered from the findings that parents believed the digital learning environment often prepared their children for academic proficiency at the current level but did not intellectually challenge children through critical thinking processes needed for success in later grade levels or college. In fact, findings revealed many children discussed career aspirations less frequently while enrolled in a digital learning program than when receiving face-to-face instruction.

Knowledge. Throughout interviews, parents expressed the digital learning environment provided immediate access and first-hand information regarding their child's learning. Although parents at times experienced feelings of incompetency while supporting their children in digital learning environments, they revealed a greater level of knowledge in aiding children with identified

learning difficulties. Parents stated immediate access to accommodations and modifications from the convenience of their home allowed for their child to experience greater academic success.

Table 1

Online Learning and Its Influence on Academic Success

Theme	Quotations
Accountability	<p data-bbox="771 485 1325 596">She doesn't mind research and she doesn't mind investigating while researching to complete her assignments.</p> <p data-bbox="771 596 1325 743">They actually had to take initiative for themselves to keep doing work and make sure that they have the knowledge and information needed in the class.</p> <p data-bbox="771 779 1325 890">I always say to parents, that the teacher is there just to assist you and your child. It's up to us as parents to be more hands-on.</p> <p data-bbox="771 999 1325 1182">The greatest advantage is independence.... having my children make sure that they're holding themselves accountable... that they're responsible for everything that is required.</p> <p data-bbox="771 1220 1325 1402">I had to send emails so that I could know what was going on with him. If I didn't or he didn't make time to contact the teacher to know what was going on, he would fall behind in his grades.</p> <p data-bbox="771 1440 1325 1661">You have to be responsible; no one is ringing a bell for you to get to class. No one is, you know, saying that you have to get up and go. So, you have to be really self-motivated, and I saw that skill develop in her.</p> <p data-bbox="771 1698 1325 1837">I can definitely say that [digital learning] gave him a skill a lot sooner than later... to be used to holding himself accountable for what he needs to do for the day.</p>

Proficiency

He wasn't challenged like before when he was in school in front of the teacher.

I know that he needs to be ready for the next grade level and he probably won't be...he's behind in his reading. We have so many things we need to work on.

He used to always talk about being a firefighter, now he doesn't. He doesn't really talk about what he wants to be.

They were challenged to learn about the computer, but it forced us to do our own research to figure out how to understand the material. Most of the time we still didn't get it.

Knowledge

I did notice a big difference when we started a new school year of him having the services implemented online. His grades were better than they had been before because he had access to all of his accommodations right on his computer anyway. It made it a lot easier.

So, I didn't have to worry about if she was getting, those modifications... I could actually see it.

So, academically, she did better than she had in a long time, just because she was in a setting she wanted to be in which was at home with less stress, and then she had extra help.

I just think for children with already learning disabilities, it is a huge challenge for them. Only because you don't always have that one-on-one help all the time at school. Now, you're right there with them to help at home.

Overall, parents perceived accountability, proficiency, and knowledge as contributing factors to online learning and its influence on their child's academic success.

Quality of Learning and Academic Success

Research question number two examined parents' perceptions of the quality of instruction experienced by learners while in a digital learning program. Findings revealed experience, skills, and interactions as primary factors influencing the quality of instruction.

Experience. Parents perceived the quality of instruction provided by teachers as being directly linked to the teachers' experience. They believed teaching experience in the digital learning environment was a key factor in academic success. The more experience a teacher had in the digital learning environment, the more knowledgeable he/she was in helping students and parents troubleshoot issues on the spot. Additionally, parents felt the level of experience a teacher had with facilitating a digital learning course increased their availability and comfortability in helping students while mastering a concept or skill. As a result, parents revealed experienced teachers helped to increase the frequency of their child interacting with course content, receiving clarification for questions asked, and accessing resources, thereby, contributing to increased academic success.

Skills. Structured interviews divulged digital learning programs equipped children with technological skills useful in a digitally connected society. Parents stated enrollment in a digital program allowed their child to learn new ways of navigating the online environment and accessing resources. However, parents feared the quality of instruction for knowledge acquisition in core content areas such as reading and math did not positively compare to the quality of instruction their child received in a traditional school setting. As a result, parents expressed doubt

in the overall quality of instruction provided by teachers in the digital learning programs and its influence on their child’s academic success.

Interactions. Participants noted in digital learning programs teachers provided limited opportunities for students to interact with peers. Consequently, parents noticed a lack of focus for extended periods of time resulting in children leaving their computer screens during live class sessions and missing content information. Additionally, parents stated that with the decrease in interactions in digital learning, their children experienced feelings of isolation, depression, and worry about cultivating friendships. With this knowledge, participants revealed such instances impeded the overall academic success experienced in the digital learning program.

Table 2

Quality of Learning and Academic Success

Theme	Quotations
Experience	<p>If they [the children] needed to stay after the general class session to talk and get a little bit more detailed information the teacher stayed, but she’d taught online before so she knew that the children were having a hard time.</p> <p>The teachers made themselves available to reach out anytime if we had any type of question or concern. I liked that because before, we had to set up times to go to the school, which I couldn’t always get off of work to go.</p> <p>This was her first year teaching virtual learning and sometimes when the system would go down and I would ask her what was going on, she didn't really have a lot of answers for me.</p>
Skills	<p>They were using computers, but the computers were doing everything for them. My child wasn’t reading.</p>

This [technology] is something they didn't usually use every day, but everything uses technology now, you can't get around it.

We use it [technology] on a daily basis, and it's only going to increase in the upcoming years.

With virtual, I will say this, it helped them with computer skills. So, as they're getting older, it's like, they're understanding time management, logging into their classes on time, making sure their work is done without the teacher standing there telling them to do their work, it's just like online college courses. But were they understanding their math? No. All the stuff was wrong.

It kind of taught them how to use computers, but they were still struggling in their coursework.

Interactions

He's not the type of child that can sit in front of a computer all day for like eight hours.

She [the teacher] couldn't challenge the kids the way she needed to because their attention spans were short and before you know it they're up walking around. It was just a lot of them not paying attention and kind of doing whatever they wanted.

He felt stuck. I feel like human interaction is very important when it comes to children and that's how they continue to grow in life. When they don't have that, they tend to feel a little depressed and down...alone.

Our kids need that break, they need to go outside and socialize. They need to have

one-on-one contact with educators and teachers in order to grasp that concept.

Their motivation to learn decreased because they weren't able to interact with their friends like they normally would if they were in a school setting.

Overall, parents perceived experience, skills, and interactions as primary factors influencing the quality of instruction in the digital learning environment.

Selected Mode of Instruction for Academic Success

Research question number three explored the overall influence of parents selecting the mode of instruction for their child. Through one-on-one interviews, findings revealed responsibility and competence as influencing factors for the selected mode of instruction for children.

Responsibility. Parents felt an increased responsibility to contribute to their child's academic success. More so, interviews revealed digital learning programs require the identification of specific roles and actions needed for academic success. For instance, parents explained digital learning programs required tasks such as hiring tutoring services, finding additional work to reinforce unmastered concepts, and repairing technology devices. Furthermore, tasks traditionally reserved for teachers in the traditional school setting became the responsibility of the parent in a virtual setting. As a result, the ability and willingness to undergo such actions greatly influenced parents' decisions for the mode of instruction selected for their child.

Competence. Parents identified their level of academic competence and feelings of inadequacy as an influencing factor for the mode of instruction selected for their child. Participants also stated if they did not feel confident in the material presented in the digital learning format, they

were more likely to select face-to-face instruction. Furthermore, responses highlighted participants' fear of teaching concepts incorrectly and negatively influencing their child's overall academic success.

Table 3

Selected Mode of Instruction for Academic Success

Theme	Quotations
Responsibility	<p data-bbox="771 556 1330 808">We have a desktop, so we use our own equipment. So, in that case, I am responsible if something goes wrong which can get pretty expressive. He's young so I have to constantly monitor him to make sure he's not tearing up the computer.</p> <p data-bbox="771 850 1330 997">It was a lot to just keep up with all of the information...going to the right folder and just making sure all the assignments were done for the day for each class.</p> <p data-bbox="771 1039 1330 1249">My kids' grades were dropping, so I ended up finding a tutoring program for them and taking them there on Saturdays. That kind of helped out because I knew the teachers couldn't really do much at home.</p> <p data-bbox="771 1291 1330 1396">I would make little packages so that I could give them to my son to work on, on the weekends.</p>
Competence	<p data-bbox="771 1428 1330 1617">We [parents] have to be retrained to train them [the children] how to do things and when the teacher comes online, they assume that we know these things, and we don't.</p> <p data-bbox="771 1659 1330 1764">When we didn't know the criteria for the assignments, we had to learn the criteria in order to help.</p>

I'm not computer savvy. So, they really had to learn on their own. I tried to help the best I could, but it wasn't much.

I'm not a teacher. I would try to help though. There were older people online trying to help their children in the background and I know they were struggling. I had to help them.

I felt like I was failing my kids sometimes. It was overwhelming to try to keep them focused and trying to make sure that they grasped whatever was being discussed or taught at that moment.

I've been out of school for so long. So, it's not like I could have helped her.

Overall, parents perceived responsibility and competence as influencing factors for the mode of instruction selected for their child.

Conclusions

Parents, students, and teachers take on a greater level of accountability and responsibility during digital learning and teaching. Moore's Theory of Transactional Distance (1993), explained dialogue, course structure, and autonomy must be continuously monitored to ensure that the level of space and time does not interfere with learning. As a result, all stakeholders must work together to ensure course design, resources, and opportunities for interactions are present for students to experience high-quality instruction in the digital learning environment.

Parents' personal definition of success determined their perception of their child's success experienced in the digital learning environment. For example, some parents defined success as making good grades in grade-level courses. Others defined success as being able to acquire skills applicable to changing times. More so, parents defined success as the ability to

increase social and interpersonal skills among teachers and peers. With such varying differences in the definition of success, parents viewed the digital learning environment as capable of preparing their children for success in different ways.

Personality also contributes to a parent's decision to send their child to school for face-to-face instruction or to enroll in a digital learning program. Parents of children with outgoing, active personalities described their child as being less likely to maintain focus while digitally learning and participating in live sessions. As a result, the responsibility of parents increased as they were tasked with keeping their children motivated to pay attention while acquiring new information. Consequently, parents described their child's personality as an influence on the mode of instruction selected for their child.

Recommendations for Future Research

While this study focused on parents' perceptions of the digital learning environment, its influence on their child's academic success, and the overall decision for the selected mode of instruction, there are recommendations for future research. Based on interview responses, teacher preparation serves as the underlying factor for the quality of instruction, course interaction, and overall academic success experienced. Recommendation for future research includes the examination of the training provided to digital learning teachers. Research in this area can provide insight into the type of training provided for teachers regarding the course structure, level of dialogue, and autonomy recommended for digital learning courses. Accompanied by conclusions from this study, future research can provide digital learning programs with specific areas of focus for teacher training. As a result, it can strengthen training practices to increase the level of interaction, knowledge, proficiency, and parents' overall perspective of the digital learning environment.

References

- Abuhassna, H., Al-Rahmi, W., Yahya, N., Zakaria, M., Kosnin, A., & Darwish, M. (2020). Development of a new model on utilizing online learning platforms to improve students' academic achievements and satisfaction. *International Journal of Educational Technology in Higher Education*, 17(1), 1-23. <https://doi.org/10.1186/s41239-020-00216-z>
- Afacan, M. O., Dur, U., & Harris, W. (2021). School choice with hybrid schedules. *Games*, 12(2), 1-11. <https://doi.org/10.3390/g12020037>
- Alqarni, A. (2018). Blended learning and flipped classroom approaches. *American Research Journal of Humanities and Social Sciences*, 4(1), 1-6. <https://doi.org/10.21694/2378-7031.18012>
- Anthonyamy, L., Ah-Choo, K., & Soon-Hin, H. (2021). Investigating self-regulated learning strategies for digital learning relevancy. *Malaysian Journal of Learning and Instruction*, 18(1), 29-64. <https://doi.org/10.32890/mjli2021.18.1.2>
- As, F. (2018). Communities of practice as a tool for continuing professional development of technology teachers' professional knowledge. *International Journal of Technology and Design Education*, 28(2), 417-430. <https://doi.org/10.1007/s10798-017-9401-8>
- Aslan, S., & Reigeluth, C. M. (2016). Investigating "The coolest school in America": How technology is used in a learner-centered school. *Educational Technology Research and Development*, 64(6), 1107-1133. <https://doi.org/10.1007/s11423-016-9450-9>
- Barbour, M. (2018). A history of K-12 distance, online, and blended learning worldwide. In K. Kennedy & R. Ferdig (Eds.), *Handbook of Research on K-12 Online and Blended*

- Learning* (2nd ed., pp. 21-40). Carnegie Mellon University: ETC Press.
<https://doi.org/10.1184/R1/6686813.v1>
- Beach, P. (2017). Self-directed online learning: A theoretical model for understanding elementary teachers' online learning experiences. *Teaching and Teacher Education*, *61*(1), 60-72. <https://doi.org/10.1016/j.tate.2016.10.007>
- Bei, E., Mavroidis, I., & Giossos, Y. (2019). Development of a scale for measuring the learner autonomy of distance education students. *European Journal of Open, Distance and E-Learning*, *22*(2), 132-143. <https://doi.org/10.2478/eurodl-2019-0015>
- Bendici, R. (2020). Closing the digital divide: Educators work to ensure digital equity for all students by shifting mindsets and improving professional development. *District Administration*, *56*(1), 40-44.
- Bicen, H., & Taspolat, A. (2019). Students' views on the teaching process based on social media supported flipped classroom approach. *Brain: Broad Research in Artificial Intelligence and Neuroscience*, *10*(4), 115-144. <https://doi.org/10.18662/brain/08>
- Bilgin, H., & Aykac, N. (2016). Pre-service teachers' teaching-learning conceptions and their attitudes towards teaching profession. *Educational Process:*
- Black, E., Ferdig, R., & Thompson, L. A. (2021). K-12 virtual schooling, COVID-19, and student success. *JAMA Pediatrics*, *175*(2), 119-120.
<https://doi.org/10.1001/jamapediatrics.2020.3800>
- Blundell, C., Lee, K. T., & Nykvist, S. (2016). Digital learning in schools: Conceptualizing the challenges and influences on teacher practice. *Journal of Information Technology Education: Research*, *15*(1), 535-560. <https://doi.org/10.28945/3578>

- Blut, M., & Wang, C. (2019). Technology readiness: A meta-analysis of conceptualizations of the construct and its impact on technology usage. *Journal of the Academy of Marketing Science*, 48(4), 649-669. <https://doi.org/10.1007/s11747-019-00680-8>
- Bolliger, D. U., & Halupa, C. (2018). Online student perceptions of engagement, transactional distance, and outcomes. *Distance Education*, 39(3), 299-316. <https://doi.org/10.1080/01587919.2018.1476845>
- Bolliger, D. U., & Martin, F. (2018). Instructor and student perceptions of online student engagement strategies. *Distance Education*, 39(4), 568-583. <https://doi.org/10.1080/01587919.2018.1520041>
- Bozkurt, A. (2019). From distance education to open and distance learning: A holistic evaluation of history, definitions, and theories. In S. Sisman-Ugur & G. Kurubacak (Eds.), *Handbook of Research on Learning in the Age of Transhumanism* (pp. 252-273). IGI Global. <https://doi.org/10.4018/978-1-5225-8431-5.ch016>
- Branekova, D. (2020). The successful model of distance learning. *Trakia Journal of Sciences*, 18(1), 275-284. <https://doi.org/10.15547/tjs.2020.s.01.047>
- Brits, C. (2019). A focus on self-directed learning: The role that educators' expectations play in the enhancement of students' self-directedness. *South African Journal of Education*, 39(2), 1-11. <https://doi.org/10.15700/saje.v39n2a1645>
- Carter, R. A., Rice, M., Yang, S., & Jackson, H. A. (2020). Self-regulated learning in online learning environments: Strategies for remote learning. *Information and Learning Sciences*, 121(5), 321-329. <https://doi.org/10.1108/ils-04-2020-0114>

- Carver, L. (2016). Teacher perception of barriers and benefits in K-12 technology usage. *Turkish Online Journal of Educational Technology*, 15(1), 110-116.
<https://doi.org/10.21125/inted.2016.1845>
- Castillo, G. (2018). Qualitative methodologies: Which is the best approach for your dissertation topic? *International Journal of Novel Research in Education and Learning*, 5(2), 83-90.
- Chaudhry, M., & Shabbir, F. (2019). Exploring gender differences in academic motivation among adolescents. *Integrative Journal of Conference Proceedings*, 2(1), 1-6.
<https://doi.org/10.31031/icp.2019.02.000527>
- Chun, D., Kern, R., & Smith, B. (2016). Technology in language use, language teaching, and language learning. *The Modern Language Journal*, 100(1), 64-80.
<https://doi.org/10.1111/modl.12302>
- Cingel, D. P., & Hargittai, E. (2018). The relationship between childhood rules about technology use and later-life academic achievement among young adults. *The Communication Review*, 21(2), 131-152. <https://doi.org/10.1080/10714421.2018.1468182>
- Creswell, J. W., & Guetterman, T. C. (2019). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (6th ed.). Pearson.
- Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs. *The Counseling Psychologist*, 35(2), 236-264.
<https://doi.org/10.1177/0011000006287390>
- Engin, G. (2020). An examination of primary school students' academic achievements and motivation in terms of parents' attitudes, teacher motivation, teacher self-efficacy and

- leadership approach. *International Journal of Progressive Education*, 16(1), 257-276.
<https://doi.org/10.29329/ijpe.2020.228.18>
- Erol, Y. C., & Turhan, M. (2018). The relationship between parental involvement and engagement to school. *International Online Journal of Educational Sciences*, 10(5), 260-281. <https://doi.org/10.15345/iojes.2018.05.017>
- Etikan, I., Musa, S., & Alkassim, R. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-5.
<https://doi.org/10.11648/j.ajtas.20160501.11>
- Firat, M. (2016). Measuring the e-Learning autonomy of distance education students. *Open Praxis*, 8(3), 191-201. <https://doi.org/10.5944/openpraxis.8.3.310>
- Forte, G., Schwandt, D., Swayze, S., Butler, J., & Ashcraft, M. (2016). Distance education in the U.S.: A paradox. *Turkish Online Journal of Distance Education*, 17(3), 16-30.
<https://doi.org/10.17718/tojde.95102>
- Fotiadou, A., Angelaki, C., & Mavroidis, I. (2017). Learner autonomy as a factor of the learning process in distance education. *European Journal of Open, Distance and E-Learning*, 20(1), 96-111. <https://doi.org/10.1515/eurodl-2017-0006>
- Gallagher, T. L., Cesare, D. D., & Rowsell, J. (2019). Stories of digital lives and digital divides: Newcomer families and their thoughts on digital literacy. *The Reading Teacher*, 72(6), 774-778. <https://doi.org/10.1002/trtr.1794>
- Garrison, R. (2000). Theoretical challenges for distance education in the 21st century: A shift from structural to transactional issues. *The International Review of Research in Open and Distributed Learning*, 1(1), 1-17. <https://doi.org/10.19173/irrodl.v1i1.2>

- Gherhes, V., Stoian, C. E., Farcasiu, M. A., & Stanici, M. (2021). E-learning vs. face-to-face learning: Analyzing students' preferences and behaviors. *Sustainability*, *13*(8), 1-15.
<https://doi.org/10.3390/su13084381>
- Glover, I., Hepplestone, S., Parkin, H. J., Rodger, H., & Irwin, B. (2016). Pedagogy first: Realizing technology enhanced learning by focusing on teaching practice. *British Journal of Educational Technology*, *47*(5), 993-1002. <https://doi.org/10.1111/bjet.12425>
- Hashim, H. (2018). Application of technology in the digital era education. *International Journal of Research in Counseling and Education*, *2*(1), 1-5. <https://doi.org/10.24036/002za0002>
- Heydenrych, J. F., & Prinsloo, P. (2010). Revisiting the five generations of distance education: Quo vadis? *Progressio*, *32*(1), 5-26.
- Huang, X., Chandra, A., DePaolo, C. A., & Simmons, L. L. (2016). Understanding transactional distance in web-based learning environments: An empirical study. *British Journal of Educational Technology*, *47*(4), 734-747. <https://doi.org/10.1111/bjet.12263>
- Huffman, S., Shaw, E., & Loyless, S. (2019). Ensuring ethics and equity: Policy, planning, and digital citizenship. *Education*, *140*(2), 87-99.
- Ibrahim, B., & Mishra, N. (2016). College radio as a mechanism for participatory learning: Exploring the scope for online radio-based learning among undergraduates. *Higher Learning Research Communications*, *6*(1), 21-34. <https://doi.org/10.18870/hlrc.v6i1.292>
- Inbal, T., & Blau, I. (2021). Facilitating emergency remote K-12 teaching in Computing-Enhanced virtual learning environments during COVID-19 pandemic - blessing or curse? *Journal of Educational Computing Research*, *1*(1), 129.
<https://doi.org/10.1177/0735633121992781>
International Journal, *5*(2), 139-151. <https://doi.org/10.12973/edupij.2016.52.5>

- Jackman, J. A., Gentile, D. A., Cho, N. J., & Park, Y. (2021). Addressing the digital skills gap for future education. *Nature Human Behaviour*, 5(5), 542-545.
<https://doi.org/10.1038/s41562-021-01074-z>
- Johnston, J. P. (2020). Creating better definitions of distance education. *Online Journal of Distance Learning Administration*, 23(2).
- Keller, C. M. (2018). Reframing rigor: Implications for institutional practice and policy. *New Directions for Higher Education*, 2018(181), 89-96. <https://doi.org/10.1002/he.20273>
- Kentnor, H. (2015). Distance education and the evolution of online learning in the United States. *Curriculum and Teaching Dialogue*, 17(1), 21-34.
https://digitalcommons.du.edu/law_facpub/24/
- Lee, D., Huh, Y., Lin, C. Y., & Reigeluth, C. M. (2018). Technology functions for personalized learning in learner-centered schools. *Educational Technology Research and Development*, 66(5), 1269-1302. <https://doi.org/10.1007/s11423-018-9615-9>
- Lin, M. H., Chen, H. G., & Liu, K. S. (2017). A study of the effects of digital learning on learning motivation and learning outcome. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(7), 3553-3564. <https://doi.org/10.12973/eurasia.2017.00744a>
- Lock, J., Eaton, S., & Kessy, E. (2017). Fostering self-regulation in online learning in K-12 education. *Northwest Journal of Teacher Education*, 12(2), 1-14.
<https://doi.org/10.15760/nwjte.2017.12.2.2>
- Majid, F., & Shamsudin, N. (2019). Identifying factors affecting acceptance of virtual reality in classrooms based on technology acceptance model. *Asian Journal of University Education*, 15(2), 51-60. <https://doi.org/10.24191/ajue.v15i2.7556>

- Martin, F., Wang, C., & Sadaf, A. (2018). Student perception of helpfulness of facilitation strategies that enhance instructor presence, connectedness, engagement and learning in online courses. *The Internet and Higher Education*, 37(1), 52-65.
<https://doi.org/10.1016/j.iheduc.2018.01.003>
- Mathis, J. (2017). The effectiveness of class size reduction. *Psychosociological Issues in Human Resource Management*, 5(1), 176-184. <https://doi.org/10.22381/pihrm5120176>
- Mayer, R. E. (2018). Thirty years of research on online learning. *Applied Cognitive Psychology*, 33(2), 152-159. <https://doi.org/10.1002/acp.3482>
- McFarlane, A. E. (2019). Devices and desires: Competing visions of a good education in the digital age. *British Journal of Educational Technology*, 50(3), 1125-1136.
<https://doi.org/10.1111/bjet.12764>
- Moore, M. G. (1993). Theory of transactional distance. In K. Desmond (Ed.), *Theoretical principles of distance education* (pp. 22-38). Routledge.
- Moore, M. G. (2018). The theory of transactional distance. In W. C. Diehl (Ed.), *Handbook of distance education* (4th ed., pp. 32-46). Routledge.
<https://doi.org/10.4324/9781315296135-4>
- Moore, M., Robinson, H., Sheffield, A., & Phillips, A. (2017). Mastering the blend: A professional development program for K-12 teachers. *Journal of Online Learning Research*, 3(2), 145-173.
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, limitations, and recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*, 36(4), 27-31. <https://doi.org/10.12669/pjms.36.covid19-s4.2785>

- Nasution, R. A., Rusnandi, L., Qodariah, E., Arnita, D., & Windasari, N. A. (2018). The evaluation of digital readiness concept: Existing models and future directions. *The Asian Journal of Technology Management*, *11*(2), 94-117.
<https://doi.org/10.12695/ajtm.2018.11.2.3>
- Oliveira, M., Penedo, A., & Pereira, V. S. (2018). Distance education: Advantages and disadvantages of the point of view of education and society. *Dialogia*, *1*(29), 139-152.
<https://doi.org/10.5585/dialogia.n29.7661>
- Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018). Online education: Worldwide status, challenges, trends, and implications. *Journal of Global Information Technology Management*, *21*(4), 233-241.
<https://doi.org/10.1080/1097198x.2018.1542262>
- Park, H., & Shea, P. (2020). A ten-year review of online learning research through co-citation analysis: Online learning, distance learning, and blended learning. *Online Learning*, *24*(2), 225-244. <https://doi.org/10.24059/olj.v24i2.2001>
- Parks-Stamm, E. J., Zafonte, M., & Palenque, S. M. (2017). The effects of instructor participation and class size on student participation in an online class discussion forum. *British Journal of Educational Technology*, *48*(6), 1250-1259.
<https://doi.org/10.1111/bjet.12512>
- Picciano, A. G., & Seaman, J. (2019). K-12 online learning: A survey of U.S. school district administrators. *Online Learning*, *11*(3), 11-37. <https://doi.org/10.24059/olj.v11i3.1719>
- Raman, A., Thannimalai, R., & Ismail, S. N. (2019). Principals' technology leadership and its effect on teachers' technology integration in 21st century classrooms. *International Journal of Instruction*, *12*(4), 423-442. <https://doi.org/10.29333/iji.2019.12428a>

- Roberts, J. J. (2019). Online learning as a form of distance education: Linking formation learning in theology to the theories of distance education. *HTS Teologiese Studies/Theological Studies*, 75(1), 1-9. <https://doi.org/10.4102/hts.v75i1.5345>
- Rowse, J., Morrell, E., & Alvermann, D. E. (2017). Confronting the digital divide: Debunking brave new world discourses. *The Reading Teacher*, 71(2), 157-165. <https://doi.org/10.1002/trtr.1603>
- Saba, F., & Shearer, R. L. (1994). Verifying key theoretical concepts in a dynamic model of distance education. *American Journal of Distance Education*, 8(1), 36-59. <https://doi.org/10.1080/08923649409526844>
- Sadeghi, M. (2019). A shift from classroom to distance learning: Advantages and limitations. *International Journal of Research in English Education*, 4(1), 80-88. <https://doi.org/10.29252/ijree.4.1.80>
- Saldana Johnny. (2015). *The coding manual for qualitative researchers*. SAGE.
- Saykili, A. (2018). Distance education: Definitions, generations, key concepts, and future directions. *International Journal of Contemporary Educational Research*, 5(1), 2-17.
- Schreiber, B. R., & Jansz, M. (2020). Reducing distance through online international collaboration. *ELT Journal*, 74(1), 63-72. <https://doi.org/10.1093/elt/ccz045>
- Schwirzke, K., Vashaw, L., & Watson, J. (2018). A history of K-12 online and blended instruction in the United States. In K. Kennedy & R. Ferdig (Eds.), *Handbook of Research on K-12 Online and Blended Learning* (2nd ed., pp. 7-20). Carnegie Mellon University: ETC Press. <https://doi.org/10.1184/R1/6686813.v1>

- Serrano-Cinca, C., Munoz-Soro, J. F., & Brusca, I. (2018). A multivariate study of internet use and the digital divide. *Social Science Quarterly*, 99(4), 1409-1425.
<https://doi.org/10.1111/ssqu.12504>
- Sezer, B. (2017). The effectiveness of a technology-enhanced flipped science classroom. *Journal of Educational Computing Research*, 55(4), 471-494.
<https://doi.org/10.1177/0735633116671325>
- Singh, B. (2018). High school students' academic achievement in relation to their achievement, motivation and intelligence. *Journal of Advances and Scholarly Research in Allied Education*, 15(4), 212-217. <https://doi.org/10.29070/15/57500>
- Skiba, D. J. (2017). Quality standards for online learning. *Nursing Education Perspectives*, 38(6), 364-365. <https://doi.org/10.1097/01.nep.0000000000000247>
- Solheim, O. J., & Opheim, V. (2019). Beyond class size reduction: Towards more flexible ways of implementing a reduced pupil-teacher ratio. *International Journal of*
- Soto-Acosta, P. (2020). Covid-19 pandemic: Shifting digital transformation to a high-speed gear. *Information Systems Management*, 37(4), 260-266.
<https://doi.org/10.1080/10580530.2020.1814461>
- Sousa, M. J., & Rocha, L. (2019). Digital learning: Developing skills for digital transformation of organizations. *Future Generation Computer Systems*, 91(1), 327-334.
<https://doi.org/10.1016/j.future.2018.08.048>
- Spring, K. J., & Graham, C. R. (2017). Thematic patterns in international blended learning literature, research, practices, and terminology. *Online Learning*, 21(4), 337-361.
<https://doi.org/10.24059/olj.v21i4.998>

- Sung, W. (2016). A study of the digital divide in the current phase of the information age: The moderating effect of smartphones. *Information Polity*, 21(3), 291-306.
<https://doi.org/10.3233/ip-160398>
- Swart, W., & MacLeod, K. (2021). Evaluating learning space designs for flipped and collaborative learning: A transactional distance approach. *Education Sciences*, 11(6), 1-18. <https://doi.org/10.3390/educsci11060292>
- Symons, D., & Pierce, R. (2019). Programs, packages, and apps: Some guidance for investment in technology. *Australian Primary Mathematics Classroom*, 24(1), 3-6.
- Tanis, C. J. (2020). The seven principles of online learning: Feedback from faculty and alumni on its importance for teaching and learning. *Research in Learning Technology*, 28(1), 1-25. <https://doi.org/10.25304/rlt.v28.2319>
- Tarhan, B. (2020). Self-directed learning: Investigating learner beliefs. *International Journal of Eurasia Social Sciences*, 11(39), 1-10. <https://doi.org/10.35826/ijjoess.2490>
- Thi, D., & Dung, H. (2020). The advantages and disadvantages of virtual learning. *Journal of Research & Method in Education*, 10(3), 45-48. <https://doi.org/10.9790/7388-1003054548>
- Tosun, N. (2018). Social networks as a learning and teaching environment and security in social networks. *Journal of Education and Training Studies*, 6(11), 194-208.
<https://doi.org/10.11114/jets.v6i11a.3817>
- Trust, T. (2018). Why do we need technology in education? *Journal of Digital Learning in Teacher Education*, 34(2), 54-55. <https://doi.org/10.1080/21532974.2018.1442073>

- Venkateshwarlu, N., Raju, N. V. S., & Kumar, M. P. (2017). Distance education: How much distance? The history, opportunities, issues and challenges. *Global Journal of Enterprise Information System*, 8(3), 70-77. <https://doi.org/10.18311/gjeis/2016/15734>
- Viberg, O., Khalil, M., & Baars, M. (2020). Self-regulated learning and learning analytics in online learning environments. *Proceedings of the Tenth International Conference on Learning Analytics & Knowledge*, 524-533. <https://doi.org/10.1145/3375462.3375483>
- Wakil, K., Qaisar, N., & Mohammed, C. (2017). Enriching classrooms with technology in basic schools. *European Journal of Open Education and E-Learning Studies*, 2(1), 99-108. <https://doi.org/10.5281/zenodo.841925>
- Walt, J. L. (2019). The term “self-directed learning”-back to Knowles, or another way to forge ahead? *Journal of Research on Christian Education*, 28(1), 1-20. <https://doi.org/10.1080/10656219.2019.1593265>
- Weidlich, J., & Bastiaens, T. J. (2018). Technology matters-the impact of transactional distance on satisfaction in online distance learning. *The International Review of Research in Open and Distributed Learning*, 19(3), 223-242. <https://doi.org/10.19173/irrodl.v19i3.3417>
- Xiao, J. (2017). Learner-content interaction in distance education: The weakest link in interaction research. *Distance Education*, 38(1), 123-135. <https://doi.org/10.1080/01587919.2017.1298982>
- Yang, J., Yu, H., & Chen, N. S. (2019). Using a blended synchronous classroom approach to promote learning performance in rural areas. *Computers & Education*, 141, 1-13. <https://doi.org/10.1016/j.compedu.2019.103619>

Yuhanna, I., Alexander, A., & Kachik, A. (2020). Advantages and disadvantages of online learning. *Journal Educational Verkenning, 1*(2), 13-19.

<https://doi.org/10.48173/jev.v1i2.54>

Zawacki-Richter, O., & Naidu, S. (2016). Mapping research trends from 35 years of publications in Distance education. *Distance Education, 37*(3), 245-269.

<https://doi.org/10.1080/01587919.2016.1185079>