Increased Access to Play in Academic Settings

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Introduction

Play is an innate part of human life that exists beyond location, race, socioeconomic status, or ability. It transcends mere social interaction, serving as a platform for imagination, creativity, empowerment, and self-driven knowledge. It is not only important but essential for healthy development and optimal learning outcomes. Moreover, the integration of technology into our society has accelerated following the COVID-19 pandemic. As a result, many children now use technology as replacement for traditional educational methods in classroom settings. This mode of learning has spilled over outside of the classroom as well. As a result, there has been less engagement in active, outdoor, immersive play and an increase in sedentary activities, such as using computers, playing video games, and watching television. The increased reliance on digital technology has deprived modern children of the opportunities and experiences necessary for their growth and development, which were available to previous generations. While some may view this transition as a step toward a more technologically advanced future with improved academic outcomes, the reduction of play may have several detrimental developmental and social outcomes.

Children possess a natural desire to play, explore their surroundings, and engage in hands-on activities that stimulate their minds and senses. Furthermore, socialization through play allows children to acclimate to the world around them and become productive members of society. Warm and emotionally rich contexts are more effective in stimulating neural development in children, in comparison to aimless technology use (Frost et al., 2012). Play is a crucial asset to child development, and our society must recognize its importance. For instance,

reducing or eliminating recess poses a significant threat to child development and underscores the importance of play in promoting healthy growth and interaction opportunities for all children at school. It is crucial that contemporary children, especially those in pre-k and elementary schools, are continually exposed to the inherent benefits of natural play in their academic settings.

Theory

As stated by Friedrich von Schiller, "play is the expenditure of exuberant energy from which all creative, artistic, and spiritual activities grow" (Frost et al., 2012, p. 4). In Schiller's view, play offers children an opportunity to break free from routine and elevate their thinking to a higher level, transcending the limitations of human experience and offering a source of hope (Frost et al., 2012) In his theory, leftover energy from the day is transformed into play, allowing children to explore the wonders of their imagination and develop holistically. This theory by Schiller finds resonance in the idea of a "flow state", where both the mind and body are fully engaged and external contexts are forgotten (Jones & Reynolds, 2011). This state of flow holds immense value for the growing child, as immersive play experiences enable them to discover their own sense of purpose and cultivate a feeling of mastery and determination in their lives (Jones & Reynolds, 2011). The integration of natural elements in wide open spaces, such as trees, plants, soil, fruits and vegetables, animal habitats, and playhouses, supports the immersion of children into flow states (Frost et al., 2012). Access to these types of environments allows children to run around, explore, be active, and engage in imaginative play.

Friedrich Froebel was inspired by the work of Schiller to design a play-based curriculum for early education, and created the concept of kindergarten as we now know it. Froebel's

philosophy aligns with the concept of flow, enthusiasm, creativity, self-driven knowledge, and the development of independence that is disrupted by restrictive classroom environments and inadequate play spaces (Frost et al., 2012). He believed that surplus energy in children could serve as an avenue for natural education and spiritual development, incorporating natural elements of play into his kindergarten known as “gifts and occupations” (Frost et al., 2012). These include activities such as ball play, building blocks, sticks, crafts, and traditional songs and games in classroom settings (Frost et al., 2012). These core activities are still used today and continue to promote physical development through fine motor skills and spatial awareness, as well as cognitive development such as problem-solving, creativity, and opportunities for socialization. Like Froebel, modern era theorist, John Dewey incorporated many naturalistic, interactive elements that provide a nurturing environment for children. Some settings and materials utilized in his educational practice include gardens in schoolyards for play and learning, tools for building, an emphasis on natural meals, the creation of community models to expand collective understandings, and opportunities for social interaction (Frost et al., 2012).

Eco-friendly areas, natural materials, and beautiful spaces hold an unlimited potential for learning (Jones & Reynolds, 2011). Our society, following the pandemic and rises in technological innovation, have moved away from outdoor, free-play experiences to computers and technology as a means for play, education, and unfortunately, distraction. In the perspective of Froebel, children gain an understanding of the technical and spatial world through gifts and occupations that allow for play with tangible objects made up of various organic materials, shapes, textures. As we see a growing emphasis on two-dimensional screen-based learning in educational settings, it becomes increasingly important to provide opportunities for both formal and informal play to support the development of young children, as supported by the teachings of

John Dewey (Frost et al., 2012). Depriving children of such play opportunities denies them the chance to experience and benefit from the cognitive, social, linguistic, motor, and therapeutic benefits of play (Frost et al., 2012). Therefore, early educational settings should prioritize and continue to provide extended access to play within their curriculum.

Research

During their early years, children's brains develop rapidly, creating and pruning neurons. It is a critical time for the evolution of higher mental functions that arise through social interactions and play (Frost et al., 2012). However, excessive technology use can impede learning by hindering cognitive development. The cognitive overload and repetitive multitasking associated with technology use may re-route neural pathways and decrease the capacity for concentration and understanding (Frost et al., 2012). In our education systems, technology is increasingly replacing earlier forms of play and learning. The following will describe current literature examining the risk of excessive technology use and why increased access to play is necessary for pre-K through elementary school children.

Karlsson (2022) examines the associations between computer use and test scores in primary school. Information was gathered on more than 900,000 fourth grade students by administering the TIMSS assessment. The researchers performed a regression analysis to examine the frequency of computer usage at home and school on a daily, weekly, and monthly basis. While the study acknowledges the influence of background factors on test scores, the results of the study found a negative correlation between computer use in schools and test scores in mathematics and science (Karlsson, 2022). In fact, students who never used computers scored higher on average than those who used them daily (Karlsson, 2022). Additionally, low-

performing students showed a stronger negative association with this correlation compared to high-performing students (Karlsson, 2022). However, the location of computer use also impacts academic outcomes, with school use having a more negative association with test scores than home use (Karlsson, 2022). The findings of this study do not reject the possible benefits of computer use when utilized optimally and with proper guidance. It does, however, report few positive associations between computer use in schools and learning for young children.

Another study by McNaughton et al., (2021) adds to the findings of the previous study by examining the association between digital technology use and interpersonal and intrapersonal development. The study surveyed nearly 200 students aged between 9-12 years old to investigate the development of self-regulation and social skills in digital and non-digital contexts, as these skills are seen to develop during the upper primary years (McNaughton et al., 2021). Self-regulation refers to the ability to understand and be aware of one's emotions. Lack of self-regulation can lead to difficulties in controlling emotions, such as hostility, resulting in poor peer relationships (Frost et al., 2012). The findings of the study reveal that self-regulation in digital contexts was shown to be significantly lower than in non-digital contexts, among all age groups (McNaughton et al., 2021). Overexposure to technology without moderation may lead to excessive stimulation and potentially hinder developmental progress during formative years. In contrast, play is an effective educational tool for improving self-regulation and self-control. The upcoming research presented will provide compelling evidence for the positive impact of play on development and learning, making a strong case for increasing the amount of time allocated for play in academic environments.

Previous research has illustrated that engagement in physical activity and outdoor play during early school years is found to have a positive impact on children's learning and cognition. Physical activity and outdoor play have a connection to learning and brain-related functions and abilities of children in their early school years. Lundy & Trawick-Smith (2020) conducted a study on 21 preschool children to examine the effects of outdoor play on cognitive control and classroom behavior. The article mentions two theories, chronic aerobic exercise theory and acute exercise theory, both of which explain how physical activity has a positive effect on brain functions. In this study, researchers recorded and measured the relationship between playground activity level and on-task behavior in the classroom. The results found that for some children, specifically boys and children of low socioeconomic status, active play improves the ability to stay focused on tasks in subsequent learning situations (Lundy & Trawick-Smith, 2020). The results of the study provide valuable insights to the link between physical activity and neuroscience, particularly how it benefits attention, behavior, and learning outcomes. The findings highlight acute exercise theory, suggesting that brief periods of activity are seen to improve learning related abilities (Lundy & Trawick-Smith, 2020).

Many people underestimate the importance of play and fail to recognize it as a valuable tool for building knowledge through experiences. However, evidence supports the connection between both structured and unstructured play and cognitive, physical, and socioemotional development. Play allows children to enhance their cognition through the development of "attention, planning skills, creativity, perspective-taking, memory, and language development" (Isenberg & Quisenberry, 2002, p. 4). Physical play assists children in the development of their gross and fine motor skills, which can help foster a sense of confidence and security in their abilities (Isenberg & Quisenberry, 2002)., Finally, play provides opportunities for children to

engage with their cultures, communities, and peer-groups, allowing them to develop important socioemotional skills such as empathy, communication, turn-taking, and leadership.

Recommendations

Play has numerous benefits that allow children to feel a sense of fulfillment while learning through self-directed experiences. Children in their primary and adolescent years have a natural inclination for social interaction, experiential learning, and exposure to natural elements of the world. Children enjoy working with materials that allow them to use their senses and learn spatial concepts (Isenberg & Quisenberry, 2002). Such experiences hold greater value than screen-based learning and digital play. They provide children the opportunity to immerse themselves in the world around them and become curious, capable, life-long learners.

For more interactive learning experiences, schools should prioritize paper-based worksheets over the use of screens in classrooms. Specifically, for early childhood education, increased use of paper in the classroom would allow children to engage in hands-on assignments and improve their fine motor skills, such as writing and drawing. Greater use of educative technologies, however, should be gradually introduced in later school years. Early childhood educators should continue to prioritize and provide ample opportunities for play, exploration, and self-discovery, as young children prepare for future academic endeavors. To adopt time for more play, school schedules should be less condensed and have more breaks for indoor and outdoor play opportunities. In the classroom, teachers should incorporate play into their lesson plans to encourage active learning, participation, and curiosity. Lessons that involve science or reading could be taken outdoors and taught in natural environments, allowing students to read under a shaded tree or learn about science in an outdoor setting. Teachers should have more toys, sensory

materials, books, and play spaces in their classroom that are organized accordingly and available for children. In addition to the outdoor playground, there should be sand and water areas, plant and animal ecosystems, tunnels, and large trees or pieces of wood for play. In order to promote inclusivity on the playground, play areas should include a variety of accessible ramps and stations that cater to children with different abilities. This addition would allow children with developmental deficits to engage in similar play activities and interact with their peers.

The COVID-19 pandemic has led to a significant increase in technology use in educational settings, with the implementation of online learning platforms and technology such as Chromebooks. Although it may be challenging to eliminate the integration technology as a means for education in schools, it is important to limit and monitor its use. Conversely, prioritizing play in academic settings is crucial for the betterment of future generations. In accordance with Friedrich Froebel's idea of kindergarten, it is essential to cultivate the growth and development of children with the same care and attention as one would tend to delicate flowers in a garden (Frost et al., 2012). It is the responsibility of schools and educators to recognize how play experiences, or lack thereof, impact development. To enable children to obtain the developmental advantages of play in all aspects, schools must examine and modify their scheduling, curriculum, and environments to provide increased opportunity and access to play during the school day.

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