

Integrating career education into physical education: Insights from the Sports DreamCatcher initiative

YONGNAM PARK

Sanyang Elementary School, 27 Sanyangjungang-ro, Sanyang-eup, Tongyeong-si, Gyeongsangnam-do, SOUTH KOREA

Published online: March 31, 2024

(Accepted for publication March 15, 2024)

DOI:10.7752/jpes.2024.03061

Abstract

This study addresses the transformative impact of the “Sports DreamCatcher” program, an innovative career education initiative seamlessly integrated into elementary physical education (PE) in South Korea. Our research investigates how this program reshapes students’ perspectives on careers in sports and enhances their PE experiences by incorporating concepts of career exploration. The study was conducted at Y Elementary School in Jinju City with 114 sixth-grade students. The data collection procedure involved questionnaires, interviews with eight selected students, student diaries, and in-depth inductive content analysis. Based on our analysis, three main themes emerged: (a) Comprehensive shift in perceptions and attitudes towards PE and sports-related careers; (b) Extending sports understanding beyond conventional boundaries; and (c) PE as a gateway to diverse career opportunities. The findings demonstrate a noteworthy paradigm shift from perceiving PE as a sole physical activity to acknowledging it as a vital platform addressing educational and career exploration needs. Key outcomes encompass heightened student involvement in extracurricular physical activities outside school, a more holistic understanding of sports, and enhanced self-discovery. Students became more appreciative of PE’s role in their educational journey and future career paths. The transformative shift observed can predominantly be attributed to the interdisciplinary nature of the program because the program integrates PE with other academic subjects. Moreover, our research shows the importance of interdisciplinary education and mentions the prominence of a supportive environment in fostering diverse career competencies. Therefore, the program can serve as a model for incorporating career education into elementary school curricula, underscoring effective strategies for integrating career-oriented education at early learning stages. The insights gained from this study offer valuable contributions to educational policy and curriculum development, accentuating the vital need for a holistic and integrated approach that can substantially improve elementary sports-related education. The Sports DreamCatcher program is a vital platform addressing educational and career exploration needs. Its interdisciplinary approach and supportive environment foster diverse career competencies, making it a valuable model for incorporating career education into elementary school curricula.

Keywords: Whole-of-school approach, vocational education, physical activity, interdisciplinary integration, youth

Introduction

The growing global educational trends underscore the importance of incorporating career education at the elementary school level (Pulliam & Bartek, 2018). This shift signifies a broader recognition that introducing career concepts early on can substantially enhance the learning experience for young students. The vitality of these global trends lies in their emphasis on integrating hands-on experience and factual employment opportunities into career education programs (Velde & Cooper, 2000). This hands-on component equips students to confront real-world challenges and seize opportunities. Furthermore, Hyslop-Margison and Graham (2001) endorses this practical approach to career education, accentuating its role in preparing students as active participants in a democratic society. This perspective is critical in modern career education systems and resonates with the ideas expressed by He et al. (2020) on the vitality of comprehensive career education. In South Korea, the shift toward incorporating career education into the physical education (PE) and sports curriculum is a purposeful step to align PE with broader educational and societal objectives. This strategy transcends conventional concepts of physical wellness by actively incorporating career awareness and vital skill development from an early age. This approach illustrates how PE can cultivate future competencies and steer students toward diverse career paths. This integration in PE aligns with insights from scholars (e.g., Guo & Wang, 2020; Singh et al., 2015), who accentuate the vitality of educational informatization and vocational education in tackling challenges like unemployment. Clarke (2009) provides valuable historical and international perspectives on this integration, and South Korea’s implementation of PE and sports career education exemplifies this approach. Moreover, the recommendations made by You et al. (2016) highlight the importance

of broadening the scope of career education within PE programs to heighten students' awareness of the extensive array of career paths available to them. To that end, integrating knowledge about diverse PE careers into the curriculum is essential. Such an approach aligns with South Korea's innovative strategy in sports career education, where PE is perceived as a tool for physical wellness and a platform for exploring careers and fostering skill development. This perspective aligns with the overarching objective of sports career education in South Korea, which is to prepare students holistically for the future by equipping them with many physical skills, career knowledge, and competencies essential for diverse career paths. This strategic policy promotes integrating career education through diverse subjects, including PE. The initiative aims to broaden the traditional scope of PE, reaching beyond aspiring athletes to equip all students with skills and knowledge pertinent to various career paths. This policy shift responds to the changing educational prerequisites of a globalized world that places increasing value on diverse competencies.

Incorporating career education—involving activities aimed at imparting knowledge, skills, and experiences to inform and steer students' future career decisions has become a pivotal focus in recent educational research (Ali et al., 2012; Ting et al., 2012). Embedding career competencies into the curriculum, accompanied by activities like career days, has yielded positive outcomes, including enhanced student self-efficacy and heightened career aspirations (Lee & Byun, 2019). Simultaneously, exploring career paths stemming from PE has garnered substantial attention because PE is critical in developing physical literacy, promoting a healthy lifestyle, and instilling values like teamwork and perseverance (Gulhane, 2014; You, 2014). Studies in this area underscore the importance of programs explicitly tailored to meet the unique requirements of PE. These initiatives should cover the practical applicability of skills in vocational settings and underscore the ongoing professional development of PE teachers (Armour, 2006; Kang & Zhang, 2022). The interplay between sports career education and elementary education is rich and dynamic, as Tsangaridou (2013) and Coop and Rotella (1991) posed. Pertinent studies highlight the critical role of sports education in boosting student participation and motivation (Beale & Jacobs, 2004; Welde et al., 2016). These studies show the vitality of developing physical skills, promoting a balanced educational approach that integrates academic learning and athletic development.

Furthermore, integrating PE with other academic subjects emerges as an advantageous educational strategy (Moon & Webster, 2019). Research indicates that this interdisciplinary approach substantially enhances cognitive, psychomotor, and affective skills, proving advantageous for children with individualized educational needs (Cone et al., 2009; Hollett et al., 2016; Martinen et al., 2017). Such integration enhances the overall learning experience and prepares students for contemporary career environments requiring diverse skill sets. However, a gap exists in understanding the specific content and effective delivery methods of career education during early learning stages. Bridging this gap is pivotal to maximizing the effectiveness of career education in these foundational educational settings.

The objective of career education in South Korean schools involves fostering a holistic development of students, aligning with this forward-thinking policy. This objective revolves around nurturing the ability to explore and develop career paths creatively, encapsulated in the concept of PE career competency. This concept includes fostering self-understanding, honing career exploration skills, and preparing for career-related actions (Korea Education Development Institute, 2013). Our study, therefore, explores the convergent PE class program "Sports DreamCatcher" an innovative initiative in South Korea to incorporate sports career education into the elementary curriculum. The primary objective covers exploring the program's impact on students' perceptions of sports careers, their involvement in physical activities and PE lessons, and integrating sports education across other academic disciplines. To that end, our study critically evaluates a unique educational approach, combining PE with career exploration principles, thereby improving the traditional education model. Furthermore, the findings have the potential to inform policymakers in refining and implementing effective sports career education strategies in elementary schools, substantially contributing to the evolution of educational policies. Insights from our study can improve the understanding of integrating career-oriented education in early learning stages, posing a potential template for educational systems in South Korea and worldwide. Our study's outcomes could have far-reaching implications and serve as a benchmark for other countries seeking to integrate career education into their elementary school curricula, considering the global shift toward comprehensive education models. The program's emphasis on fostering early awareness of sports careers could substantially impact students' long-term career choices and readiness, underscoring the importance of early career education.

Methods

Participants and study context

The study was conducted at Y Elementary School in Jinju City, Gyeongsangnam-do, South Korea. This school, with 26 classes and comprehensive PE facilities, including a gymnasium, a multipurpose room, and an outdoor play area, was ideal for this research. The study specifically focused on the sixth-grade cohort, encompassing five classes with 114 students. The study spanned approximately 11 months, from March 2020 to February 2021, and involved 114 sixth-grade students. A subset of eight students was selected for the main study, employing purposive sampling as Creswell and Creswell (2017) outlined. The selection process was informed by a preliminary open-ended questionnaire that all program participants completed. Initially, 22

potential research participants were identified as students who could offer valuable insights into addressing the research questions. However, the final selection was refined to eight students based on three criteria: consistent participation in the program without absences, establishing a positive rapport with the researcher, and obtaining parental consent for individual interviews. Even though the initial group comprised 22 students, the in-depth study focuses on these eight selected students, and Table 1 outlines their details.

Table 1. Personal profiles of selected students for the in-depth interview

Pseudonym	Future Aspiration	Skill Level	Physical Activity Participation	Characteristics
Sohyun	Lawyer	Low	Low	Exceptionally talented in academic subjects like Math and Science, depicting remarkable intellectual skill
Suyeon	Webtoon Artist	Medium	High	Passionately engaged in table tennis club activities, demonstrating significant dedication and enthusiasm
Mooyoung	Architect	Low	Medium	Exhibits a commendable and positive attitude in physical education, with a strong affinity for soccer despite skill limitations
Sungjae	Golfer	High	High	Actively pursuing a professional golfing career with remarkable focus and determination
Jihyun	Fashion Designer	Low	Low	Displays a keen interest in physical education classes yet uniquely selective about engaging in other physical activities
Yeonkyung	Volleyball Player	High	High	An aspiring professional volleyball player, currently a standout athlete in the school team, with exceptional talent and ambition
Kookjong	Doctor	Low	High	Driven by a strong sense of duty to fulfill parental expectations as a future doctor while nurturing a deep-seated passion for soccer
Byungji	Creator	Medium	High	Exhibits stellar academic performance across all subjects and demonstrates remarkable discipline in daily Brazilian Jiu-Jitsu practice

Career education program: Sports DreamCatcher

An extensive preliminary analysis was initially conducted with a larger sample of 114 students to shape the development of the career education program. An open-ended questionnaire was employed to assess student preferences and experiences. This preliminary quantitative analysis, encompassing the broader group, provided substantial insights into students' views on career education. Among these participants, a noteworthy 55.26% (N = 63) identified PE as their preferred subject. Additionally, the majority (77.19%, N = 88) predominantly participated in physical activities facilitated within the school environment, including sports clubs and after-school sports programs. After this initial analysis, our study's scope was narrowed to conduct a more in-depth examination of eight selected students based on specific criteria as detailed previously.

Exposure to sports-related career education revealed that 89.47% of the students had substantial experience, primarily through programs private academies or organizations conducted, albeit limited to three hours maximum. The students' perception concerning the relevance of sports to their future careers was assessed using a Likert scale. The scale suggested 8.77% (N = 10) perceived it as "very relevant," 10.53% (N = 12) "somewhat relevant," 32.46% (N = 37) "not relevant," and 48.25% (N = 55) "not at all relevant." These results suggest an inadequate inclination toward pursuing sport-related careers or assessing sports as pertinent to their future. Furthermore, when the participants were asked to enumerate known sports-related careers, the responses predominantly included professions such as athletes, coaches, PE teachers, and journalists (e.g., sportscasters and reporters). Notably, only 10.53% (N = 12) could identify careers beyond these standard categories. In summary, the findings highlighted a solid preference for PE among students with limited experience and a narrow understanding of sports-related career paths. These insights were pivotal to justifying the program's prerequisite and shaping its direction, leading to conceptualizing a convergence class that integrates sports with other academic subjects.

The Sports DreamCatcher program, a pivotal element of our study, was custom-made for elementary school students to broaden their understanding of sports-related careers. Unlike traditional sports career paths, like players, managers, and referees, this program was crafted to provide hands-on learning opportunities in various sports-related professions. Recognizing the multi-subject teaching reality in elementary schools was central to the design of the Sports DreamCatcher program. This understanding informed the development of the program as an integrative model, combining academic subjects with PE in a cross-curricular framework. The program included 15 meticulously crafted integration lessons, totaling 50 lessons. These lessons comprised three learning materials: Padelminton, physical exercise, and target-type games. The curriculum development adhered to a systematic process, beginning with an analysis of the PE curriculum. This step was followed by designing a sports career project-focused learning plan, which concluded with the arranging of integrated classes. Initially, the PE department's curriculum underwent scrutiny to select learning materials focused on "health," "challenge," and "competition," leading to specifying four to five lesson topics in each category. Subsequently, the analysis of curriculum content in other subjects was conducted to identify complementary learning topics. These topics included Korean language (4 lessons), art (3 lessons), PE (3 lessons), music (2 lessons), morality (2 lessons), and science (1 lesson), with each synergistically linked to the PE activities. The sports career education project

enhanced students' understanding of sports-related careers. It covered curating a list of careers that offered indirect exposure or information pertinent to the identified learning topics. This comprehensive program was finalized with a specific focus on refining learning objectives and defining target activities. During the implementation phase, teachers facilitated sports career experience activities in students' homes and the community. This facilitation encompassed employing communication tools, such as newsletters, parent-teacher meetings, and digital platforms, to involve students and families in the learning process. Additionally, students maintained a diary for each integrated class, documenting their learning and reflections throughout the program. Table 2 depicts the program's details.

Table 2. Outline of Sports DreamCatcher program

	Subjects (Hour/session)	Topic	Activity	Related occupations
1	Physical Education (2)	Introduction to Padminton	Describe the characteristics of the net game. Acquire proficiency in the grip and fundamental stance of a Padminton racket.	Sports Coach, Sports Referee
	Morals (1)	Details about the notion of fairness and leading a life marked by fairness.	Gain an understanding of sportsmanship in the context of a net game. Formulate a pledge committing to uphold and practice good sportsmanship.	
	Physical Education (2)	Services and Strokes	Understand the techniques for serving in various styles (long-high, short, driven). Identify diverse strokes (overhand, underhand, backhand, and sidearm).	Physical Education Teacher, Sporting Goods Manufacturer/Designer
	Practical Course (2)	Racket Making	Custom-made your padminton racket using various everyday materials.	
	Physical Education (2)	Understand Smashes and Tactics	Master the techniques of executing clear, smash, drop, and hairpin. Acquire knowledge of Padminton tactics to enhance strategic gameplay.	Sports Coaches, Sports Supporters
	Music (1)	Create a Chant	Change the words of a nursery rhyme to generate a padminton chant.	
	Physical Education (2)	Play Padminton (Singles)	Implement padminton game tactics to play a singles game of padminton.	Sports Safety Officials, Game Officials, Sports Entrepreneur
	Art (1)	Sports Trademark Design	Create a custom-made padminton trademark	
	Physical Education (2)	Playing Padminton (Doubles)	Implement padminton game tactics to play doubles padminton.	Badminton Player, Sports Writer
	Language (1)	Padminton Synchronization	Synchronize the topic of padminton using figurative language.	
	Physical Education (2)	Play a Game of Padminton Volleyball	Participate in a game of padminton volleyball while adhering to sports etiquette.	Sports Administrator, Sportscasters
	Morals (1)	Select a "Fair Player"	Find and praise a friend for practicing good sportsmanship.	
	Physical Education (2)	Familiarize Yourself with an AI Home Training Program	Acquire knowledge about careers related to training. Master using the AI home training app "Life Fit" developed during the coronavirus pandemic.	Personal Trainer, Sports Journalist
	Korean Language (2)	Utilize Internet Newspaper Articles on AI Home Training	Acknowledge the characteristics of various media sources. Discuss your newfound profession. Write an article on AI home training.	
	Physical Education (2)	Develop Quickness with AI Home Training	Master and practice quickness exercises with feedback from AI.	Sports Physician, Sports AI Scientist
	Practical Course (2)	Investigate AI Applications in Our Daily Routine	Search AI applications in sports	

YONGNAM PARK

Physical Education (2)	Develop Agility with AI Home Training	Have feedback from AI to develop agility.	Sports Video Editor, YouTube Creator
Practical (2)	Become a Trainer Creator	Produce a training video.	
Physical Education (2)	Improve Your Balance with AI Home Training	Have feedback from AI to improve your balance.	Healthcare Equipment Developer, Sports Music Developer
Music (1)	Discover Music for Training	Find and recommend music to listen to while training.	
Physical Education (2)	AI Home Workouts to Improve Coordination	Have feedback from AI to improve coordination in workouts.	Sports Counselor, Sports Application Developer
Art (2)	Draw a Picture of an AI App for Physical Education	Draw a picture of an "AI physical education" app you want to create.	
Physical Education (2)	Understand the Types of Targeted Sports and the Value of Challenge	Research the types of targeted sports. Understand the value of challenge with a golf putting game.	Sports Athlete, Sports Writer
Korean Language (1)	Read a Sports Biography	Summarize what you have learned from a sports biography.	
Physical Education (2)	Throw and Hit the Target	Toss a beanbag and hit the target. Throw a flying disk to hit a target.	Sportscaster/Commentator
Korean Language (2)	Create a Sports Report	Generate a sports report about the Olympic archery finals.	
Physical Education (2)	Roll a Ball to Hit a Target	Roll a ball to topple a target (bowling). Roll a ball to direct it to a target (curling).	Sports Facility Operator, Sports Copywriter
Art (2)	Create a Bowling Alley Flyer	Design a bowling alley flyer.	
Physical Education (2)	Use Tools to Hit a Target	Strike a ball with a tool to hit a target (golfing type).	Golf Course Developer, Sporting Goods Developer
Science (1)	Envision sports inventions	Develop a golf-related invention.	

Data collection

The methodological framework in our study was diverse and comprehensive because we aimed to capture a multifaceted understanding of the program’s impact. We employed a comprehensive strategy for data collection that incorporated diverse methodologies. These methodologies encompassed distributing open-ended questionnaires, conducting individual and group interviews, semi-participatory observation, and analyzing local documents such as diaries. Additionally, we complemented these methods by utilizing the research teacher's program journal to gain day-to-day insights and refer to students’ PE journals. These PE journals offered indirect observations of activities and internal changes that might not have been directly witnessed during the program operations. Moreover, band materials were employed to understand parental reactions and community engagement. The study participants were classified into two groups: student and teacher research participants responsible for the program administration. This bifurcation was pivotal to capturing diverse perspectives and experiences within the educational setting, ensuring a holistic view of the program’s effectiveness.

We employed structured interviews conducted in both group and individual formats, which were critical data collection elements. Group interviews lasted one hour, and individual interviews were approximately 40 minutes each and covered students’ experiences and perspectives on the program. The interviews specifically focused on alterations in career aspirations, particularly those pertinent to PE, and examined the factors behind these changes. Our interview questions were as follows: “If you indicated in the pre-survey that your job was unrelated to PE, what were the motives prompting you to change your mind?”, “What were the specific activities or aspects of the program impacting your decision to reconsider a career pertinent to PE?”, “Have your career aspirations substantially shifted since you participated in the program? If you are affirmative, what factors have caused you to change your mind?”, “Has any part of the program enhanced your understanding of career opportunities in PE or sports?” “Since you completed the program, have you adopted any exercise routines more regularly? If you are affirmative, what factors have fostered this change?”

To assess the tangible impact of the program, we also investigated students’ ongoing engagement in physical activities after the program and explored their motivations for driving these activities. This multifaceted data collection approach informed by Creswell and Creswell’s (2017) methodology was instrumental in identifying participants who could substantially contribute to understanding how the program shaped students’ career perspectives and aspirations. Amalgamating diverse sources of documentation and various data collection methods offered a comprehensive perspective on the program’s impact. This process encompassed various

stakeholders' perspectives and experiences and ensured a nuanced understanding of how the program affected students' PE and career development aspirations.

Data analysis

The study was conducted employing a predominantly qualitative mixed-methods approach. We meticulously utilized a detailed and comprehensive data analysis approach, following the guidelines of inductive content analysis as Elo and Kyngas (2008) proposed. Initially, the amassed data, which encompassed interviews, observations, questionnaires, diaries, and program materials, were systematically arranged into organized case histories, focusing coherently on the research problem. This methodological organization laid the foundation for an in-depth open coding process, during which the data underwent meticulous scrutiny, and the initial codes were generated. An integral aspect of this stage was translating data from Korean to English to ensure that the nuances and context of the original language were preserved. Skilled bilingual researchers were involved in this translation process to ensure the integrity and authenticity of the data.

A rigorous triangulation process was implemented to ensure the data authenticity and mitigate bias, involving the cross-verification of information from various data sources to validate the emerging findings. This triangulation bolstered the credibility of the study and offered a holistic perspective on the research problem. Member checks were systematically conducted to address potential researcher bias and subjectivity, usually prevalent in qualitative research. This process encompassed revisiting the participants to validate the accuracy of the data interpretations, firmly anchoring the analysis in the participants' real-world experiences and perspectives. Moreover, peer debriefing sessions were held with two PE experts to complement this procedure, offering an external audit and critical review of the coding process and the overall analysis. The insights gained from these sessions prompted adjustments in the analysis, including modifying or removing certain codes. This iterative process enhanced the reliability and credibility of the study. Ultimately, the study ensured a nuanced and accurate representation of the data, solidifying the findings and conclusions of the research thanks to this comprehensive approach, which covered utilizing multiple data sources and ensuring accurate interpretation from Korean to English.

Results

Main theme 1. Comprehensive shift in perceptions and attitudes towards PE and sports-related careers

Transformative perceptions of PE. The Sports DreamCatcher program has engendered a notable shift in students' perspectives, transitioning from perceiving PE as a peripheral activity to recognizing it as a pivotal component of their educational experience.

Student queries and attitudes evolution. Teachers have noted a substantial transformation in the nature of student inquiries. One teacher shared, "Initially, students would casually ask, 'What are we doing in gym class today?' expecting fun. However, they now inquire, 'What are we learning in PE today?' depicting a genuine interest in acquiring new skills." This shift demonstrates a deeper appreciation and engagement with the educational content of PE. Byungji's experience exemplifies this change: "In the past, my diary entries were about whether or not PE was enjoyable. Now, they focus on what skills I learned and how they were taught. I used to be excited about the fun in PE; now, it is about learning something useful." Another student, Jihyun, echoed this sentiment: "PE is not just running around anymore; it is about understanding our bodies and learning coordination and teamwork."

Interdisciplinary connections and expanded perspectives. The program's interdisciplinary nature has nurtured holistic view of learning among students. During a group discussion, Kookjong shared, "I used to see subjects as separate. After the program, I realized how PE connects with other subjects like science and math, especially in sports analytics and strategy." Furthermore, another student, Jihyun, contemplated this integration, stating, "We did a project that combined art and PE. I learned about designing sports equipment, which was really interesting. It made me see how subjects are interconnected."

The Sports DreamCatcher program has profoundly reshaped the role of PE in the elementary curriculum. The program has laid the groundwork for a holistic and comprehensive approach to PE and sports career education in South Korea by transforming perceptions of PE merely as a platform for physical activity to acknowledge its value as a meaningful educational experience. Students' reflections and teachers' observations altogether accentuate a substantial shift in the perception and appreciation of PE, signifying a pivotal advancement in educational approaches.

Transitioning from "non-curricular Time" to "career exploration time." The survey data analysis highlighted a remarkable change in students' PE involvement after participating in the program. This change was evident in the percentage of students who ranked PE as their favorite subject, rising from 55.26% (N = 63) pre-program to 66.22% (N = 75) post-program. This change indicates a more profound and meaningful connection with PE, substantially influenced by the program's emphasis on career education.

Students' newly acquired understanding of PE. Mooyoung encapsulated this new perspective: "Before, PE was just about learning exercises. Now, it is about understanding how these skills relate to different sports careers. It makes me think that what we learn in PE could be part of my future job or even my friend's job." Sohyun discovered a novel way to connect with PE through its fusion with other subjects: "Combining PE with music class was an eye-opener. Changing song lyrics to create cheers made me appreciate PE differently. This

integration made PE more interesting, and I started seeing PE-related jobs in a new light.” Jihyun’s experience reflects this broadening perspective: “Working on a project where I designed logos and cheerleading outfits in PE class made me realize the vast array of design opportunities within the sports world. It expanded my view of potential careers connected to PE.”

Impact of interdisciplinary activities on career exploration. The interdisciplinary activities within the program offered students a valuable context to explore the nexus between PE and various career paths. A focus group interview underscored this perspective: “The activities we did in PE were not just about sports; they were about exploring different careers related to sports, like management, coaching, or even sports journalism.”

This sentiment was echoed in individual responses, as seen in Sohyun’s reflection during her interview. She expressed, “In PE class, the exercise itself was fun, and in music class, it was fun to make cheers by changing the words of the songs. Since exercise is fun, it is fun to write about exercise, and since it is fun, I look forward to PE class again ... [interruption] Since I like PE lessons, I became interested in PE-related jobs.” Another student, Joohwan, articulated a newly acquired career aspiration: “The program opened my eyes to how sports can be a part of different careers. I used to think of sports as just games, but now I see them as a field where I can apply my interest in journalism.”

The program has profoundly reshaped the role of PE in the elementary curriculum. The program has successfully broadened students’ perspectives on the diverse career opportunities associated with PE by transforming PE from a period of recreational activity to a pivotal element of career exploration. This paradigm shift represents a crucial stride in incorporating career education into the PE curriculum, setting an exemplary model for other educational contexts.

Main theme 2. Extending sports understanding beyond conventional boundaries

Increased participation in out-of-school physical activities. The analysis uncovered a noteworthy surge in participants’ involvement in out-of-school physical activities following the Sports Dreamcatcher program. This change was both quantitative and qualitative, demonstrating a diversification in the spectrum of sports pursued. Pre-program data depicted only 23% (N = 27) participation in regular out-of-school activities, which rose to 34.65% (N = 40) post-program. Notably, the scope of sports participation expanded beyond traditional activities (e.g., swimming and Taekwondo) to encompass horseback riding, climbing, and tennis. This shift underscores the program’s positive impact on students’ active involvement in a broader array of sports.

Parental support of sports participation. Beyond the classroom, parental support was pivotal in facilitating this increase. Juhwan’s experience, shared during a focus group interview, is a vivid example: “When my dad saw a picture in the Dreamcatcher newsletter about a bowling alley in our neighborhood, he asked me to go bowling with him first. Our whole family went bowling, and we promised to go bowling together every weekend.” Similarly, Suyeon’s individual interview highlighted a comparable pattern: “When my dad saw a picture of a badminton class in a newsletter, he took me to the badminton club he goes to, and since I enjoyed it so much, he enrolled me in a local sports club program that offers free lessons to elementary school students.”

Broadening the scope of sports participation. Participating students also developed a holistic understanding of sports, acknowledging its recreational and social values. The program’s exposure to various career roles sparked an interest in sports as a lifelong activity. Sohyun’s interview depicted this newfound perspective: “Teachers and adults told me that I should play sports to be healthy, so I played sports for my own health. This year in the Dreamcatcher League, when I did not have a game, I acted as a scorekeeper, cheered, and took pictures with my friends. I thought, ah, there are many reasons to play sports and other fun things besides sweating and running.” Yeonkyung, a student-athlete specializing in volleyball, conveyed in her sports diary a transformative view of her sports involvement: “Nowadays, I am changing my mind about learning volleyball only to become a player. Even if my dreams come true and I become an athlete, I still want to play volleyball after I retire. Before, I did not think about it, but when I saw my friends, journalists, and commentators in sports club leagues, I realized I should have a job like that after my playing career. Maybe I will do something related to volleyball until I die.”

These findings vividly depict the transformation in student perspectives toward sports fostered by the Sports Dreamcatcher program. The rise in out-of-school physical activity, the diversification of sports interests, and the acknowledgment of sports as a multifaceted lifelong activity signify a substantial impact of the program. It highlights the escalation in physical activity and an expanded understanding of sports as a channel for personal development, social interaction, and potential career paths.

Expanding the reach of sports and enjoying sports. As uncovered in our study, the evolving perception of sports among students transcends traditional physical activities, aligning with the concept of “sport as a liberal art.” This perspective reframes sports as an integral component of a comprehensive educational experience beyond physical skills. To that end, it encompasses critical thinking, creativity, cultural appreciation, and proficiency in sports, resonating with the principles of a liberal arts education. This approach nurtures a well-rounded life, enhancing overall enjoyment and well-being. Students began to appreciate and participate in sports in diverse ways, exploring various roles and activities pertinent to sports. This exploration enriched their educational journey and contributed to their personal growth, embodying the liberal arts philosophy of educating the whole person and promoting a holistic and inclusive understanding of sports in education.

Perception of sports as liberal arts. In addressing the question, “What did you enjoy most about the program?” Sungjae responded, “I was a referee in gym class. It was more fun to act as a referee than to exercise.” Similarly, Mooyoung shared, “I had so many different fun things ... Cheering in the league was fun, and I remember making a commercial for a bowling alley in class. It was not the workout itself, but doing something different with the workout.” Suyeon echoed this sentiment, “I liked playing sports, but I liked singing, drawing, and making videos better because I can be good at these things. Even if I am not on the field, I can do these things in my life even if I do not learn sports.”

Utilizing sports for career preparation. The program’s impact extended how students prepared for their careers, as evidenced by their involvement in activities pertinent to their future aspirations, influenced by their experiences in the program. Suyeon, aspiring to be a webtoon artist, exemplified this transformation: “I did not consider drawing a table tennis webtoon before, but after drawing a webtoon in art class about the exercises I learned in PE class, I decided that I would definitely draw a table tennis webtoon once I become a full-time artist.” Her involvement intensified as she observed her friends in the table tennis club, envisioning drawings and researching table tennis terminology and techniques, laying the groundwork for her inaugural webtoon project. Likewise, Byungji’s experience as a student and emerging YouTuber reflects this paradigm shift. His diary entry unveils a strategic shift in content creation, “In the past, I would quickly post videos as soon as they were made. Nowadays, I create short videos introducing sports movies and sports anime. During the Dreamcatcher League, I unexpectedly discovered that kids enjoy sports cartoons and movies.” This observation highlights the development of awareness and appreciation for sports-themed content within his young audience.

These findings collectively highlight a substantial shift in how students perceive and engage with sports. The Sports Dreamcatcher program heightened their appreciation for various aspects of sports and motivated them to incorporate their sports experiences into broader life skills and career aspirations. The expanded perspective on sports suggests that it is beyond being solely a physical activity, rendering it a comprehensive educational tool encompassing various skills and interests. This process marks a noteworthy advancement in the holistic development of students.

Main theme 3. PE as a gateway to diverse career opportunities

Self-understanding through interdisciplinary programs. The Sports Dreamcatcher program was pivotal in fostering substantial self-discovery among participants, enabling them to recognize their aptitudes, talents, and interests—crucial for making informed career decisions. As the Korea Education Development Institute (2013) outlined, this self-understanding emerged as a decisive factor in shaping career aspirations and competencies.

Discovery of aptitudes and interests. Suyeon’s involvement in the bowling club exemplifies this journey of self-discovery: “We learned about advertisements in a Korean language class, but we had to consider many things when we actually made a billboard. I am good at drawing, so I dreamed of becoming a webtoonist, but I became interested in drawing and taking pictures for advertisements.” This realization emerged from participating in an activity that merged PE with art and marketing, showcasing her inherent talent in advertising. Similarly, Yeonkyung, a volleyball student-athlete, unearthed her teaching capabilities through the program: “On the volleyball team, I just learn every day, but in PE class, I become the coach ... for the first time, I realized that I am good at teaching volleyball.” This revelation spotlighted an aspect of her skill set extending beyond being an athlete, potentially leading to a career in education or coaching.

Recognition of weaknesses and growth areas. The program also assisted participants like Sungjae in pinpointing their limitations, which is equally crucial in career development: “I thought that if I were good at golf, I would be good at other sports, but ... I was embarrassed because I made too many mistakes when I watched the referee in a badminton match. I should try more sports to become an all-around sportsman.” This self-awareness is essential for holistic development and future career exploration. Sohyun’s contemplation during a post-group interview further highlights this circumstance: “I did not want to participate in PE class because I am not good at sports, but ... I think I became more courageous because I exactly knew what I am not good at.” Acknowledging one’s shortcomings is pivotal to progress and self-improvement. The Sports DreamCatcher program’s impact on participants’ self-understanding was profound. It elevated their competence in PE careers and contributed to a broader career competence by enabling them to discover their strengths, interests, and areas for improvement. This holistic approach to career education, combining PE with other subjects, lays the foundation for informed career exploration and preparation, highlighting the program’s effectiveness in fostering holistic development in students.

Sport as a gateway to the professional world. The program markedly expanded students’ awareness of PE careers. In this section, beyond preparing for their chosen careers, students are encouraged to consider how sports can be integrated into their future professional paths. Initially, most students (over 80%) viewed their future careers as unrelated to PE and sports. However, post-program, approximately 47% of the participants acknowledged a connection between their future careers and PE, representing a notable shift in perception. Initially, responses were confined to the primary career types (e.g., athlete, coach, PE teacher). However, after the program, many students were cognizant of careers in secondary (e.g., sporting goods store owner, sports-related school operator) and tertiary types (e.g., uniform designer, baseball reporter).

Broadening awareness in sports-related careers. Open-ended questionnaire responses from students indicated an enhanced understanding of various sports-related careers. Saerom, a female student, aspired to become a “sports human rights lawyer,” demonstrating an expanded view on legal careers incorporating sports. Similarly, Jiyoung, a male student, envisioned a position as a “drone director for sports events,” innovatively fusing technology with sports broadcasting.

Connecting PE with diverse career goals. The post-program questionnaire responses also indicated a clear understanding of the performance and professional advantages associated with sports-related careers in fields outside of PE. For instance, Soojin, a female student, expressed an ambition to become a psychiatrist specializing in psychological counseling for athletes. Byungjoon, a male student, demonstrated an interest in architecture, explicitly designing sports stadiums. Moreover, students pursuing non-PE careers acknowledged the potential link between their desired careers and PE. For example, Kangin, a male student, aspiring to be a soldier, recognized the importance of physical fitness in his chosen field. Minjung, a female student, aiming to be a kindergarten teacher, acknowledged the vitality of paying attention to health and physical fitness.

The program has substantially altered students’ perceptions of PE and its relevance in various career contexts. The program has demonstrated that PE extends beyond conventional roles and intersects with a broad spectrum of professions by expanding their awareness of the diverse career opportunities pertinent to sports. This broadened perspective is pivotal to cultivating sports career exploration skills and acknowledging the versatile applications of PE in various career paths.

Discussion

Research consistently supports incorporating career education at the elementary school level, with many studies accentuating that students substantially benefit from self-exploration and career identification (Welde et al., 2016), aligning with the emerging global consensus on the advantages of early career education. This global alignment becomes critical, considering the heightened emphasis on career education in national curricula (Ayla, 2018) and the growing complexity of career guidance programs (Wahl & Blackhurst, 2000). Recognizing and nurturing career aspirations in childhood accentuates the importance of early intervention (Auger et al., 2005), and the documented effectiveness of integrating career education into the curriculum supports this approach (Proctor, 2005). Despite these positive indications, a need exists for more evidence-based practices in this field (Pulliam & Bartek, 2018). Overall, acknowledging career planning and development as integral components of modern education is widespread within the educational framework (Albay & Serbes, 2017). Our study depicts the transformative impact of the Sports DreamCatcher career education program in South Korea on reshaping elementary sports education curricula. Accordingly, it highlights the program’s effectiveness in enhancing students’ career competencies and broadening their perspectives on sports careers, promoting an integrated and holistic approach. This approach transcends traditional educational models because it interweaves PE with career exploration principles, improving students’ learning experiences and career readiness. Remarkably, the program has been instrumental in reshaping students’ perspectives on careers in sports and their involvement in diverse physical activities, addressing a notable gap in contemporary career education.

The program’s substantial impact on fostering students’ self-awareness and reshaping their career perceptions in PE aligns with the findings of the Korea Education Development Institute (2013) regarding the role of vocational education based on our study’s results. The program fosters a holistic understanding of PE-related careers by integrating interdisciplinary elements and the fusion of PE with Korean language, art, and music. Actively involving students in diverse roles, including non-athletic ones, broadens students’ career perspectives and underscores the vitality of inclusive and interdisciplinary learning in career education. This circumstance resonates with Park and Yoon’s (2019) emphasis on the prerequisite of inclusive career education in PE. Additionally, the current program’s approach aligns with the view of Kuijpers et al. (2011), accentuating the importance of diverse educational experiences in nurturing career-related skills and competencies. This integration boosts creativity, critical thinking, and profound learning (Everett, 2016) and fosters a sense of agency in students concerning their education and future career paths (van der Lecq, 2016). Despite potential implementation challenges, the advantages of such interdisciplinary education are evident (Cook, 2002). These studies collectively affirm the fundamental role of acknowledging personal strengths and weaknesses in the holistic development of students, preparing them for successful careers in sports and beyond.

Before participating in the program, students predominantly envisioned primary PE careers, such as athletes or PE teachers. However, after completing the program, their perceptions transformed into a broader spectrum of professions connected to PE, from civil servants and company employees to webtoon artists, broadcast producers, and costume designers. The broadening of perspective reveals a growing awareness among students of the professional advantages that sports and PE can offer across various fields, transcending beyond conventional roles associated with PE. Furthermore, the program was pivotal in fostering improved self-understanding among students, an integral component in developing comprehensive career competence. Notably, the competencies developed through PE have applications crossing beyond sports. As students assumed diverse roles and engaged in various activities within the program, they discovered and cultivated aptitudes and interests pertinent to PE careers. This process laid a robust foundation for their future career exploration and preparation. Furthermore, integrating PE with other academic disciplines has substantially impacted students’ career

exploration and understanding (Watermeyer, 2015). This interdisciplinary approach aligns with Hatch and Smith's (2004) emphasis on hands-on educational experiences and the prerequisite for skills fostering lifelong engagement in sports and physical activity (MacNamara et al., 2011). Moreover, it responds to the call for more enlightened forms of assessment in PE (Anderson et al., 2005) and recognizes the potential contributions of sports and physical activity to educational achievement (Bailey, 2017).

The shift from a traditional emphasis on athletic roles to embracing various creative and diverse professions reflects the dynamic nature of career opportunities in sports education (Bush et al., 2016; Gayles & Hu, 2009). This transformation expands the scope of sports and PE beyond physical skills, integrating creative, strategic, and managerial skills. Broadening career possibilities is essential for imparting students a holistic understanding of the field and readying them for diverse career paths. When examining the holistic development of student-athletes, the literature poses various dimensions. Martens and Lee (1998) accentuates the vitality of career development and counseling, explicitly addressing role conflict and athletic retirement. Rinn and Winingar (2007) explore the interplay between sports participation and self-concept and examine the application of learning theory in career counseling for student-athletes. Moreover, Lott and Turner (2018) critically evaluates the impact of sports participation on emotional intelligence development. These insights collectively highlight the complexity of holistic development in sports participation, incorporating cognitive, affective, social, and career-oriented aspects into the field. The integrated approach is pivotal in cultivating well-rounded individuals who are equipped to navigate the diverse nature of careers in sports and beyond.

Furthermore, the Sports DreamCatcher program highlights the critical role of inclusive and collaborative approaches in implementing successful sports career education programs. To that end, these approaches require the cooperation of educators, students, and parents to acknowledge and nurture various career paths in PE, as Hellison (2001) and Schempp (2003) emphasized. This setting encourages students to follow and participate in activities pertinent to their interests in these fields. Accordingly, Lieberman and Houston-Wilson (2009) accentuates the need to tailor the curriculum to accommodate special needs and prepare students for diverse career paths. Implementing effective strategies, as Pennington and Sinelnikov (2018) suggested, including integrating outdoor and sports education models, is critical to promoting social development. Furthermore, Sun (2016) underscores the need to tackle real-world issues and boost student motivation through meaningful learning experiences. These studies indicate that a supportive and inclusive environment encompassing interdisciplinary teaching methods can substantially improve the value of career education in PE. Our program exemplifies these principles and illustrates how they can successfully be applied to foster unique and rewarding educational experiences.

The observed transformation in student involvement with sports within our study program involves increased participation and fundamentally alters students' perceptions and experiences of sports. The program's success in boosting participation in extracurricular physical activities is a testament to the importance of diverse PE experiences. The rise in participation from 23% to 34.65% after the program reflects Pfeiffer and Wierenga (2019) emphasis on the importance of varied experiences in nurturing a lifelong commitment to sports. Additionally, the program's ability to enhance parental support aligns with the findings of Ruseski et al. (2011), underscoring the critical role of the family in promoting sports participation. Turman (2007) accentuated the impact of parental support and family dynamics in sustaining youth involvement in sports, aligning with our findings. The program's methodology is consistent with Howie et al.'s (2020) observations concerning the critical role of extracurricular sports programs in fostering positive youth development. Moreover, it underscores the importance of social support networks, encompassing family and peers in this context. Our study builds upon these findings by demonstrating how a well-structured sports program can enhance physical activity among students and cultivate a supportive environment involving family and peers. This holistic approach is vital for sustainable sports engagement, as Saar and Jürimäe (2007) pose, highlighting the correlation between regular sports participation, physical fitness, and the likelihood of continuing sports activities into adulthood. Additionally, Van Boekel et al. (2016) elucidate the positive impact of school-organized sports on academic and social aspects, underscoring its relevance. Therefore, our study depicts that integrating diverse sport-related experiences into the school curriculum can yield various benefits, extending beyond physical fitness to encompass academic achievement and social functioning.

The increased student participation in extracurricular sports resulted in a more holistic understanding of sports among the students. This perspective assesses sports as a physical activity and considers it a leisure, social interaction, and self-discovery platform. Likewise, Vidal-Vilaplana et al. (2022) highlight that participation in sports contributes to physical well-being and social and cultural awareness and discuss the multifaceted nature of sports. Numerous studies underscore the far-reaching impacts of sports participation, supporting this broadened view. Haudenhuyse et al. (2014) explicitly illustrates the benefits of sports in improving physical and mental well-being among vulnerable youth. Bush et al. (2016) discuss how sports can cultivate social consciousness and promote civic engagement. Additionally, Edim et al. (2012) examine the role of sports in enhancing educational engagement and attainment while promoting health and overall quality of life. These studies collectively confirm that sports participation can yield diverse positive impacts, impacting physical, mental, social, and educational dimensions. Our proposed career program represents a paradigm shift because it involves transforming from conventional physical activities to a liberal art form. Hence, our program challenges established barriers to

inclusive exercise (Lake, 2001) and highlights the importance of evidence-based approaches in sports-related development programs (Kay, 2019). Moreover, integrating sports with the arts and other creative pursuits enhances students' overall educational experience, positively impacting their social, emotional, and cognitive development (Talebzadeh & Jafari, 2012). This holistic and integrated approach in sports education is a unique step in fostering well-rounded development in students, prioritizing improvement and personal growth over competitive success.

Our study underscores the importance of policy and environmental support to implement sports career education programs successfully. The Sports DreamCatcher program demonstrates how seamlessly integrating regular PE classes with extracurricular activities within a sports-friendly school environment can elevate career education. This approach requires collaborative efforts among all educational stakeholders, such as teachers, students, and parents, to acknowledge and support diverse career paths in PE.

Our findings accentuate the need to develop robust PE career education programs catering to all students, extending beyond the focus on student-athletes. This need can be more critical than ever. Current PE policies and research occasionally address primary sports careers, overlooking the rich potential of secondary and tertiary sports careers for the general student population. This gap poses the immediate need for increased policy support and dedicated research efforts. A compelling prerequisite exists to formulate comprehensive PE career education programs encompassing a broader student demographic's diverse interests and potentials. Such programs should address and nurture diversified career opportunities in sports, transcending traditional athletic roles and opening up new horizons for student aspirations.

Furthermore, a crucial need exists to transform the perceptions of PE among teachers and parents. The study highlights many career possibilities within PE and sports, posing a strategic initiative to communicate these opportunities and their societal and personal benefits. We can elevate the perceived value of PE and sports education, transcending the conventional confines of athletic and coaching roles. This shift in perception is pivotal to fostering a more inclusive and comprehensive view of PE, acknowledging its role in physical development, career readiness, and personal growth.

Finally, expanding the horizons of career exploration in elementary education is becoming increasingly crucial. In an educational landscape where career education is paramount, offering elementary students diverse and meaningful opportunities to explore various careers in PE is indispensable. This endeavor can be substantially enhanced by leveraging the burgeoning array of sports experience facilities and programs. These platforms can offer enriching and hands-on career education experiences, enabling students to examine their interests and potential career paths in sports and pertinent disciplines. By providing these exploratory opportunities, we can assist students in discovering and nurturing their talents and aspirations in sports, supporting a well-rounded and informed future workforce. This expanded approach to career exploration in sports and PE is critical to preparing students for a dynamic and evolving career landscape where integrating sports, health, and varied professional fields is increasingly recognized and valued.

Conclusions

The Sports Dreamcatcher program has been crucial in reshaping students' perceptions and involvement in sports careers. It has substantially contributed to expanding students' perspectives on sports, presenting them as a form of physical activity and a channel for personal development, social interaction, and potential career pathways. This shift in perspective is pivotal because it represents an important step toward holistic development, accentuating the role of physical activity in fostering educational and personal growth.

A key outcome of the program's approach includes its profound impact on elementary school students' self-understanding, deemed crucial for informed career decision-making. The program exemplifies various characteristics of sports and PE by enabling students to recognize their aptitudes, talents, and interests. Hence, it can serve as a model for developing holistic sports education strategies aligning with contemporary educational goals and the requirements for career preparation. Furthermore, the program's success in fostering substantial self-understanding among students underscores the vitality of self-discovery in vocational education. This approach has successfully expanded career possibilities in sports education, accentuating the need for a holistic and integrated approach in elementary sports-related education. In closing, our study demonstrates that an inclusive view of sports and PE is pivotal in cultivating diverse career competencies in students and readying them for various future opportunities. The Sports Dreamcatcher program combines PE with broader vocational goals and contemporary workforce needs, offering important insights for developing future educational strategies by accentuating interdisciplinary learning and holistic career exploration.

Disclosure statement

The authors have disclosed no conflicts of interest related to this manuscript.

References

- Albay, M., & Serbes, M. (2017). Importance of career planning and development in education. *International Journal of Social Sciences & Educational Studies*, 4(2), 149–154.
- Ali, S. R., Yang, L. Y., Button, C. J., & McCoy, T. T. (2012). Career education programming in three diverse

- high schools: A critical psychology—case study research approach. *Journal of Career Development*, 39(4), 357–385.
- Anderson, M. J., Blanksby, B. A., & Whipp, P. R. (2005). A retrospective evaluation of assessment in physical education. *South African Journal for Research in Sport, Physical Education and Recreation*, 27(1), 1–10.
- Armour, K. (2006). Physical education teachers as career-long learners: A compelling research agenda. *Physical Education and Sport Pedagogy*, 11(3), 203–207.
- Auger, R. W., Blackhurst, A. E., & Wahl, K. H. (2005). The development of elementary-aged children's career aspirations and expectations. *Professional School Counseling*, 8(4), 322–329.
- Ayla, K. H. A. N. (2018). Application of career education in national curriculum of Pakistan at elementary level. *International e-Journal of Educational Studies*, 2(4), 114–119.
- Bailey, R. (2017). Sport, physical activity and educational achievement—towards an explanatory model. *Sport in Society*, 20(7), 768–788.
- Beale, A. V., & Jacobs, J. S. (2004). Beyond the professional athlete: Introducing middle school students to sports-related occupations. *Journal of Career Development*, 31, 111–124.
- Bush, K. A., Edwards, M. B., Jones, G. J., Hook, J. L., & Armstrong, M. L. (2016). Service learning for social change: Raising social consciousness among sport management students. *Sport Management Education Journal*, 10(2), 127–139.
- Clarke, M. (2009). Plodders, pragmatists, visionaries and opportunists: career patterns and employability. *Career Development International*, 14(1), 8–28.
- Cone, T. P., Werner, P. H., & Cone, S. L. (2009). *Interdisciplinary elementary physical education*. Human Kinetics.
- Cook, S. S. (2002). Evaluating the merits of interdisciplinary education. *Nursing Times*, 98(41), 30–32.
- Coop, R. H., & Rotella, R. J. (1991). Sport and physical skill development in elementary schools: An overview. *The Elementary School Journal*, 91(5), 409–412.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.
- Edim, M. E., Okou, F. T., & Odok, E. A. (2012). Sports participation: A catalyst in health promotion and quality living. *Journal of Emerging Trends in Educational Research and Policy Studies*, 3(6), 822–825.
- Elo, S. & Kyngas, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115.
- Everett, M. C. (2016). Interdisciplinary Studies: A Site for Bridging the Skills Divide. *Journal of Effective Teaching*, 16(2), 20–31.
- Gayles, J. G., & Hu, S. (2009). Athletes as students: Ensuring positive cognitive and affective outcomes. *New Directions for Higher Education*, 148, 101–107.
- Gulhane, T. F. (2014). Career in Physical Education and Sports. *Journal of Sports and Physical Education*, 1(5), 21–22.
- Guo, D., & Wang, A. (2020). Is vocational education a good alternative to low-performing students in China. *International Journal of Educational Development*, 75, 102–187.
- Hatch, G. M., & Smith, D. R. (2004). Integrating physical education, math, and physics. *Journal of Physical Education, Recreation & Dance*, 75(1), 42–50.
- Haudenhuyse, R. P., Theeboom, M., & Skille, E. A. (2014). Towards understanding the potential of sports-based practices for socially vulnerable youth. *Sport in Society*, 17(2), 139–156.
- He, H., Gao, J., & Yan, L. (2020). Understanding career advancement of newcomers from perspective of organizational socialization: A moderated mediating model. *Chinese Management Studies*, 14(3), 789–809.
- Hellison, D. (2011). *Teaching personal and social responsibility through physical activity*. Human Kinetics.
- Hollett, N., Sluder, J. B., Taunton, S., & Howard-Shaughnessy, C. (2016). Teaching body and spatial awareness in elementary physical education using integration of core content subjects. *Journal of Physical Education, Recreation & Dance*, 87(7), 31–35.
- Howie, E. K., Daniels, B. T., & Guagliano, J. M. (2020). Promoting physical activity through youth sports programs: It's social. *American Journal of Lifestyle Medicine*, 14(1), 78–88.
- Hyslop-Margison, E. J., & Graham, B. (2001). Principles for democratic learning in career education. *Canadian Journal of Education/Revue canadienne de l'éducation*, 26(3), 341–360.
- Kang, D., & Zhang, B. (2022). The feasibility of practical vocational education in higher education institutions. *International Journal of Emerging Technologies in Learning*, 17(14), 94–108
- Kay, T. (2019). *Developing through sport: Evidencing sport impacts on young people*. In *The Social Impact of Sport* (pp. 69–83). Routledge.
- Korean Educational Development Institute. (2013). *Research on the development of educational indicators and indices in Korea (II): Student competence index development study* (Research Report 2013–23). Seoul: Korean Educational Development Institute.
- Kuijpers, M. A. C. T., Meijers, F., & Gundy, C. (2011). The relationship between learning environment and

- career competencies of students in vocational education. *Journal of Vocational Behavior*, 78(1), 21–30.
- Lake, J. (2001). Young people's conceptions of sport, physical education and exercise: implications for physical education and the promotion of health-related exercise. *European Physical Education Review*, 7(1), 80–91.
- Lee, B., & Byun, S. Y. (2019). Socioeconomic status, vocational aspirations, school tracks, and occupational attainment in South Korea. *Journal of Youth and Adolescence*, 48, 1494–1505.
- Lieberman, L. J., & Houston-Wilson, C. (2009). *Strategies for inclusion: A handbook for physical educators*. Human Kinetics.
- Lott, G. H., & Turner, B. A. (2018). Collegiate sport participation and student-athlete development through the lens of emotional intelligence. *Journal of Amateur Sport*, 4(2), 1–28.
- MacNamara, A., Collins, D., Bailey, R., Toms, M., Ford, P., & Pearce, G. (2011). Promoting lifelong physical activity and high-level performance: Realizing an achievable aim for physical education. *Physical Education and Sport Pedagogy*, 16(3), 265–278.
- Martens, M. P., & Lee, F. K. (1998). Promoting life-career development in the student athlete: How can career centers help?. *Journal of Career Development*, 25(2), 123–134.
- Marttinen, R. H. J., McLoughlin, G., Fredrick III, R., & Novak, D. (2017). Integration and physical education: A review of research. *Quest*, 69(1), 37–49.
- Moon, J., & Webster, C. A. (2019). MI (my) wheelhouse: a movement integration progression framework for elementary classroom teachers. *Journal of Physical Education, Recreation & Dance*, 90(7), 38–45.
- Park, Y., & Yoon, K. (2019). From physical education lesson professionalism to school physical education professionalism: Re-conceptualizing elementary physical education teacher professionalism. *The Journal of Korea Elementary Education*, 30(2), 53–64.
- Pennington, C. G., & Sinelnikov, O. A. (2018). Using Sport Education to Promote Social Development in Physical Education. *Strategies*, 31(6), 50–52.
- Pfeiffer, K. A., & Wierenga, M. J. (2019). Promoting physical activity through youth sport. *Kinesiology Review*, 8(3), 204–210.
- Proctor, J. (2005). Integrating career education in a primary school. *Australian Journal of Career Development*, 14(3), 13–17.
- Pulliam, N., & Bartek, S. (2018). College and career readiness in elementary schools. *International Electronic Journal of Elementary Education*, 10(3), 355–360.
- Rinn, A. N., & Winger, S. R. (2007). Sports participation among academically gifted adolescents: Relationship to the multidimensional self-concept. *Journal for the Education of the Gifted*, 31(1), 35–56.
- Ruseski, J. E., Humphreys, B. R., Hallmann, K., & Breuer, C. (2011). Family structure, time constraints, and sport participation. *European Review of Aging and Physical Activity*, 8(2), 57–66.
- Saar, M., & Jürimäe, T. (2007). Sports participation outside school in total physical activity of children. *Perceptual and Motor Skills*, 105(2), 559–562.
- Schempp, P. G. (2003). *Teaching sport and physical activity: Insights on the road to excellence*. Human Kinetics.
- Singh, S. P., Grover, S., Padmanabhan, J., & Chaudhary, S. (2015). Vocational education in higher secondary schools. *Mediterranean Journal of Social Sciences*, 6(5), 455.
- Sun, Z. (2016). The advantage of using sport education instead traditional approach in physical education. *Journal of Research & Method in Education*, 6(2), 13–16.
- Talebzadeh, F., & Jafari, P. (2012). How sport and art could be effective in the fields of social, cognitive and emotional learning?. *Procedia - Social and Behavioral Sciences*, 47, 1610–1615.
- Ting, S. R., Leung, Y. F., Stewart, K., Smith, A. C., Roberts, G. L., & Dees, S. (2012). A preliminary study of career education in middle school. *Journal of Career and Technical Education*, 27(2), 84–97.
- Turman, P. D. (2007). Parental sport involvement: Parental influence to encourage young athlete continued sport participation. *Journal of Family Communication*, 7(3), 151–175.
- Tsangaridou, N., & Lefteratos, C. (2013). Elementary students' views and experiences on sport education in Cyprus. *Advances in Physical Education*, 3(1), 28–35.
- You, J. A. (2014). Exploring directions & tasks for career education in physical education according to the free semester system in middle school. *The Korean Journal of Physical Education*, 53(6), 235–246.
- Van Boekel, M., Bulut, O., Stanke, L., Zamora, J. R. P., Jang, Y., Kang, Y., & Nickodem, K. (2016). Effects of participation in school sports on academic and social functioning. *Journal of Applied Developmental Psychology*, 46, 31–40.
- van der Lecq, R. (2016). Self-Authorship Characteristics of Learners in the Context of an Interdisciplinary Curriculum: Evidence from Reflections. *Issues in Interdisciplinary Studies*, 34, 79–108.
- Velde, C., & Cooper, T. (2000). Students' perspectives of workplace learning and training in vocational education. *Education+ Training*, 42(2), 83–92.
- Vidal-Vilaplana, A., Valantine, I., Staskeviciute-Butiene, I., González-Serrano, M. H., Capranica, L., & Calabuig, F. (2022). Combining sport and academic career: Exploring the current state of student-athletes' dual career research field. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 31,

100399.

- Wahl, K. H., & Blackhurst, A. (2000). Factors affecting the occupational and educational aspirations of children and adolescents. *Professional School Counseling, 3*(5), 367.
- Watermeyer, R. (2015). Lost in the 'third space': the impact of public engagement in higher education on academic identity, research practice and career progression. *European Journal of Higher Education, 5*(3), 331–347.
- Welde, A. M., Bernes, K. B., Gunn, T. M., & Ross, S. A. (2016). Career education at the elementary school level: Student and intern teacher perspectives. *Journal of Career Development, 43*(5), 426–446.
- You, J. (2014). Exploring directions & tasks for career education in physical education according to the free semester system in middle school. *The Korean Journal of Physical Education, 53*(6), 235–246.
- You, J., Bang, S., & Kwon, H. (2016) Development of Standardized Classification Scheme of Sport Occupational Theme for Career Education in Physical Education and Sports. *Korean Journal of Sport Pedagogy, 23*(2), 45–62.