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# *An Analysis of Physical Education Requirement in Texas: The Trend from Kindergarten through Higher Education*

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***Abstract:*** Physical education standards, policy, and funding through physical education are vital to the wellness of an individual. The purpose of this paper is to provide a brief history of public-school physical education throughout grade-school and the years of higher education by illuminating the backwards trend that school law and policy has created for physical education and American society. Particular acts of legislation provided guidelines for funding programs, such as physical education, in the public-school setting. The Texas Education Agency (TEA) assures the accountability processes meet and often exceed the federal accountability system; Every Student Succeeds Act desires that local stakeholders take responsibility in a "well-rounded" healthy individual through public education. Although many educational policies exist, the common denominator among educational reform is improving the quality of education. The benefits of a healthy, physically fit future employee to an organization include lower health-care costs, decreased absenteeism, increased productivity, and elevated employee morale. Therefore, we recommend the education system adopt a flipped implementation plan for physical education.

## 1. Introduction

Physical fitness continues to be widely-discussed within education, the workplace, and everyday life (Pennington, et al., 2022). Physical education standards, policy, and funding through physical education are vital to the wellness of an individual (Ward, et al., 2021). Physical fitness has longtime been a focus of compulsory K-12 physical education (Carson & Webster, 2019), but opportunities in physical education are not limited to exclusive physical health-related fitness (Pennington & Sinelnikov, 2018). In addition to providing opportunities for physical activity (Pennington & Nelson, 2020), improving physical fitness (Pennington, 2020; Pennington, et al., 2022), sporting experiences (Pennington, 2017), and movement-based learning, physical education can be a location where holistic childhood development occurs (Pennington, 2017). Compulsory K-12 physical education provided unique opportunities for student learning and development. In high-quality physical education, students engage in activities that promote social

development (Pennington & Sinelnikov, 2018), themes of diversity and inclusion (Brorman & Pennington, 2021; Cummings, Ayisire, Pusch, & Pennington, 2020; Gordon & Pennington, 2022; Hernandez, Loeung, Washington, & Pennington, 2020; Jackson & Pennington, 2021; Kelly & Pennington, 2021; Law & Pennington, 2021; McDonald, Wind, & Pennington, 2021; Moore & Pennington, 2021; Nelson, Fuchs, Pennington, & Pennington, 2020; Pennington & Pennington, 2020a, 2020b; 2020c), strategies for lifestyle and emotional wellbeing (Pennington, 2019), and character development (Pennington, 2017; Pennington et al., 2018; Pennington, 2019).

The purpose of this paper is to provide a brief history of public-school physical education throughout grade-school and the years of higher education by illuminating the backwards trend that school law and policy has created for physical education and American society.

## 2. Physical Education Law and Policy in Public Schools

A brief history of physical education legislation in the K-12 public school setting is important to understand as the foundation for state and local policy. Wellness standards to maintain 150 minutes of physical education in the elementary schools and 225 minutes in junior and senior high schools have been the priority, but lack of funding plus pressures of standardized testing have lessened the priority at the district level. Significant legislation at the federal level occurred under President Lyndon Johnson's Elementary and Secondary Education Act (1965), President George W. Bush's No Child Left Behind Act (2002), and President Barack Obama's Every Student Succeeds Act (2015). These three acts of legislation provided guidelines for funding programs, such as physical education, in the public-school setting.

The current Every Student Succeeds Act (ESSA) changed the accountability power from the federal level to the state. Each state implements an approved plan guided by ESSA guidelines in the creation of a "well-rounded education" for all students K-12 grades ("ESSA Essentials," n.d.). The Texas Education Agency (TEA) assures the accountability processes meet and often exceed the federal accountability system. Thus, implementation of ESSA will continue as previously designated ("TASB Legal Services," 2017). Recently in Texas, Governor Greg Abbott signed the Quality Physical Education bill into law. The law requires the TEA to develop and report a statewide report on physical education in schools. The report includes:

- The number of physical education classes offered, days, classes, and minutes per week per campus;
- The ratio of physical education students enrolled to overall enrollment in the district;
- The average physical education class size;
- The number of certified physical education instructors in the district;
- Whether appropriate equipment and facilities for students to actively engage in physical education;
- Whether the district modifies physical education courses for special needs students;
- Whether the district has a policy that withholds students from proper physical activity ("SB 1873," n.d.).

The intent and platform of each district will allocate ESSA funds within a broad domain of subject options, including the ever-growing implementation of technology in school systems. Time will tell how this new initiative will include physical education, wellness, and nutrition curriculum, but there is cause for some early optimism (Carson & Webster, 2019). For example, professional health and physical education organizations in the state of Texas have responded to the need and push towards improved health, physical fitness, and wellbeing. The Texas Association of Heath,

Physical Education, Recreation and Dance (TAHPERD) is an active organization in the promotion, professional development, and advocacy for physical education in public schools. It serves as the only driving force in the state of Texas in educating professionals in health, physical education, recreation, and dance ("TAHPERD," n.d.). Texas Association of Heath, Physical Education, Recreation and Dance has been at the driving front of innovation, practitioner-based resources, evidence-based research, and scholarship aimed at improving the quality of health and physical education/fitness education (see Carson & Webster, 2019). However, some data suggests physical education, nation-wide, is not meeting the lofty goals some have set for it, in spite of these sweeping legislative policies (van der Mars, et al., 2021).

Every Student Succeeds Act calls for a well-rounded education for all students K-12 grades. In fact, ESSA overrides any previous policy or legislation that may have been considered well-rounded. This new "well-rounded" definition provides funds to greatly expand education in areas ranging from, but not limited to, physical education, foreign languages, and computer literacy. The development, measurement, and assessment of the whole child is to be addressed in the new implementation ("ESSA Essentials," n.d.). Regarding ESSA's well-rounded education, TEA is strategically defining courses, activities, and programs in additional categories beyond core subjects. The purpose is to enrich the curriculum by expanding the educational experience in areas such as health, physical education, engineering, technology, and language to name a few. Every Student Succeeds Act desires that local stakeholders take responsibility in a "well-rounded" healthy individual through public education. Policy to enhance physical education in schools could examine aspects such as:

- Creating a healthy culture by maximizing physical activity time in classes, recess, before and after-school transportation, after-school activities, and activity breaks;
- Establish school-wide physical education initiatives by educating teachers and students;
- Disparities in advocating physical education should be eliminated as access to facilities and opportunity is available to all (Cooper et al., 2016).

## 3. Texas Public School Physical Education Requirements

The Texas Education Code (TEC) and State Board of Education (SBOE) allow flexibility in the implementation of physical education standards in K-5 grades, but do require at least 30 minutes per day of moderate to vigorous physical activity. This requirement may be obtained through structured physical education classes or during recess time. However, in 2010, the requirement was modified to demand at least 50% of the class to include actual physical activity ("State Profiles," n.d.). If a school district determines 30 minutes per day of physical activity is unattainable, the district can establish an alternative plan to provide moderate to vigorous physical activity for at least 135 minutes per week. Each school district has the option to provide instruction in a variety of methods and environments, but must not omit any of the essential physical education curriculum. The TEC requires grades 6-8 to participate in moderate to vigorous physical activity for 30 minutes daily for at least four semesters. If block scheduling exists, a school district has the alternative option to provide at least 225 minutes of moderate to vigorous exercise over a two-week period. The Texas Administrative Code (TAC) requires high school students, grades 9-12, to earn 1.0 credits of Texas Essential Knowledge and Skills (TEKS)-approved physical education credits to graduate. The maximum amount of physical education credits is 4.0, and substitutions for this credit are determined at the district level ("Physical Education and Physical Activity", n.d.).

The State Board of Education (SBOE) permits individual school districts to substitute or exempt students from physical activity with interscholastic sports, community sports, JROTC, marching

band, cheerleading, drill team, or any other activity approved by the state to receive credit in high school. The TEKS allow individual districts to align developmentally appropriate physical education curriculum with unique standards and goals. That state specifies a ratio of 45 students per teacher in physical education classes. The state additionally requires physical education assessment through the use of FitnessGram and Body Mass Index (BMI) or height and weight measurement, but these results do not affect a student's eligibility to advance to the next grade ("Physical Education and Physical Activity", n.d.).

**Physical Education TEKS Curriculum.** The TEC requires each school district to implement objectives and goals of the physical education TEKS standards. School districts must include each element of the physical education TEKS and have the option to add elements if desired. Texas Essential Knowledge and Skills required at the K-5 grade as well as 6-8 grade levels include age appropriate developmental knowledge and skills in the following:

- fundamental movement patterns;
- development of motor skills;
- enhancing a lifestyle of physical activity and health;
- benefits of physical activity involvement;
- safety procedures in physical activity and health;
- strategies and rules of structured physical activity;
- social development through physical activity ("19 TAC Chapter 116," n.d.).

Texas Essential Knowledge and Skills at the high school level, grades 9-12, offer different options for students to gain required credit. The TEKS in each of these options remain consistent in each unique setting and include physical education curriculum in movement, social development, safety, fitness, and health for a lifetime. The following TEKS-based courses are available for high school students:

- Foundations of Personal Fitness;
- Adventure/Outdoor Education;
- Aerobic Activities;
- Individual Sports;
- Team Sports ("19 TAC Chapter 116," n.d.).

The TEKS curriculum was first adopted and implemented in September 1, 1998 by the SBOE for all subject areas. The physical education TEKS were not been revised within 10 years of the original adoption; however, the SBOE recently reviewed and updated physical education TEKS in 2018 ("19 TAC Chapter 116," n.d.).

**Physical Fitness Assessment Initiative.** The Physical Fitness Assessment Initiative (PFAI) applies to Texas public school grades 3-12 as of the 2016-2017 school year. The purpose of the initiative was to gather physical fitness data in search of a relationship with academic achievement, attendance, obesity, discipline, and meal programs. The Texas Education Agency requires each school district to collect and report annual physical fitness assessments through physical education courses. The Texas Education Agency paired with US Games to provide statewide access to FitnessGram 10 software to assist schools in the prompt reporting of results ("Physical Fitness Assessment Initiative," n.d.).

Physical education in schools has always been under attack – from a marginalization and budget-cutting standpoint (Laureano, et al., 2014). However, a national concern on childhood obesity have shifted a legislative focus back to the forefront (Killian, et al., 2020). That same commitment needs to filter down to the district level, because the state of Texas ultimately allows each district to operate independently while under the TEKS umbrella. Government funding and

budgeting either advocated for- or de-emphasizes - the level of physical education in schools, because physical education is often the first to be overlooked if not prioritized (Meyers, 2012). Every Student Succeeds Act (ESSA) legislation under President Obama offered schools the opportunity to fund physical education, but it must be a prioritized alongside technology, foreign language, and other educational requirements to be maximally effective.

## 4. Physical Education in Higher Education: Texas Core Curriculum Policy

Although many educational policies exist, the common denominator among educational reform is improving the quality of education. While many policies focus on the K-12 grades, in 1987 Texas passed legislation which implemented the State's first standard Higher Education (HE) core curriculum policy for students pursuing a baccalaureate degree in public institutions, initiated by the Texas Higher Education Coordinating Board (THECB) (THECB, 2017). Inconsistency in curriculum across public higher education institutions in Texas was classified as an unacceptable issue, resulting in the creation of the Texas Core Curriculum (TCC). The purpose of the TCC policy was, again, based on quality education in the college and university setting (THECB, 2017).

In an effort to improve the quality of higher education in Texas and create consistency across Texas public institutions, the House Bill 2183 of the 70th Texas Legislature detailing the TCC passed in 1987 (Texas Higher Education Coordinating Board, 2017). The Bill required all undergraduate students enrolled in a public college or university in Texas, regardless of selected major, to complete an assortment of general core curriculum courses (Texas Higher Education Coordinating Board, 2017). The assortment included courses in the subjects of liberal arts, humanities, science, political history, social history, and cultural history (Texas Higher Education Coordinating Board, 2017). This initial legislation was implemented and utilized in the Texas public higher education system for 10 years.

The concept of mandating quality holistic curriculum was theoretically sound; however, like many immature policy initiatives, implementation issues existed. In 1997, the 75th Texas legislatures gathered to discuss Senate Bill 148 which addressed the issue core curriculum course transfers. The initial TCC policy failed to account for transferred TCC hours of student who switched institutions before completing/obtaining their baccalaureate degree (Texas Higher Education Coordinating Board, 2017). Students may have satisfied the core curriculum requirements at their original institution, but were forced to retake similar coursework due to altered institutional core curriculum requirements at the new/different institution.

The 1997 legislation repealed the previous Bill (House Bill 2183), and mandated all Texas colleges and universities to utilize an interrelated, standardized course numbering system for TCC courses (Texas Higher Education Coordinating Board, 2017). The byproduct allowed students to successfully transfer core curriculum courses to alternative public Texas institutions.

In the 1999 document "Core Curriculum: Assumptions and Defining Characteristics", the elements of the TCC (foundational component areas) and exemplary educational objectives were refined (Texas Higher Education Coordinating Board, 2017). Among the provisions, the well-defined 42 credit hours of foundational component areas was considered 'essential and fundamental' to the enhancement of Texas higher education (Texas Higher Education Coordinating Board, 2017). The foundational component areas and semester credit hours (SCH) included:

Table 1 Texas Core Curriculum Foundational Component Area

| Foundational Component Areas | Semester Credit Hours |
|---|---|
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy, & Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government/Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Institutional Option | 6 |
| **Total** | **42 hours** |

The essentials of the 1997 TCC legislation have not been significantly altered, and the current Section 61.821 – 61.832 statute continues to utilize these standards to ensure excellence in Texas baccalaureate curriculum.

## 5. University Options and the Gap within the TCC policy

The amendments made to the TCC policy throughout the years have significantly enhanced the holistic university and college core curriculum and improved the overall education of HE. However, potential advancements and updates to the policy still exist. Three subjects deserve consideration for inclusion to the Core Curriculum Foundational Component Area: kinesiology, health/wellness, and computer literacy; all of which were stated as suggested subjects for the Institutional Option credit hours in the "Core Curriculum: Assumptions and Defining Characteristics" (THECB, 1999).

While the TCC Policy mandates all public colleges and universities to include 42 hours of core curriculum credits into all undergraduate degree plans, institution still have slight curriculum customization control. Of the 42 hours, six credits are designated as institutional options - meaning, colleges and universities possess the power to integrate any six hours of course credit they consider important, valuable, and critical to student collegiate and career success into the institution's core curriculum (Texas Higher Education Coordinating Board, 2011). To provide a practice perspective of the TCC policy, the researchers examined the Texas A&M System response and installment to the TCC mandates. Specifically, institutional option components selected by individual Texas A&M system universities. The following section will identify optional component areas of agreement and disagreement among universities, speculate selective reasoning of optional

component credits, and discuss a gap within the current TCC policy - physical education/health and wellness (PE/HW) and the perceived importance of PE/HW across the Texas A&M System.

**The Texas A&M System**. The Texas A&M System is comprised of 11 universities: Texas A&M University, Prairie View A&M University, Tarleton State University, Texas A&M International University, Texas A&M University – Corpus Christi, Texas A&M University – Kingsville, West Texas A&M University, Texas A&M University – Commerce, Texas A&M University – Texarkana, Texas A&M University – Central Texas, and Texas A&M University – San Antonio. Each university controls the selection of the six credit hours of institutional option courses, and expectedly, optional course deviation exists throughout the A&M System. Table 1 displays the six hours of selected institutional option course areas by university.

Table 2 Texas A&M System Texas Core Curriculum Institutional Option Selection by University

| University | Institutional Option Area(s) | Includes PE/HW | Requires PE/HW | Credit Hours |
|---|---|---|---|---|
| Texas A&M University | Mathematics | No | No | 3 |
| | Life & Physical Sciences | No | No | 3 |
| Prairie View A&M University | Professional Development Area 1 | No | No | 3 |
| | Professional Development Area 2 | Yes | No | 3 |
| Tarleton State University | Communication | No | No | 3 |
| | Life & Physical Sciences | No | No | 2 |
| | Freshman Experience | No | No | 1 |
| Texas A&M International University | Learning in Global Context | No | No | 1 |
| | Life & Physical Sciences Lab | No | No | 1 |
| | Signature Course | No | No | 4 |
| Texas A&M University – Corpus Christi | Additional Foundational Area (Student Option) | No | No | 6 |
| West Texas A&M | Communication | No | No | 3 |
| | Life & Physical Sciences (Acquired if course includes Lab hours) | No | No | 0-2 |

| | | | | | |
|---|---|---|---|---|---|
| | Institutionally Options | Designed | No | No | 1-3 |
| Texas A&M University – Commerce | Communication | | No | No | 3 |
| | Degree Pathway | | Yes | No | 3 |
| Texas A&M University – Texarkana | Institutionally Options | Designed | No | No | 6 |
| Texas A&M University – Central Texas | Institutionally Options | Designed | Yes | No | 6 |
| Texas A&M University – San Antonio | Institutionally Options | Designed | No | No | 6 |

A few speculator justifications are associated with the selection of optional component areas. First, universities that defer specification and leave the selection of courses to the discretion of students (e.g. Texas A&M University – Corpus Christi, Texas A&M University – Texarkana, Texas A&M University – Central Texas, Texas A&M University – San Antonio) conceivably seek to create a student-driven education and facilitate student exploration. Secondly, the more rigid optional curriculum focused universities (e.g. Texas A&M University, Tarleton State University, Texas A&M International University) may consider student enrollment was based on the institution's specific area of expertise; therefore, optional course selection is aligned toward the university's recognized programs. Lastly, money potentially dictates university's optional course selection. Certain subject areas generate more money per enrolled credit hour than others. Therefore, selecting high money-generating subjects as the institution option courses increases university revenue. For example, Texas A&M University requires students to take an extra Life and Physical Science course - an unpopular elective course, yet a high money-generating subject area - accounting for three of the six optional credit hours. Subsequently, science course enrollment increases, and the university monetarily benefits. Motives differ across universities as do the selected institutional option credits; however, across the A&M System one subject area consistently receives neglect - no university deems physical education/health and wellness (PE/HW) fit as a require institution option course.

**Gap within the TCC policy.** Among the 11 Texas A&M System universities, three accept PE/HW courses as institutional option competent area core curriculum credits. However, no school requires students to specifically complete a PE/HW course. Physical education/health and wellness courses are simply 'one' option among several other optional courses, regardless of the extensive list of benefits associated with physical education. One in particular, that has been well documented, is the positive relationship between increased physical activity and academic achievement (Belch, Gebel, & Maas, 2001; Castelli, Hillman, Buck, & Erwin, 2007; Chomitz et al., 2009; Welk, Jackson, Morrow Jr., Haskell, Meredith, & Cooper, 2010). Returning to the purpose of the TCC "a general intent to ensure quality in higher education" (Texas Higher Education Coordinating Board, 2017), incorporating PE/HW courses into the institutional option appears viable and valuable. In fact, considering PE/HW courses as an additional foundational content area of the TCC deserves exploration.

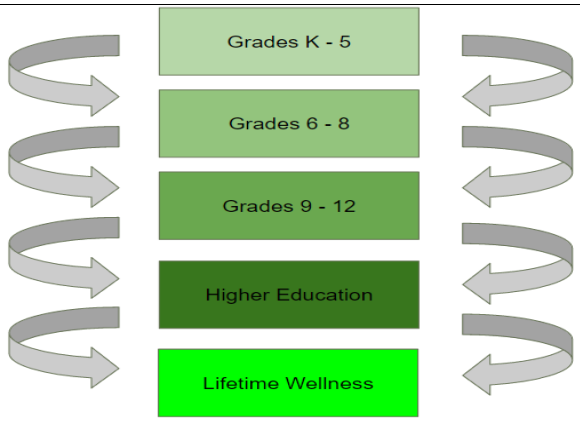
Thanks to efforts of Texas Association of Health, Physical Education, Recreation, and Dance organization (TAPHERD), the Quality Physical Education bill was recently passed, requiring public Texas K-12 schools to produce comprehensive physical education reports (previously discussed) ("SB 1873," n.d.). The bill represents an excellent improvement to the previous physical education system and a progressive step towards a physically active, healthy, educated student population. Again, if the purpose of creating a standardized TCC for higher education is to improve the overall education of Texas institutions, it might be time for higher education to examine and adapt the perspectives and implementations of PE/HW of its prerequisite - the K-12 public school system.

## 6. Critical Analysis of Physical Education in Public Education

An analysis of public schools reveals a rich, highly involved curriculum in grades K-5 due to TEKS requirements for a full year of active physical education. The trend begins in grades 6-8 as only four semesters of physical education are required rather than all six semesters. As the student continues to grades 9-12, requirements further lessen to only one physical education credit required for graduation. Progressing to higher education, the requirements for physical activity decrease significantly yet again, regardless of the increased likelihood of sedentary lifestyle. Overall, instead of combating the issues, the education system tends to ignore it. The current educational plan for physical education declines as students progress through the system. However, once students transition into the real-world workforce, the demand and expectation of maintaining a physically active lifestyle dramatically increases (Cunningham, et al., 2020).

The literature has thoroughly documented multiple benefits associated with physical activity, and of recent, employers and businesses are starting to capitalize on those advantages (Wolfenden, et al., 2018). The benefits of a healthy, physically fit future employee to an organization include lower health-care costs, decreased absenteeism, increased productivity, and elevated employee morale (Grawitch, Gottschalk, & Munz, 2006). Therefore, we recommend the education system adopt a flipped implementation plan for physical education (see Figure 1).

Figure 1 Flipped Implementation Physical Education Plan




*Note.* Flipped Implementation Physical Education Plan models the level of enrichment of physical education curriculum as education level progresses. This plan ensures maximum wellness for a lifetime to be taught to students soon to entire into the workforce.

This plan for physical education accounts for an increased awareness of an active lifestyle as the student progresses through the public education system into the workforce. Naturally, the intrinsic motivation to participate in physical activity decreases with age (Standage, Duda, & Ntoumanis, 2003). Furthermore, a progressive focus on increased standards of physical education and activity enriches knowledge of and involvement in wellness over a lifetime.

## References


*[1] Belch, H. A., Gebel, M., & Maas, G. M. (2001). Relationship between student recreation complex use, academic performance, and persistence of first-time freshmen. Journal of Student Affairs Research and Practice, 38(2), 220-234. doi:10.2202/0027-6014.1138.*

*[2] Brorman, K. & Pennington, C. G. (2021). Inclusive Physical Activity and Physical Education for Children with Spina Bifida. Academia Letters. Article 1139. https://doi.org/10.20935/AL1139.*

*[3] Carson, R., & Webster, C. A. (Eds.). (2019). Comprehensive school physical activity programs: Putting evidence-based research into practice. Human Kinetics Publishers.*

*[4] Castelli, D. M., Hillman, C. H., Buck, S. M., & Erwin, H. E. (2007). Physical fitness and academic achievement in third-and fifth-grade students. Journal of Sport and Exercise Psychology, 29(2), 239.*

*[5] Chomitz, V. R., Slining, M. M., McGowan, R. J., Mitchell, S. E., Dawson, G. F., & Hacker, K. A. (2009). Is there a relationship between physical fitness and academic achievement? Positive results from public school children in the northeastern United States. Journal of School Health, 79(1), 30-37. doi:10.1111/j.1746-1561.2008.00371x.*

*[6] Cooper, K. H., Greenberg, J. D., Castelli, D. M., Barton, M., Martin, S. B., & Morrow Jr, J. R. (2016). Implementing policies to enhance physical education and physical activity in schools. Research Quarterly for Exercise and Sport, 87(2), 133-140.*

*[7] Cummings, S. Ayisire, J., Pusch, S., & Pennington, C. G. (2020). How Can Attention Deficit Hyperactivity Disorder Affect Sport Performance? Curriculum and Teaching Methodology. 3, 93-95. DOI: 10.23977/curtm.2020.030206.*

*[8] Cunningham, C., O'Sullivan, R., Caserotti, P., & Tully, M. A. (2020). Consequences of physical inactivity in older adults: A systematic review of reviews and meta-analyses. Scandinavian Journal of Medicine & Science in Sports, 30(5), 816-827.*

*[9] ESSA Essentials. (n.d.). Retrieved from http://www.ascd.org/public-policy/essa-updates.aspxi#resources.*

*[10] Grawitch, M. J., Gottschalk, M., & Munz, D. C. (2006). The path to a healthy workplace: A critical review linking healthy workplace practices, employee well-being, and organizational improvements. Consulting Psychology Journal: Practice and Research, 58(3), 129.*

*[11] Gordon, V. & Pennington, C. G. (2022). Tips for Including Individuals with Autism in Physical Education. Journal of Physical Education, Recreation & Dance. 93(1), 58-60. DOI:10.1080/07303084.2022.2006021.*

*[12] Hernandez, C., Loeung, D., Washington, R. & Pennington, C. G. (2020). Increasing Physical Activity in Individuals with Spinal Cord Injury. Journal of Physical Fitness, Medicine & Treatment in Sports. 8(4), 37-38. DOI: 10.19080/JPFMTS.2020.08.555744.*

*[13] Jackson, P. & Pennington, C. G. (2021). Kickball for Students with an Amputation. Curriculum and Teaching Methodology. 4, 50–54. DOI: 10.23977/curtm.2021.040109.*

*[14] Kelly, C. & Pennington, C. G. (2021). Lower-Limb Amputees in Olympic Weightlifting. International Journal of Physical Education, Fitness and Sports. 10(2), 64–68. DOI: https://doi.org/10.34256/ijpefs2127.*

*[15] Killian, C. M., Kern, B. D., Ellison, D. W., Graber, K. C., & Woods, A. M. (2020). State Lawmaker's Views on Childhood Obesity and Related School Wellness Legislation. Journal of School Health, 90(4), 257-263.*

*[16] Laureano, J., Konukman, F., Gümüşdağ, H., Erdogan, S., Yu, J. H., & Çekin, R. (2014). Effects of marginalization on school physical education programs: A literature review. Physical Culture and Sport, 64(1), 29.*

*[17] Law, J. & Pennington, C. G. (2021). Physical Activity for Individuals with Cerebral Palsy. International Journal of Physical Education, Fitness and Sports. 10(2), 73–79. DOI: https://doi.org/10.34256/ijpefs2129.*

*[18] McDonald, J., Wind, E., & Pennington, C. G. (2021). Netball as an Activity for Individuals with Hemophilia. Journal of Physical Education, Recreation & Dance. 91(2), 46-48. DOI: 10.1080/07303084.2021.1854020.*

*[19] Meyers, J. (2012, Feb). PE struggles to keep up in Texas classrooms. Retrieved from: https://www.dallasnews.com/news/education/2012/02/19/pe-struggles-to-keep-up-in-texas-classrooms*

*[20] Moore, K. & Pennington, C. G. (2021). Multiple Sclerosis: Improving Quality of Life with Yoga. International Journal of Physical Education, Fitness and Sports. 10(2), 69–72. DOI: https://doi.org/10.34256/ijpefs2128.*

*[21] Nelson, C., Fuchs, K., Pennington, L. W., & Pennington, C. G. (2020). Cerebral Palsy: Enhancing Movement Opportunity with Help from the Care Team. International Journal of Physical Education, Fitness and Sports. 9(4), 27-30 DOI: https://doi.org/10.34256/ijpefs2043.*
*[22] Pennington, C. G., Shiver, T., McEntyre, K., & Brock, J. (2022). Physical Education Preservice Teachers' Perspectives on Teaching Health-Related Fitness. The Physical Educator. 79, 117-130. DOI: 10.18666/TPE-2022-V79-I2-10214.*
*[23] Pennington, C. G. (2020). Models based instruction: The Sport Education curriculum model and accruing physical activity. Curriculum and Teaching Methodology. (3), 1-10. DOI: 10.23977/curtm.2020.030101.*
*[24] Pennington, C. G. & Pennington, L. W. (2020a). Enhancing Physical Education for Students with Vision Impairment and Preventing Retinal Detachment. Journal of Physical Education, Recreation & Dance. 91(3), 53-54. DOI:10.1080/07303084.2019.1705134.*
*[25] Pennington, C. G. & Pennington, L. W. (2020b). Inclusive Physical Activity and Physical Education for Students with Epilepsy. Journal of Physical Education, Recreation & Dance. 91(2), 52-53. DOI:10.1080/07303084.2020.1696135.*
*[26] Pennington, C. G. & Pennington, L. W. (2020c). A Chance to Play is a Chance to Learn: Integrating Individuals with Physical Disabilities into Physical Education. Curriculum and Teaching Methodology. 3, 81-89. DOI: 10.23977/curtm.2020.030204.*
*[27] Pennington, C. G. & Nelson, L. (2020). Physical Activity Contribution of a Modified "Dancing Classrooms" Pilot on Middle School Students Using Accelerometer Technology and Heart Rate Telemetry. The Physical Educator. 77(2), 230-256. https://doi.org/10.18666/TPE-2020-V77-I2-9794.*
*[28] Pennington, C. G. (2019). Faith, Physical Activity, and Physical Education. The Canadian Journal for Scholarship and the Christian Faith. Special Issue: Exploring the Relationship Between Physical Activity and the Christina Faith. (1), 2-9. https://cjscf.org/wellness/faith-physical-activity-and-physical-education/.*
*[29] Pennington, C. G., & Sinelnikov, O. A. (2018). Using Sport Education to Promote Social Development in Physical Education: Column Editor: K. Andrew R. Richards. Strategies, 31(6), 50-52. https://doi.org/10.1080/08924562.2018.1516447.*
*[30] Pennington, C. G. (2019). Creating and Confirming a Positive Sporting Climate. Journal of Physical Education, Recreation & Dance. 90(4), 15-20. https://doi.org/10.1080/07303084.2019.1568936.*
*[31] Pennington, C. G., Ivy, V., McEntryre, K. & Baxter, D. (2018). Championship Caliber Character: Strategies for Building Well-Rounded Athletes. Professional Association of Athlete Development Specialists Research Digest. 3(6), 14-15. https://www.paads.org/page/researchdigest.*
*[32] Pennington, C. G. (2017). Moral Development and Sportsmanship in Interscholastic Sports and Physical Education. Journal of Physical Education, Recreation & Dance. 88(9), 36-42. https://doi.org/10.1080/07303084.2017.1367745.*
*[33] Physical Education and Physical Activity. (n.d.). Retrieved from: www.esc.12.net.*
*[34] Physical Fitness Assessment Initiative. (n.d.). Retrieved from: http://tea.texas.gov/Texas_ Schools/Safe_and_Healthy_Schools/Physical_Fitness_Assessment_Initiative/#resourcs.*
*[35] Prairie View A&M University (2016). Core curriculum. Retrieved from http://catalog.pvamu.edu/thecorecurriculum/#coreareastext.*
*[36] SB 1873. (n.d.) Retrieved from: http://www.capitol.state.tx.us/tlodocs/85R/billtext/html/SB01873I.htm.*
*[37] Standage, M., Duda, J. L., & Ntoumanis, N. (2003). A model of contextual motivation in physical education: Using constructs from self-determination and achievement goal theories to predict physical activity intentions. Journal of Educational Psychology, 95(1), 97.*
*[38] State Profiles. (n.d.). Retrieved from: http://www.shapeamerica.org/advocacy/son/2010/upload/texas-profile.pdf.*
*[39] TAC, 19 Chapter 116. (n.d.). Retrieved from: http://ritter.tea.state.tx.us/rules/tac/chapter116/.*
*[40] TAHPERD. (n.d.) Retrieved from: http://www.tahperd.org/web/Online/.*
*[41] Tarleton State University (n.d.). Core categories. Retrieved from: http://www.tarleton.edu/generaleducation/generaleducation/core.html.*
*[42] TASB Legal Services. (2017). Retrieved from https://www.tasb.org/Services/Legal-Services/ TASB-School -Law-eSource/Governance/documents/essa_regulations_overturned.aspx.*
*[43] Texas A&M International University (2016). University catalog. Retrieved from http://www.tamiu.edu/catalog/2016-2017/courses/UNIV1402.shtml*
*[44] Texas A&M University (2017). University core curriculum. Retrieved from http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/*

*[45] Texas A&M University – Central Texas (2017). General education core requirements. Retrieved from http://catalog.tamuct.edu/undergraduate-information/general-education-core-requirements/#generaleducationcoreclassestext.*
*[46] Texas A&M University – Corpus Christi (2017). University core curriculum program: Overview of university core curriculum. Retrieved from: http://catalog.tamucc.edu/content.php?catoid=15&navoid=542.*
*[47] Texas A&M University – Kingsville (2016). Undergraduate Bulletin of Texas A&M University – Kingsville. Retrieved from: http://www.tamuk.edu/academics/catalog/2016-2017/Undergraduate%20Catalog_2016_2 017.pdf.*
*[48] Texas A&M University – San Antonio (2016). Texas A&M University – San Antonio University Catalog. Retrieved from http://www.tamusa.edu/uploadFile/folders/jmims/Pdf/Pdf-636069462821817893-10.100.150.124.pdf*
*[49] Texas A&M University – Texarkana (2015). Core curriculum. Retrieved from http://tamut.edu/cb-core/.*
*[50] Texas Higher Education Coordinating Board (2011, April). Revising the state core curriculum: A focus on 21st century competencies. Retrieved from http://www.thecb.state.tx.us/reports/pdf/3565.pdf?CFID=61315699&CFTOKEN=46668570.*
*[51] Texas Higher Education Coordinating Board (2017). Brief history of Texas core curriculum. Retrieved from http://www.thecb.state.tx.us/index.cfm?objectid=41E92241-DD58-8502-8A292CC1064F3C5C.*
*[52] Texas Higher Education Coordinating Board (2017). Texas core curriculum. Retrieved from http://www.thecb.state.tx.us/index.cfm?objectid=417252EA-B240-62F7-9F6A1A125C83BE08.*
*[53] Texas Higher Education Coordinating Board (1999). Core curriculum: Assumptions and defining characteristics. Retrieved from http://www.thecb.state.tx.us/reports/pdf/5934.pdf?CFID=61315699&CFTOKEN=46668570.*
*[54] Texas Higher Education Coordinating Board (2017). Brief history of Texas core curriculum. Retrieved from http://www.thecb.state.tx.us/index.cfm?objectid=41E92241-DD58-8502-8A292CC1064F3C5C.*
*[55] Texas Higher Education Coordinating Board (2015). Higher Education Coordinating Act of 1965. Education Code. Retrieved from http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.61.htm#S.*
*[56] Texas Higher Education Coordinating Board (2011, April). Revising the state core curriculum: A focus on 21st century competencies. Retrieved from http://www.thecb.state.tx.us/reports/pdf/3565.pdf?CFID=61315699&CFTOKEN=46668570.*
*[57] Van der Mars, H., Lawson, H. A., Mitchell, M., & Ward, P. (2021). Reversing policy neglect in US physical education: A policy-focused primer. Journal of Teaching in Physical Education, 40(3), 353-362.*
*[58] Ward, P., van der Mars, H., Mitchell, M. F., & Lawson, H. A. (2021). PK–12 School Physical Education: Conditions, Lessons Learned, and Future Directions. Journal of Teaching in Physical Education, 40(3), 363-371.*
*[59] Welk, G. J., Jackson, A. W., Morrow Jr., J. R., Haskell, W. H., Meredith, M. D., & Cooper, K. H. (2010). The association of health-related fitness with indicators of academic performance in Texas schools. Research Quarterly for Exercise and Sport, 81(3), 16-23.*
*[60] West Texas A&M University. (2017). University core curriculum. Retrieved from http://catalog.wtamu.edu/preview_program.php?catoid=4&poid=300.*
*[61] Wolfenden, L., Goldman, S., Stacey, F. G., Grady, A., Kingsland, M., Williams, C. M., ... & Yoong, S. L. (2018). Strategies to improve the implementation of workplace-based policies or practices targeting tobacco, alcohol, diet, physical activity and obesity. Cochrane Database of Systematic Reviews, (11).*