



Finding a Home for Adapted Physical Education in Individualized Education Program Software

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Abstract: The United States' Individuals with Disabilities Education Act (2004) is a law that mandates special education is free and appropriate for all children with disabilities and includes services in physical education (PE). Few scholars have examined how PE for students with disabilities is documented within individualized education program (IEP) software systems. Thus, the purpose of this investigation was to examine the extent to which PE is being included in IEP software. Fifteen IEP software companies were surveyed. In addition, nine state IEP templates were randomly selected and reviewed in order to determine how they labeled PE services. Four IEP templates were selected from states with an adapted physical education (APE) teaching certificate or endorsement, and five IEP templates were selected from states that did not have an APE teaching certificate or endorsement. The findings from this study indicate that IEP software companies and state IEP templates across that nation are using a variety of terms (e.g., adaptive PE) to label PE services for students with disabilities. Furthermore, many of the documents are also incorrectly classifying PE services as a related service, rather than a direct service which is the correct classification of PE services. These findings support the need for PE experts to be consulted during the development of state IEP templates and IEP software.

Keywords: Disability, Special Education, IEP, Technology, Educational Software

Introduction

The Individuals with Disabilities Education Act (2004) is a United States (US) law that mandates special education is free and appropriate for all children with disabilities. Further, the Individuals with Disabilities Education Act (2004) stipulates that students with disabilities may require specially designed physical education, also known as adapted physical education (APE), to assist them in making adequate progress with the physical education curriculum. Furthermore, there is a severe lack of quality opportunities in adapted physical activity across Europe, and there is a clear need for additional adapted physical activity specialists (Kudlacek & Barrett, 2011). The Individuals with Disabilities Education Act is a law that encourages the employment of APE specialists across the US, and may provide a template for European countries to benefit students with disabilities access a quality physical education program (Kudlacek & Barrett, 2011). In the US, APE programs have the same overall objectives as general physical education programs, but make program accommodations and modifications to meet the individual needs of students with disabilities (Dunn & Leitschuh, 2014). Because physical education is a direct service, physical education must be addressed on students with disabilities' individualized education programs (IEP). In addition, for students who qualify for APE services, IEPs must document the extent and type of physical education services provided, such as whether it must be specially designed, as well as where these services will be provided.

Although students with disabilities in the US have the right to access APE, if deemed necessary, APE is often a marginalized service within special education that is seldom addressed adequately throughout the IEP process (Chaapel, Columna, Lytle, & Bailey, 2013; Ellen, Lieberman, & Daggett, 2006; Gray, 2016; Krueger, DiRocco & Felix, 2000; Lieberman & Houston-Wilson, 2011; Samalot-Rivera & Lieberman, 2017). In fact, many students with disabilities receive physical education within a general physical education setting with little to no accommodations identified on their IEPs for physical education (Government Accountability Office, 2010). One of the largest barriers that disrupt and prevent appropriate APE services from being delivered to students with disabilities is that many general physical education and APE teachers are not invited to the IEP meetings (Chaapel et al., 2013; Krueger et al., 2000). For example, Samalot-Rivera and Lieberman (2017) surveyed 137 general and adapted physical educators about their involvement in the IEP process. Although most of the participants indicated that they were involved in the IEP process by some means, many of the participants also indicated that they were rarely, if ever, invited to attend the IEP meeting or collaborate with other IEP team members. Furthermore, many of the physical educators in Samalot-Rivera and Lieberman's study expressed concerns about not being a valued member of the multidisciplinary IEP team.

The lack of general physical education and APE teacher representation at IEP meetings may be largely due to the fact that many special educators and school administrators are unaware of the importance of APE and the special education laws that mandate APE (Bittner, McNamara, Katz, & Silliman-French, in press; Ellen et al., 2006; Gray, 2016; Lieberman & Houston-Wilson, 2011; Stephens, Silliman-French, French, & Kinnison, 2011). Although research on school administrators' and other special educators' perspectives and knowledge with regard to APE is limited, a recent dissertation by Gray (2016) investigated various Indiana school professionals' (i.e., school administrators, special educators, general physical educators, adapted physical educators, general educators, and para-educators) knowledge and perceptions with regards to physical education services for students with disabilities. It was found that all the school professionals in Gray's study (excluding general physical education and APE teachers) generally lacked an understanding of fundamental components of APE, such as the special education laws that mandate access to physical education for students with disabilities. Also noteworthy, Gray found that a majority of students with disabilities did not have physical education or APE written into their IEP.

This lack of understanding of key components of APE and poor perception toward APE may lead members of the IEP team to neglect addressing physical education throughout the IEP process, as well as overlooking the invitation of general physical educators and adapted physical educators to the IEP meetings (Chaapel et al., 2013; Gray, 2016; Krueger et al., 2000; McNamara, Silliman-French, Morgan, & Stephens-Pisecco, 2019; Samalot-Rivera & Lieberman, 2017; Stephens et al., 2011). According to the Individuals with Disabilities Education Act (2004), anyone who is considered a member of the IEP team is required to attend an IEP meeting. General physical education and APE teachers should be considered IEP team members. It is also worth mentioning that their attendance is required, unless the parent and the IEP team must agree that an IEP team member's attendance is not necessary because their "area of the curriculum or related services is not being modified or discussed in the meeting". Furthermore, it is essential for APE teachers to regularly attend IEP meetings, as they should be "assisting in the writing of IEP goals for skill development and effective learning objectives aligned to the general education curriculum" (Chaapel et al., 2013, pp.187). Due to the lack of involvement of general physical education and APE teachers throughout the IEP process, IEP teams and tools used to guide the IEP process should proactively attempt to include them.

Individualized Education Program Technology

Technology has quickly become a fundamental part of the daily lives of educators who work with students with disabilities (Bonner, 2017; Collins & Halverson, 2018; More & Hart, 2013, 2014; Putman & Kingsley, 2009). Recent advances in technology can assist IEP team members in relation to

developing and monitoring IEPs. Indeed, the majority of IEPs for students with disabilities are now developed using IEP software (More & Hart, 2014). The IEP software has several useful features (e.g., drop-down boxes, goal banks) that benefit the IEP team by saving time, enhancing their instruction, and increasing collaboration (Bonner, 2017; More & Barnett, 2014). Further, these programs allow IEPs to be electronically developed and reliably stored for each student.

Recently, a few scholars have examined the use of IEP software and templates to determine the benefits and challenges they serve during the IEP process (Bonner, 2017; More & Hart, 2013, 2014); however it has been noted that there is a severe lack of empirical research that has examined IEP software's impact on student success (Bonner, 2017). The limited amount of research that exists, indicates that benefits derived from using IEP software include (a) an improved level of transparency between IEP stakeholders (More & Hart, 2013), (b) an increased compliance with required procedures and documentation in the IEP development (Serfass & Peterson, 2007), (c) an increased ability to report and interpret data (Bonner, 2017), and (d) an increased ability for parents and students to better understand and stay informed on their goal progress (Bonner, 2017).

Although the IEP software features are designed to enhance efficiency in the development of the IEP and increase compliance with state and federal regulations, there are several challenges to ensuring IEPs are tailored to meet each student's unique needs when using IEP software (Bonner, 2017; More & Barnett, 2014). More and Hart (2014) explained that regarding goal development, that IEP team members must resist the temptation to use pre-created goal banks and only the services available on the template when developing students' IEPs. Moreover, IEP software may limit the IEP teams' ability to create goals and select appropriate services that do not conform to the software's predetermined system (e.g., drop-down menus; Yell, Katsiyannis, Ennis, Losinski & Christle, 2016). This may lead to fields, such as physical education which have been historically forgotten or not addressed by the IEP team (Bittner et al., in press; Gray, 2016; Lieberman & Houston-Wilson, 2011; Stephens et al., 2011) to continue to be overlooked throughout the IEP process.

IEP software provides a variety of benefits and challenges regarding the IEP process (Bonner, 2017; More & Hart 2013, 2014). One potential area that could lead to ensuring that students with disabilities are receiving the appropriate services they need to be successful, is to ensure that IEP software is addressing and prompting IEP team members to consider marginalized special education services, such as APE services (e.g., Bittner et al., in press; Ellen et al., 2006; Lieberman & Houston-Wilson, 2011), throughout the IEP process. To the best of the investigators' knowledge, it is unknown to what extent IEP software is guiding users to correctly select APE services within their software. Further examination of how APE is being identified within IEP software is warranted before one can make recommendations to benefit IEP software. Thus, the purpose of this investigation was to determine how IEP software across the US include physical education and APE within their templates and to what extent it is being included.

Methods

Identifying Individualized Education Program Software

Thirty-five IEP national and state software companies were identified through a systematic search and contacts with regional experts. The systematic review comprised of using three separate keywords on three separate internet search engines (i.e., Google, Bing, Yahoo). Next, IEP software companies were identified through reviewing the first 30 websites found on each online search engine. The keywords used were: (a) educational IEP platforms; (b) school IEP systems; and (c) IEP platforms. All searches were conducted using both the IEP acronym and with the word spelled out (i.e., individualized education program). Through the initial search 33 IEP software companies were identified. Next, five APE experts, each from a different region of the US (e.g., Midwest), were asked to identify IEP software companies that they were aware of that had not already been recognized in the initial systematic search. Two additional IEP software companies were added to the list through

expert recommendations. Hence, a total of 35 IEP software companies were identified through the systematic search.

Instrument Development

The investigators developed a 13-question peer-reviewed survey to send out to the IEP software companies. Three questions included demographic information from the IEP software companies, such as how many districts used their IEP software. The survey questions primarily focused on how the IEP companies developed their IEPs (i.e., who was consulted during the development), how APE was identified on the IEP (i.e., related or direct service), and how and where APE service documentation options occurred (e.g., goals and objectives, frequency of service). There were four open-ended questions and nine multiple choice questions, with two of the multiple-choice questions allowing for open-ended responses to further elaborate upon their answers.

Once the survey was initially developed, an expert in legislation and APE reviewed the survey and provided feedback. After revisions were made and agreed upon between all parties, the survey was embedded within PsychData® and emailed to all 35 companies. The email and survey also contained a request that if the representative of the company was not familiar with the questions within the survey, to forward the survey to a company representative who would be more knowledgeable on the subject. A follow-up email was sent two-weeks after the initial email was sent. In addition, two follow-up phone calls requesting representatives who did not respond to the follow-up email from the IEP software companies to complete the survey.

State Individualized Education Program Examination

To gain a nationally representative sample of the state IEP templates, the state IEP templates were randomly identified from across each geographical region in the US (i.e., Midwest, Northeast, West, Southwest, Southeast). Furthermore, to obtain a deeper understanding of how state legislation may impact IEP templates, one group of state IEP templates was randomly selected from 12 states that have established an endorsement or certification in APE (see Table 1; Adapted Physical Education National Standards, 2008; McNamara et al., 2019; Wetzel, 2007; Wrightslaw, n.d.), and a second group of state IEP templates was randomly selected from the states that did not have an established APE teaching endorsement or certification. Because there has been little recent research on the status of APE endorsements and certifications throughout the US, the lead author also confirmed that each of the identified states had established an APE endorsement or certification through reviewing each state's Department of Education website. In some instances, the lead author also called the state Department of Education to confirm that the endorsement or certification was still on record. One state from each of the two groups was randomly selected for further examination from each of the five different regions in the US. Five states were selected from the states that did not have an established APE teaching endorsement or certification and four states were selected from the states that had an established APE teaching endorsement or certification, as the Southwest region did not have any states that had established an APE endorsement or certification (see Table 1).

Table 1. States that require adapted physical education certifications.

California	Michigan	Ohio	South Dakota
Louisiana	Minnesota	Oregon	Wisconsin
Maine	Nebraska	Rhode Island	Wyoming

Table 2. States randomly selected by region and credential requirements.

States without APE credential		States with APE credential	
New Jersey (NE)	New Mexico (SW)	Ohio (MW)	Louisiana (SE)
North Dakota (MW)	Kentucky (SE)	Wyoming (W)	Maine (NE)
Nevada (W)			

Note. NE = Northeast region, MW= Midwest region, SE = Southeast region, SW= Southwest region, W = West.

Data Analysis

Descriptive statistics were reported for all survey questions by the IEP software company representatives. With regards to the state IEP templates that were examined, two authors reviewed each identified state's IEP template using three questions from the survey delivered to the IEP software companies. These three questions pertained to how APE was identified on the IEP template, and how and where documentation of services and goals occurred on the IEP template. There were no instances of disagreement during the evaluation of the state IEP templates; hence, there was 100% inter-rater consensus.

Results

Demographics

Of the 35 IEP software companies that were identified and emailed the survey, 15 (43%) companies responded. Demographic data was gathered about the IEP companies and the school districts that they serviced. A majority ($n = 10$; 67%) of the IEP software companies had been available to school districts for at least 16 years. When asked what states their IEP software was being used, all of states within the US were represented. The amount of states represented by each company ranged between 1 and 50 ($M = 12.33$, $SD = 15.77$). Illinois ($n = 9$) had the most IEP software companies represented, followed by Wisconsin ($n = 8$), Texas ($n = 7$), and California ($n = 7$). None of the IEP companies had software used in the US territory of Puerto Rico. The IEP software representatives were also asked approximately how many school districts were using their IEP software. Six (40%) IEP software representatives reported they have over 300 school districts using their software. In addition, one respondent stated that they had over 700 school districts using their software, while another stated they had around 650 school districts using their software. See Table 3 for an overview of the demographics of the school districts that use IEP software from the sample represented.

Table 3. Software company demographics.

	IEP Software Companies <i>n</i> (%)
How many school districts they service?	
101-150	3 (20)
151-200	1 (7)
201-250	3 (20)
251-300	2 (13)
300+	6 (40)
How long have they been operating?	
6 to 10 years	4 (27)
11 to 15 years	1 (7)
16+ years	10 (67)

Note. IEP = Individualized education program.

Individualized Education Program Company Experts

When the IEP software representatives were asked the open-ended question 'What professionals/experts were consulted when developing the IEP format and content?' a variety of professionals were reported. The most frequently reported experts consulted included special educators ($n = 13$; 87%) and special education administrators ($n = 12$; 80%). In an additional question, three respondents (20%) reported that they consulted with a physical educator or adapted physical educator during the development of their IEP templates. Further details on the experts that were consulted to develop the IEP software are displayed in Table 3.

Adapted Physical Education Documentation

Regarding how IEP software companies referred to APE in their IEP templates, respondents most frequently reported the term 'adapted physical education' ($n = 7$; 47%) was used, with other

terms being used included ‘modified physical education’ ($n = 1$; 7%), and ‘specially designed physical education’ ($n = 1$; 7%). In addition, six respondents (40%) selected ‘other’ and elaborated on this question. Three (20%) of the IEP software representatives explained that their IEP software allows for users to name a service, while two (13%) reported that their terms were based off the state guidelines from the state the IEP software was being used. Further, three (20%) reported they did not know or that it was not reported at all in their systems. Table 4 displays further details.

Table 4. How adapted physical education is reported.

	IEP Software Companies <i>n</i> (%)
<u>Experts consulted:</u>	
Special educators	13 (87)
Special education administrators	12 (80)
Related service providers (physical therapists)	9 (60)
School psychologists	7 (47)
Higher education professors	3 (20)
Lawyers	3 (20)
State Officials	2 (14)
Parents	1 (7)
PE/APE	3 (20)
Other (e.g., technology director, superintendent)	4 (27)
<u>Terms used to identify APE:</u>	
Adapted physical education	7 (47)
Specially designed physical education	1 (7)
Modified physical education	1 (7)
Based on each state’s requirements	2 (13)
Do not know/It is not identified	3 (20)

Note. PE = Physical education; APE = Adapted physical education.

Within the survey, respondents indicated whether they had a specific location to document APE services. The majority ($n = 12$; 80%) of the respondents reported there was a specific location for users to report APE services in their IEPs. The respondents were also asked to respond to an open-ended question with regards to where APE services were indicated on their IEP templates. Of the 10 responses, several areas within the IEP format were used. Respondents frequently cited that APE services were indicated within the related services section ($n = 4$; 40%), and within the instructional services section ($n = 3$; 30%). Four (40%) of the 10 respondents reported that where APE services were indicated on the IEP template varied from state to state. Other sections that were reported only once were the placement section, the service log section, the assessment section, the determination of services section, and one respondent reported they did not know. Respondents also reported a variety of ways in which they documented APE on their IEP templates. Respondents reported that it was labeled as a related service ($n = 3$; 20%), a direct service ($n = 2$; 13%), and both a related and direct service ($n = 2$; 13%). Table 5 displays the type of service APE was identified as in the IEP software.

Table 5. Adapted physical education service label.

Identified as a direct or related service:	IEP Software Companies ($N = 12$) <i>n</i> (%)
Direct	
Related	2 (17)
Both	3 (25)
Do not know/Not identified	2 (17)
Allowed for user to label the service	3 (25)
	2 (17)

Finally, respondents were asked if APE was indicated as a service on one’s IEP and whether their IEP templates prompted users to develop goals specifically for APE. Of the 15 respondents, only 11 responded to this question. Five reported there was no additional prompt for writing goals for APE,

four cited that there was a prompt for users to write goals if APE was selected as a service, two reported that it varied from each IEP template depending on state requirements, and one stated that they did not know.

Adapted Physical Education Documentation

After the survey data was initially analyzed, a theme that quickly arose was that many of the IEP software companies serviced multiple school districts across multiple states, with each state having their own unique special education laws and IEP requirements. Five out of fifteen (33.3%) IEP software company representatives explicitly stated in open-ended responses that they developed IEP templates specific for each state that uses their software, which was necessary in order to meet each state's specific special education laws and regulations. For example, one IEP software representative explained in an open-ended response that "we mimic everything off of the state IEP template, everything is different depending on the state regulations". Thus, to gain a further understanding of how IEP software companies are documenting physical education services for students with disabilities, the investigators also examined nine state IEP templates, which adhered to their own unique state special education requirements.

Nine state IEP templates were analyzed to determine how APE was identified and labeled within them. Within the four states that established an APE teaching endorsement or certification, APE was identified as 'physical education', 'adapted physical education', 'specially designed physical education', and it was not identified at all on one template. Within the five states that did not have an established APE teaching endorsement or certification, it was identified once as 'adapted physical education', and it was labeled as both 'adaptive physical education' and 'specially designed physical education' within another template. In addition, three of these IEP templates did not identify APE services anywhere within the template. Furthermore, the state IEP templates were analyzed to determine the specific location of where on the IEP template APE services were documented. Within the four states that have established an APE teaching endorsement or certification, it was specifically identified within two of them. However, the other two IEP templates from this group had sections to indicate that it is a service, but the templates did not identify any services to select. The two sections that gave indications to select physical education or APE services were 'special instructional factors' and 'special education services'. Within the five states that did not have an established APE teaching endorsement or certification, it was not specifically identified on any of the IEP templates, however within these templates; they did not give users any services to select. Lastly, the state IEP templates were analyzed to determine whether there was a prompt to submit an IEP goal for APE services. Only Louisiana's IEP template, a state that defines an APE teaching endorsement or certification, prompted users to develop and submit an APE goal.

Discussion

The purpose of this study was to determine how IEP software across the US address physical education and APE services, and the extent these services are currently addressed. The respondents of this study were representatives of IEP software companies that provide IEP software to school districts across the US. Although previous research has shown that IEP software is becoming increasingly more popular and has several benefits and limitations (Bonner, 2017; More & Hart, 2013, 2014); this study was the first to examine how IEP software is addressing the needs for a specific educational area (i.e., APE) within special education (Bonner, 2017; More & Hart, 2013, 2014). Although some of the IEP software identifies APE within their templates, there is an abundance of discrepancies.

According to the US Department of Education, there were a total of 18,242 school districts across the US in 2015. The IEP software companies represented in this study indicated that they serviced approximately 4,000 school districts, showing that the IEP software companies in this study provide services to a large representation (22%) of the school districts in US (Institute of Education Sciences,

National Center for Education Statistics, 2016). This finding coincides with previous findings that have shown that IEP software is becoming an increasingly popular way to develop and monitor IEPs (Bonner, 2017; More & Hart, 2013, 2014). The vast discrepancies with regard to APE services from this fairly large representation of the IEP software used by school districts nationwide may suggest that there is a persistent lack of understanding of APE services across the nation, even when taking into account states that had an established APE teaching endorsement or certification.

Each state in the US controls the parameters and requirements for teaching certificates, which usually allow educators to teach broad areas within education, such as physical education. In addition, some states also have a teaching certification for APE. Individuals with a teaching certificate are also eligible to earn additional ‘add-on’ endorsements from the state. The endorsement identifies specialized skills or subjects an educator is authorized to teach. Often these endorsements are content-specific, such as for APE (McAllister & Graham, 2016). Although it may be assumed that states that have established an APE endorsement or certification would have IEP templates that address APE services in a more comprehensive manner, the findings for the current investigation suggest that this may not be the case. Furthermore, this finding suggests that simply because a state had established an APE teaching endorsement or certification, this doesn’t necessarily mean that physical education and/or APE are being addressed during the IEP process. Further research is needed to determine whether the representation of physical educators and/or adapted physical educators differs between states with and without APE teaching endorsement or certification definitions and requirements.

Although the IEP software that was represented in this study reaches thousands of school districts, only a few types of ‘experts’ were consulted during the development of many of the IEP software systems. The most prevalent experts consulted included special educators and special education administrators; however, fields that are often marginalized or forgotten throughout the IEP process, such as APE (Bittner et al., in press; Gray, 2016; Lieberman & Houston-Wilson, 2011; Stephens et al., 2011), were not as often consulted. It has been well-documented that special educators and school administrators lack understanding of APE and often perceive APE as less important compared to other academic areas, which may lead these experts to overlook them when providing their expertise to develop the IEP software (e.g., Chaapel et al., 2013; Government Accountability Office, 2010; Gray, 2016; McNamara et al., 2019; Samalot-Rivera & Lieberman, 2017; Stephen et al., 2011). Consulting experts from integral, yet often overlooked areas within special education, such as the field of APE, may help alleviate some of the barriers that prevent general physical education and APE teachers from being involved in the IEP process. Future research should examine why IEP software companies consult with certain experts over others when developing their software, as well as whether consulting with APE experts helps to create more comprehensive IEP software.

The variety of labels for APE within the templates may also show the lack of general physical education and/or APE experts consulted during the development of the IEP software, as well as a persistent lack of awareness and knowledge of fundamental components of APE by the experts consulted outside of the field of APE (e.g., special education administrators, special educators). *Adapted physical education* was the most commonly used in the IEP software responses, which is a positive sign as it is used in federal and state guidelines, as well as it is the most commonly used term in current literature (Hutzler & Hellerstein, 2016; Hutzler & Sherrill, 2007). However, within both the IEP software companies’ responses and the state IEP template examinations, other terms such as ‘modified’, ‘adaptive’, and ‘specially designed’ were used to identify physical education for students with disabilities. This finding aligns with recent research conducted by Hutzler and Hellerstein (2016), which examined the literature using the term *adapted* versus the term *adaptive* when referring to adapted physical activity, an umbrella term that refers to physical activity for individuals with disabilities and subsumes APE services (Hutzler & Sherrill, 2007; Porretta, Nesbitt, & Labanowich, 1993). Hutzler and Hellerstein found that although the term *adaptive* is used in a few scholarly articles, most of this literature was being conducted in countries where English was not their primary language, as well as much of this literature was related to rehabilitation, rather than education.

Adapted physical education has long been deemed the correct term when referring to physical education services for students with disabilities by the wider APE community. For instance, Sherrill (2004) suggested that specially designed education and service delivery should be referred to as adapted, whereas changes in behaviors should be referred to as adaptive. The use of an array of terms to identify APE within both state IEP templates and IEP software templates is a discrepancy to note, as it demonstrates the lack of knowledge of APE from those developing these IEP templates. It should also be noted that as a limitation of the study, through the survey and email correspondences, the term *adapted physical education* was used regularly. Thus, this could have led the respondents to choose this term over other terms for fear of being incorrect in the terminology they used within their software.

Furthermore, APE was most commonly identified as a related service, rather than as a direct service, for both the IEP software companies and state IEP templates. According to well-established literature within the field of APE, as well as special education law, APE services should be labeled as a direct service (Dunn & Leitschuh, 2014). The error of incorrectly classifying APE services align with Gray's (2016) previous findings that professionals within education (e.g., school administrators, special educators) appear to have a general lack of understanding and awareness with regards to major components of the field of APE, such as how APE services are mandated by special education laws. The rationale for categorizing APE services as a direct service is connected to the Individuals with Disabilities Education Act (2004), as this law explains that direct services are required educational services (e.g., math, reading, physical education), whereas related services are services that support one to access and benefit from required educational services. The wide variety of terms used to label and define APE services are worrisome, as this demonstrates that educational professionals outside of the field of physical education, even at the state level, are ignorant of the fundamental components of APE. Moreover, these discrepancies and errors may further add confusion as to when and how to effectively include APE services throughout the IEP process.

Through an analysis of this data may lead one to infer that IEP software offers a great deal of flexibility within a lot of the templates, as many of the IEP software companies reported that many of the services they provided allowed for users to individually identify the services. In addition, a theme that arose from surveying the IEP software companies was that they customized their IEP templates **based on each states' specific special education laws and regulations**. This may be especially important finding as recent research has pointed out that a lack of flexibility within IEP software is a major flaw (Bonner, 2017; More & Hart, 2014). Allowing IEP software to be customized and tailored to meet state requirement may allow for further individualization, which is key to the IEP process (Bonner, 2017; Individuals with Disabilities Education Act, 2004).

However, one potential issue that may arise from this increased flexibility may be that historically overlooked educational areas, such as APE, will continue to be ignored (Bittner et al., in press; Government Accountability Office, 2010; McNamara et al., 2019; Stephens et al., 2011). This means that students with disabilities that may benefit significantly from APE services may never receive it due an increased chance to APE being ignored, as there are no prompts to inform IEP team members to consider APE services within the software. IEP software companies should consider embedding additional prompts throughout their IEP templates that tell users that they need to address physical education services. In addition, if it is deemed that a student with a disability would benefit from APE services, the IEP software should provide additional prompts related to other IEP components and APE services (e.g., goals and objectives). These additional prompts may encourage the IEP team to invite general physical education and APE teachers to the IEP meeting and be involved in the entire IEP process. Furthermore, because the IEP document is automated and often provides the prompts to consider an array of services and accommodations, these systems are able to prevent many types of possible procedural violations by prompting IEP teams to complete necessary steps (Serfass & Peterson, 2007), and thus these additional prompts will help to ensure that IEP teams are in compliance with federal and state special education laws in relation to APE services.

Limitations

There are three primary limitations to this study. First, this study involved surveying representatives of IEP software companies. These representatives may have potential conflicts of interests and may be averse to presenting their products as inadequate. Second, the investigators were not able to examine the actual IEP software, rather all the information was gathered from IEP software companies' representatives. Future researchers should gain access to or purchase IEP software, as to thoroughly examine it to discover if the data within this study are completely factual. Thirdly, and finally, as with most survey research many of the survey questions were not able to determine the rationale behind the respondents' answers. Future research on the topic of IEP software should conduct in-depth face-to-face interviews with representatives of IEP companies, which may alleviate this limitation, as this would allow the researchers to ask follow-up questions and gain further insight on the matter.

Perspectives

The findings from this study support the need for APE experts to be consulted when developing IEP software, as APE and general physical education teachers are frequently left out of the IEP process (e.g., Chaapel et al., 2013; Samalot-Rivera & Lieberman, 2017). Many IEP software companies and state IEP templates across the US are using a variety of terms to label physical education services for students with disabilities. Furthermore, a large number of the IEP templates are also incorrectly labeling APE as a related service, rather than as a direct service. To further remediate the lack of general physical education and APE representation during the IEP process and the lack of consistent labeling of APE, IEP software should be designed to prompt the IEP team to include these services if deemed appropriate. While using IEP software, we should attempt to utilize all of the benefits allotted to them (e.g., easy storage of information; enhanced efficacy; More & Hart, 2013, 2014); however, the IEP team should also consider best practices and what is in the best interest of the student with a disability when determining the services that will benefit them.

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