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Effects of an Adapted Physical Education Course on Attitudes toward Sport of Omani Individuals with Disabilities

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Abstract The adapted physical education (APA) is a set of sports activities, programs, and exercises that are adjusted to be compatible with individuals with special needs. This research explored the effect of an adapted physical education course on attitudes toward the sport of Omani individuals with disabilities. Participants were 25 undergraduate female students from the Department of Physical Education at Sultan Qaboos University (SQU), Sultanate of Oman. The participants responded to the attitudes toward APA scale before and after studying the APA course. This scale consisted of 30 items distributed into three domains related to course instructor, course topics, and course teaching methods. The results revealed that studying the APA course significantly contributed to modifying the participants' attitudes toward the sport of Omani individuals with disabilities. In other words, these effects were demonstrated by the high effect size of the studying the APA course on modifying the participants' attitudes. The research recommends converting the course into a compulsory one, upgrading its credit to 3 credit hours, and adding other courses on Paralympic Games to the program plan at Physical Education Department, SQU. The contributions of this research focused on university special education courses. The presence of these courses will actually contribute to modifying college students' attitudes toward the sport of individuals with disabilities.

Keywords Adapted Physical Education, Attitudes, Courses, Oman, Individuals with Disabilities, Sport, SQU

1. Introduction

Individuals with disabilities (IDs) receive a great deal of attention worldwide through the role that the relevant institutions and associations play in facilitating the learning of these individuals in all areas of life. This can be achieved by the integration of efforts of these associations and those of the parents of IDs. It seems that the initiatives of Non-governmental Organizations striving to protect the rights of these individuals contributed to this interest [1]. Accordingly, decision-makers and international organizations responded to that by enacting legislation and laws on the IDs. The United Nations issued the Convention on the Rights of Persons with Disabilities which included a set of rights like being involved in different sports, recreation, and amusement

activities and providing opportunities to organize their own physical activities [2, 3].

In 2003, the Arab League issued the Arab Decade for the IDs [4]. This decade affirmed many rights including providing opportunities for the IDs in practicing different sports and amusement activities, as well as providing facilities and equipment for supporting them [5]. Nationally, the sultanate of Oman issued the Law of Care and Rehabilitation of the IDs [6] which came as a response to the Convention on the Rights of Persons with Disabilities and the Arab decade for the IDs. This law included legislation that allows the ID to be involved in diverse sports activities by Oman Paralympic Committee [7]. This comes out of the Oman belief in providing the opportunity for the IDs to participate in various sports and physical activities to represent Oman in the Arab and international sports competitions.

Physical activities contributed to improving motor, health, and physical development and quality of life of the IDs [8], as well as they, get them acquired behavioral attitudes that attain their adaptation with their selves and community [9]. The physical activities have a significant role in recreation programs, and establishing friendships between individuals with and without disabilities [10]. Furthermore, these activities diminish social isolation because of their positive effect on self-efficacy among the IDs [11], and improving life skills related to communication, social work, assuming responsibility, and physical abilities. Physical activities are considered as a means of remedial and rehabilitative exercises that help restore the muscular force or Physical strength in the IDs [12]. Teachers are requested to provide opportunities to improve kinetic and transition services for the IDs by creating ecological interventions [13].

The practice of physical activities has hygienic, psychological, and social effects on the IDs and their families. In this context, Ilhan et al. [14] found that the participation of mothers with their disabled children in practicing school physical activities greatly contributed to increasing mothers' awareness of the impact of sport on their children. In contrast, the failure of practicing physical activities may have negative influences on the health of the IDs. In this regard, Armour et al. [15] revealed that 42% of the IDs have obesity, and 29% have overweight. Accordingly, these individuals urgently need to practice physical activities and specialized training programs. This leads professionals in the field of special education to realize the importance of sports activities for the IDs.

Special education includes a list of Individualized Education Programs (IEPs), special settings, and educational alternatives that seek to help the IDs accomplish the maximum of the self-sufficiency and academic success. The provision of these services to the IDs will enable them to positively interact with individuals without disabilities, and live in society independently. In this regard, Sanches-Ferreira et al. [16] indicated that children with disabilities participate in less diverse activities than children without disabilities, and the range of activities is correlated to their level of independence.

Support services besides other services such as special education services, IEPs, and educational settings are those that are offered to the IDs. The incorporation of support services with IEPs is considered as one of the current issues in special education needed for meeting diverse needs and offering comprehensive services for the IDs. Support services in special education include physiotherapy, occupational therapy, speech therapy [17], psychiatry, genetic counseling, rehabilitation, APE, articulation therapy, psychological, counseling, health, and amusement services, music education, and art education [18].

The APE is a set of sports activities, programs, and exercises that are adjusted to be compatible with individuals with special needs. Physical activity goals of the IDs emerge from the general physical education program. It is said that this program is suitable for the IDs, but a system on practicing sports activities should be set to be consistent with degree and type of disability. Therefore, this program is not sufficient to activate the adapted sport, but it also needs to improve the self-efficacy of the IDs, modify their peers' and teachers' attitudes toward the sport, and prepare equipment and facilities in the school. In this context, the personal and social factors, unsuitability of equipment, and facilities may undermine the participation of the IDs in physical education activities [19]. In other words, the physical education activity of the IDs is based on setting a special program including sports activities and games, and acrobatic movements suitable for the abilities of the IDs who are unable to take part in the general physical activity program prepared for them. Accordingly, the physical sports activity of the IDs can be programmed and adjusted. Some of the comprehensive rehabilitation institutions consider the APE as a part of physiotherapy, not as a basic component of the interventions of the IDs as applicable in Norway [20]. Physical education programs in special education centers may contribute to the social empowerment and inclusion of the IDs [21].

Physical sports activity of the IDs is intended for increasing their physical, motor, functional, psychological, social, and mental abilities, so practicing sports activities have positive effects on developing physical, functional, and motor efficacy of all body parts. This needs to necessitate planning sports activity of the IDs. The performance of body organs is usually associated with the physical activity of an individual. The diverse physical and sports activities mainly contribute to improving the individual's physical fitness and reduce the risk of diseases (22). The importance of practicing sports activities is in that they are intended for developing the

abilities of the IDs, as well as they are considered as a clinical and rehabilitative therapy helps to include them in society. Practicing physical activities is also associated with the Heart Rate (HR), blood pressure, bioactivity, muscular strength, power, and reaction time of the IDs; therefore, the adapted physical activities have positive effects on improving motor and functional skills in them [23].

The IDs are inactive, physical activity is useful for the IDs physically, psychologically, and socially [24]. Therefore, special physical programs in schools positively affect the motor abilities, and social skills of the Omani [25]. The IDs are part of the fabric of society; the attitudes of society affect their mental health. In other words, the positive societal attitudes striving to include the IDs in the society will contribute to getting them had mental health, whereas the negative attitudes of not including them in the normal places and positions will be frustrating and getting them maladapted. These negative attitudes may take some forms of curiosity, mockery, and refusal of getting them involved in the various life and sports activities because of the prevailing negative beliefs and ideas that these individuals don't have the necessary potentials that enable them to keep up with these activities [26]. These negative forms of treatment can cause psychological problems and mental disorders of the IDs such as social anxiety disorder, isolation, and introversion [27].

The attitudes toward the IDs are not only exclusive to the society but also include parental negative attitudes [28]. These negative attitudes restrict the IDs from practicing physical and sports activities. Some of the parental styles such as overprotection, negligence, and refusal are forms of negative attitudes toward them. These negative attitudes may lead parents not to get their disabled children joined special education institutions and general education schools due to prevailing societal customs and traditions [29]. On the other hand, there is a hidden work for other parents of the IDs toward improving their children's practice of physical activity, but these efforts collide with several challenges that contribute to exclusion of their children [30]. Therefore, positive parental and societal attitudes contribute to accepting the IDs and attaining their proper development and succeeding in the physical education programs that are being guaranteed by international legislation and charters.

Although international legislation and conventions previously mentioned placed the IDs in general physical education classes [31]. However, they created great challenges in front of physical educators like planning the physical education needs of the IDs without neglecting these needs for students without disabilities in mainstreaming and inclusive education settings [31]. In the international context, physical educators' attitudes toward the APE are associated with the type and severity of disability [30]. Qualitative research may accurately explore positive or negative beliefs and attitudes embraced by physical education teachers toward teaching and inclusion of the IDs or APE [32]. In contrast, quantitative research revealed positive attitudes among physical education teachers toward teaching the IDs in general physical education classes [33]. The knowledge level as a component of the attitudes may help physical education teachers facilitate the inclusion of the IDs in general education classes [34]. The Attitudes and beliefs toward the inclusion of the IDs in general physical education classes may also be affected by the gender of the physical educators [35]. These attitudes may be more positive among college students from human majors toward the IDs [36].

In the school context, it was found that female students had more positive attitudes than male students toward the inclusion of the IDs in school physical activities [37]. It was also shown that there was a relationship between the satisfaction of basic psychological needs for pre-service physical educators and their positive attitudes toward including students with autism spectrum disorder [38].

In the Arab context, the attitudes of physical educators toward the inclusion of the IDs in physical education activities are positive [39, 40], but there exist challenges that restrain the IDs from being involved in school physical and sports activities [41]. In contrast, administrators of physical activities have negative attitudes toward the participation of disabled college students in sports activities [42]. Nevertheless, the attitudes of the university's physical education faculty are positive towards undergraduate IDs [43].

In the Omani context, there is a set of psychological and social challenges faced by Omani IDs participating in the Paralympic games [7], as well as other problems faced by physical educators in teaching the IDs in Omani schools [44]. Attitudes of college students in Omani universities toward the IDs were more positive in the SQU [45], but these attitudes were negative among students in other Omani universities [46].

The practice of sports activities leads to restoring the self-confidence of the IDs and encourage them to establish social relationships with others. To achieve this goal, physical educators should develop adapted sports activities for the IDs in schools and institutions of Omani special education. Accordingly, pre-service training programs contribute to getting physical educators to acquire these competencies by providing them with the necessary knowledge, skills, and strategies on how to deal with the IDs. These programs face challenges in preparing teachers who have skills in teaching physical education for the IDs [47]. Furthermore, pre-service training programs also contribute to reducing the anxiety of teaching the IDs [48].

The Department of Physical Education [DPE] at the SQU offers a Bachelor of the physical education program to prepare teachers in different education stages in the

Sultanate of Oman. This program has 125 credit hours divided into core and elective courses that are studied throughout four years. Based on the results of Al Tawansy et al. [49], which aimed to evaluate the Bachelor program of Physical Education at the SQU. The researchers recommended that this program should include a set of courses of physical education for the IDs. The APE course was one of these suggested courses and was really offered in the latest program's plan. Moreover, the requirements for quality and academic accreditation by the Council for the Accreditation of Educator Preparation (CAEP) require the additional topics of the APE in the program's course. Previous research results showed negative attitudes toward the IDs among Arab and Omani college students [50, 51]; [46]. These results encouraged researchers in the current research to shed light on the APE course offered by the DPE at the SQU.

The current research is to fulfill the requirements of research studies on the effectiveness of special education courses in improving college students toward the IDs [52, 53]; [42, 54]. In other words, studying physical education college students of the APE course can contribute to streamlining and facilitating the practice of sports activities for the IDs. This will positively affect their inclusion in the educational, social, and employment sectors. Accordingly, this research attempted to test the following hypotheses:

1. There were no statistically significant differences in the participants' attitudes in the pre and post-attitudes scale due to the effects of studying the APE course.
2. There were no statistically significant differences in the participants' attitudes in the post-attitudes scale due to class level.

2. Materials and Methods

2.1. Research Goal and Design

This research attempts to examine the effects of studying an APE course on undergraduate students' attitudes toward the sport of Omani IDs. Consequently, the team of the current research sees that there was no research conducted on Omani universities to explore the effect of studying special education courses on modifying undergraduate students' attitudes toward the sport of the IDs and effectuating cognitive, behavioral, and emotional components of attitudes toward them.

The One Group Pretest Posttest Design was used in the current research. This design is one of the types of Pre-Experimental Designs [55]. This design is characterized by the presence of one group responding to the research instrument as pre and post-treatment. The effect of treatment is measured by calculating the statistical differences in the two applications.

2.2. Sample and Data Collection

A total of 25 female students were enrolled in the Bachelor program of Physical Education at the DPE in the SQU. These participants were enrolled in the APE course in the first semester of the academic year 2019/2020. Additionally, all participants were females with an average age of 20.34 years. The APE is an elective course that departmental students can register regardless of their class level. Consequently, the class level was divided into two categories: 1-2 years and 3-4 years. The distribution of the participants according to class level was illustrated in Table 1

Table 1. Distribution of participants according to class level

Class Level	N	%
1-2 years	11	44
3-4 years	14	56
Total	25	100

To achieve the aims of the current research, the Attitudes toward Adapted Physical Education (AAPE) scale was developed. The AAPE scale was developed after a review of the literature [56-58]; [50-54]. Moreover, the syllabus of the APE course was revised by the content analysis method. After these procedures, the first version of the AAPE scale consisted of 40 items distributed into three domains: Course Instructor (CI), Course Topics (CT), and Course Teaching Methods (CTM). The AAPE scale was reviewed by seven faculty members at the College of Education, SQU to assess the face validity. Moreover, based on the reviewers' comments, the final version of the AAPE scale of 34 items was distributed into three domains: CI (1 to 11), CT (12 to 22), and CTM (23 to 34). To assess the reliability, the scale was administered to 52 undergraduate students at the DPE at SQU. Cronbach's Alpha formula was used. The coefficients of the internal consistency of the AAPE scale domains were as follows: CI (0.87), CT (0.85), and CTM (0.82). Each item is responded based on a 5-point Likert Scale from strongly agree (5) to strongly disagree (1). The following criterion was adopted to judge the level of undergraduate students' attitudes toward the sport of IDs: low (1:00 to 2.33), moderate (2.34 to 3.67), and high (3.68 to 5:00). The AAPE scale was designed by Google Drive to facilitate the response of students to the scale.

2.3. Analyzing of Data

In the current research, participants responded to the scale twice. The first time was in September 2019, prior to the participants beginning studying of the APE course. While the second time was in December 2019. In both times, the instructor of the APE course distributed the scale link by WhatsApp to participants. The APE course is one of the elective courses in the Bachelor of Physical

Education Program. The undergraduate students can register for this course regardless of their year of study. This course lasted 14 weeks and included 28 hours. The course included theoretical and conceptual foundations and field activities on APE. The course also included methods of teaching physical education of the IDs in Omani special education schools and institutions. The software package SPSS 23 was used. The Wilcoxon Signed Rank Test was used to determine the significant differences between the pre and post-attitudes scale. The Mann–Whitney test was used to determine if students' attitudes were affected by class level. Furthermore, the effect size (ES) of the APE course on participants' attitudes was computed. Finally, the data were collected from participants at the beginning and end of the first semester of 2019.

3. Results

3.1. Results Related to the First Hypothesis

There were no statistically significant differences in the participants' attitudes in the pre and post-attitudes scale due to the effects of studying the APE course. To answer this hypothesis, descriptive statistics were used to identify the participants' responses to the pre and post-attitudes scale. The mean and standard deviation was presented in Table 2.

Table 2. Descriptive Statistics

Domain	Measure	N	M	SD
CI	pre-attitudes	25	2.66	.237
	post-attitudes		3.85	.187
CT	pre-attitudes	25	2.60	.190
	post-attitudes		3.76	.349
CTM	Pre-attitudes	25	2.55	.317
	post-attitudes		3.75	.269

Table 2 shows there were differences in the mean of the participants' scores on the pre and post-attitudes scale. The mean of post-attitudes scale scores was higher than those of the pre-attitudes scale which means that the college students' attitudes on the post-attitudes scale prominently improved. This implies that attitudes toward the participation of the IDs in the sport became more positive; that is, they had high level according to the criterion of judgment of the scale. To find these differences, the Wilcoxon Signed Rank Test was used and Table 3 shows the results.

Table 3 shows that there were statistically significant differences between the mean rank of the participants' responses on the pre and post-attitudes scale. These differences were in favor of participants' responses on the post-attitudes scale (Z = -4.376, -4.381, -4.376, p =0. 001). Furthermore, ES values of all domains were (0.625) respectively; that is, these values showed a high effect of studying the APE course on improving and modifying the participants' attitudes toward the sport of Omani IDs.

Table 3. Wilcoxon Signed-Rank Test according to pre-post tests

Domain	Ranks	Mean Rank	Sum of Rank	Z	p	ES
CI	Negative Ranks	0.00	0.00	-4.376	0.001	0.625
	Positive Ranks	13.00	325.00			
CS	Negative Ranks	0.00	0.00	-4.381	0.001	0.625
	Positive Ranks	13.00	325.00			
CMA	Negative Ranks	0.00	0.00	-4.376	0.001	0.625
	Positive Ranks	13.00	325.00			

3.2. Results Related to the Second Hypothesis

There were no statistically significant differences in the participants' attitudes in the post-attitudes scale due to class level. To answer this hypothesis, descriptive statistics were used to identify the participants' responses on a post-attitudes scale. The mean and the standard deviation were presented in Table 4.

Table 4. Descriptive statistics according to class level

Domains	Class Level	N	M	SD
CI	1-2 years	11	3.89	0.206
	3-4 years	14	3.81	0.171
CT	1-2 years	11	3.76	0.394
	3-4 years	14	3.75	0.324
CTM	1-2 years	11	3.71	0.274
	3-4 years	14	3.79	0.271

Table 4 shows there were very slight differences in the mean of the participants' responses on all domains of the post-attitudes scale. To find the statistical significance of these differences, the Mann-Whitney test was used as shown in table.5.

Table 5. Results of the Mann–Whitney test according to the class level

Domain	Class Level	Mean Rank	Sum of Ranks	U	Z	p
CI	1-2	14.18	156.00	64.000	-0.721	0.471
	3-4	12.07	169.00			
CT	1-2	13.05	143.50	76.500	-0.027	0.978
	3-4	12.96	181.50			
CTM	1-2	11.77	129.50	63.500	-0.744	0.457
	3-4	13.96	195.50			

Table 5 shows that there were no significant differences between the mean rank of the participants' scores on all

domains of the post-attitudes scale according to class level (Z= -0.721, -0.027, -0.744, p= 0.471, 0.978, 0.457) respectively.

4. Discussion

The results indicated that there was a significant effect of the APE course on the physical education of college students toward the IDs. The effect size of the course was considerable. The results supported the notion that attitudes toward the sport of the IDs may be improved in the college students if teaching experiences and activities in the APE courses are not available. It is said that what is included in the APE course of diverse topics greatly contributed to changing the attitudes of college students toward the sport of Omani IDs. The Arab research indicated that the effectiveness of studying the special education courses in improving attitudes of college students to the IDs. These findings were in line with the findings of Abuzaitoun [53], Abu Darwesh and Bsharah [52], and Al-Yahyai et al. [54] who indicated that the attitudes of college students toward individual with disabilities were positively improved after studying special education courses. The findings of the current research and previous studies support notion that attitudes are acquired.

Conceptual and theoretical foundations included in the APE course are considered cognitive components contributing to modifying the attitudes toward the IDs. The cognitive component is one of the components of attitudes concentrating on information, facts, and knowledge that are relevant to the attitudes of college students toward the IDs. In other words, the more cognitive repertoire (resultant) the college students have about the special education categories the more positive attitudes toward the sport of the IDs they have. Attitudes as behavioral styles are acquired as a result of the experience and interaction of the individual with the environment. Thiyabat [59] showed an effect of studying the Physical Education Teaching Methods Course on improving learning skills the attitudes of physical education students.

On the other hand, it may be that physical education students' study of such courses gives an indication and feedback about the teaching skills that they acquired after studying the APE course due to its theoretical knowledge and practical experience that may contribute to improving their performance in teaching the IDs in general education institutions. Therefore, Folsom-Meek and Rizzo [60] recommended focusing on pre-service preparation programs for physical education teachers to facilitate the IDs conditions. The current research team believes that the change that occurred in the attitudes of physical education students because this course is the only course proposed in the program's plan that deals in detail with physical education is a significant indication of the effect of this course. Offering the APE course greatly contributed to improving the attitudes of college students toward the sport of the IDs. In this context, Alsalhe [51] indicated that the attitudes of undergraduate Saudi students didn't change after they had studied the APE course. Alsalhe [51] justified this because students traditionally studied the course and they weren't provided with the opportunity of field visits to Saudi special education institutions. Accordingly, Taliaferro et al. [61] indicated that the majority of the APE courses have a practicum to supplement in the lecture.

Ammah and Hodge [62] maintained that educational institutions have an active role in modifying attitudes of physical education students toward the IDs by providing them with training field experiences, as well as, Taliaferro and Bulger [63] emphasized the importance of pre-service physical educators; because they contribute to modifying their competencies in facilitating learning of the IDs and work together with them. Topics of the APE course encouraged students' metacognitive thinking by developing future thinking and planning of the sport of the IDs and creating solutions to problems that they face, so the contents of this course like information and activities contributed to bringing about the desired change toward the sport of the IDs; that is this information led to modify beliefs and ideas. Employing a strategy of problem-solving helped students to search for solutions and facilities that enable the IDs to practice a sport that they can't practice as their normal peers. The course's students indulged as individuals and groups in creating facilities of the sport of the IDs. In other words, this improvement of attitudes may be due to the students' positive role and their active contribution to the topics presented in lectures and assignments.

Group work may help in investing students' cognitive, behavioral, and emotional abilities in improving attitudes, as well as their assignments are insufficient in improving attitudes without creating a learning atmosphere during teaching the APE course. This healthy educational environment gave students a great deal of freedom, distance from criticism, and respect for opinion and the other opinion. The course instructor's hosting of some IDs practicing APE in the lectures provided the course students with vivid models that made them interact with real experiences, see them, hear from them, and discuss them. And it may be absent from many of the course students who have not previously had contact and dealt closely with the IDs, and in the fact that these individuals are human-like others are not different from others, so this course provided in-depth information about the IDs in that they are human beings and that some of them have abilities and creativity that may not be available to many individuals without disabilities.

It is important to emphasize that the affective component of the attitude as a distinguishing feature

contributed to the modification of attitudes. The emotions accompanying an attitude determine its depth and intensity and distinguish the strong from the weak. If the sentiments and emotions are transmitted between people, then it is a priority for students to be influenced by the emotional component of the course instructor towards the IDs. In other words, the course instructor's positive values about IDs and their rights to practice sports activities are reflected in his/her instructional performance, and this fires his/her own enthusiasm to stimulate the course students and motivate them to adopt positive attitudes towards individuals with disabilities.

The significant effect size can be justified by the duration of teaching the APE course, which lasted a 14-week semester, and the course material that includes contemporary information about the APE course. The duration of the course teaching may be capable of increasing the effect size due to the students 'study of the course and its reflection in their attitudes towards a sport. In sum, it can be said that the scale domains that addressed the teacher, course topics, methods, and activities contributed to modify attitudes toward the sport of the IDs.

That is why attitudes represent a developed system of beliefs and behavioral tendencies that grow in the individual as it continues to grow and develop, and attitudes are towards a specific thing, and the individual cannot adopt an attitude towards a specific thing unless it is in the vicinity of his/her perception [64]. In other words, the individual cannot shape attitudes toward things he/she does not know or about people he/she does not interact with. From this standpoint, it can be said that field training programs, curricula, and professional development experiences may have an impact on the professional socialization of pre-service physical education teachers [65]. In contrast, in-service training programs contribute to modifying attitudes and providing teachers with educational and personal competencies to deal with learners with special needs [66-68]. On the other hand, Sukarmin and Ndayisenga (69) stressed the importance of training programs and workshops on improving the knowledge and performance of physical education teachers.

5. Conclusions

The attitudes are closely associated with the life of college students, their ideas, values, culture, and behavior, and each of them has his/her own attitudes towards life issues. These attitudes are shaped by the stages of socialization, the special circumstances that a person goes through, and his/her previous experiences, in addition to the values, traditions, and customs of a society that contribute to shaping individuals' attitudes. Consequently, attitudes are a sociocultural product that is not innate, but rather is acquired from the environment and is subject to modification and change.

According to the results of the current research, the special education courses offered in universities, including the APE course have an effective role in modifying students 'attitudes toward individuals with disabilities. Also, physical education students 'study of the APE course contributed to modifying their attitudes towards the sport of Omani IDs, and this was evident in the existence of differences in the participants' responses to the pretest and posttest of the scale. Therefore, the high scores of the participants after studying the course is evidence of the effectiveness of studying this course in modifying the attitudes toward the sport of the IDs. Small sample size and gender are among the determinants of generalizing the results to physical education departments in Omani universities.

6. Recommendations

The research team recommends converting the course into a compulsory one, upgrading its hours to 3 credit hours, and adding other courses on Paralympic Games to the program plan. It is also possible to add topics to program plan courses dealing with the APE course. It is also recommended admitting a number of the IDs be accepted into the University's Physical Education Department programs. Finally, the research team recommends offering a Master's degree program in APE to be the first program in Omani and Arab universities. Whereas, the creation of such courses and postgraduate programs may contribute to disseminating awareness of sports for the IDs and reflecting positively on the establishment of sports clubs for Omani IDs in higher education and civil society institutions at the national and Arab levels. Additionally, future research should be conducted to explore the effect of the APE course on other Omani college students; that is the sample may be extended to include diverse higher education institutions.

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REFERENCES

[1] Kirakosyan, L. (2016). Promoting disability rights for a stronger democracy in Brazil: the role of NGOs. *Nonprofit and Voluntary Sector Quarterly*, *45*(1S), 114-130.

[2] Kiuppis, F. (2018). Inclusion in sport: disability and participation. *Sport in Society, 21*(1), 4-21.

[3] Jafar, A., & Al-Hadabi, B. (in press). Role of capital intellectual in developing the services provided in special education centers. *Journal of Sport Sciences & Physical Education*.

[4] Broderick, A., & Ferri, D. (2019). *International and European disability law and policy: Text, Cases, and materials.* Cambridge University Press.

[5] Al-Ahmed, W. (2011*). Legal protection of the rights of persons with disabilities.* Al-Halabi Legal Publications.

[6] Alfawair, A., & Al Tobi, A. (2015). Special needs education in the Sultanate of Oman: Past, present, and future. *Scholars Journal of Arts, Humanities and Social Sciences*, 3(2B), 415-422.

[7] Al-Zoubi, S., Al-Shorman, A., & Al Tauqi, M. (2021). Challenges faced by individuals with disabilities participating in Paralympic games. *An-Najah University Journal for Research (Humanities), 35*(1), 163-184.

[8] Khalili, M., & Elkins, M. (2009). Aerobic exercise improves lung function in children with intellectual disability: A randomised trial. *Australian Journal of Physiotherapy, 55*(3), 171–175.

[9] Blick, R., Saad, A., Goreczny, A., Roman, K., & Sorensen, C. (2015). Effects of declared levels of physical activity on quality of life of individuals with intellectual disabilities. *Research in Developmental Disabilities, 37*, 223–229.

[10] Temple, V., & Stanish, H. (2011). The feasibility of using a peer-guided model to enhance participation in community-based physical activity for youth with intellectual disability. *Journal of Intellectual Disabilities, 15*(3), 209–217.

[11] Bota, A., Teodorescu, S., & Serbanoiu, S. (2014). Unified Sports- a social ınclusion factor in school communities for young people with ıntellectual disabilities. *Procedia – Social and Behavioral Sciences, 117*, 21-26.

[12] Brahimi, I. (2013). The role of sports media on motivation of individuals with special needs towards adapting physical activities. *Journal of Human and Society Sciences, 2* (7), 389-412.

[13] Brian, A., Bostick, L., Starrett, A., Klavina, A., Miedema, S., Pennell, A., Stribing, A., Gilbert, E., Lieberman, L. (2020). The effects of ecologically valid intervention strategies on the locomotor skills of children with visual impairments. *Adapted Physical Activity Quarterly, 37*(2), 177–192.

[14] Ilhan, E., Yarımkaya, E., & Esenturk, O. (2017). The effect of mother-participated sports activities on the awareness levels of Turkish mothers having children with intellectual disabilities towards the effect of sports: A pilot study. International *Journal of Developmental Disabilities, 63*(2), 124-129.

[15] Armour. B., Courtney-Long, E., Campbell, V., & Wethington, H. R. (2013). Disability prevalence among healthy weight, overweight, and obese adults. *Obesity, 21*(4), 852-855.

[16] Sanches-Ferreira, M., Alves, S., Silveira-Maia, M., Gomes, M., Santos, B., & Lopes-dos-Santos, P. (2019). Participation in leisure activities as an indicator of inclusion: A comparison between children with and without disabilities in Portugal. *European Journal of Educational Research, 8*(1), 221-232.

[17] McCoy, S., Palisano, R., Avery, L., Jeffries, L., Fiss, A., Chiarello, L., & Hanna, S, (2020). Physical, occupational, and speech therapy for children with cerebral palsy. *Developmental Medicine & Child Neurology, 62*(1), 140–146.

[18] Khuffash, S. (2018). *Support services in special education*. Massira Publishing House.

[19] Wang, L. (2019). Perspectives of students with special needs on inclusion in general physical education: A social-relational model of disability. *Adapted Physical Activity Quarterly, 36*(2), 242–263.

[20] Standal, O., Nyquist, T., & Mong, H. (2018). Adapted physical activity professionals in rehabilitation: an explorative study in the Norwegian context. *Adapted Physical Activity Quarterly, 35*(4), 458–475.

[21] Al-Zoubi, S., & Bani Abdel Rahman, M. (2017). Social empowerment of individuals with intellectual disabilities. European *Journal of Education Studies, 3*(1), 177-192.

[22] Sayyd, S., Zainuddin, Z., Ghan, D., & Altowerqi, Z. (2020). Sports activities for undergraduate students in Saudi Arabia universities: A systematic literature review. *International Journal of Human Movement and Sports Sciences, 8*(1), 1-16.

[23] Abdel-Hussein, Z. (2009). Impact of adapted physical activities on kinetic and functional characteristics of children with disabilities. *Journal of Physical Education Sciences, 2*(2), 193-227.

[24] Jaarsma, E., Haslett, D., & Smith, B. (2019). Improving communication of information about physical activity opportunities for people with disabilities. *Adapted Physical Activity Quarterly, 36*(2), 185–201.

[25] Shaheen, M., Al Saadi, K., & Al-Hadabi, B. (2019). Effects of a program based on educational technology to improve attention, kinetic abilities, and social skills for Omani students with hearing impairment. *International Journal of Sport Science & Arts* (3), 56-88.

[26] Al-Otaibi, M., Al-Zoubi, S., & Bani Abdel Rahman, M. (2015). The role of the comprehensive rehabilitation center in empowering individuals with disabilities at Najran, KSA. *International Interdisciplinary Journal of Education, 4*(10), 119-148.

[27] Al-Kiyumi, A., Al-Zoubi, S., Bakkar, B., Al-Mamari, K., Al-Gaseem, M., & Al-Omari, A. (2020). The role of Sultan Qaboos University in promoting entrepreneurial culture among students with disabilities. *Journal of Entrepreneurship Education*, *23*(5), 1-6.

[28] Al-Dababneh, K., & Al-Zboon, E. (2018). Parents' attitudes toward their children with cerebral palsy. *Early Child Development and Care, 188*(6), 731-747.

[29] Somaily, H., Al-Zoubi, S., & Bani Abdel Rahman, M. (2012). Parents of students with learning disabilities attitude towards resource room. *International Interdisciplinary*

Journal of Education, 1(1), 1-5.

[30] Goodwin, D., & Ebert, A. (2018). Physical activity for disabled youth: Hidden parental labor. *Adapted Physical Activity Quarterly, 35*(4), 342–360.

[31] Obrusnikova, I. (2008). Physical educators' beliefs about teaching children with disabilities. *Perceptual and Motor Skills, 106*(2), 637–644.

[32] Combs, S., Elliott, S., & Whipple, K. (2010). Elementary physical education teachers' attitudes towards the inclusion of children with special needs: A qualitative investigation. *International Journal of Special Education, 25* (1), 144-125.

[33] Doulkeridou, A., Evaggelinou, C., Mouratidou, K., Koidou, E., Panagiotou, A., & Kudlacek, M. (2011). Attitudes of Greek physical education teachers towards inclusion of students with disabilities in physical education classes. *International Journal of Special Education, 26*(1), 1-11.

[34] Vaporidi, I., Kokaridas, D., & Krommidas, C. (2005). Physical education teachers' perceptions towards integrating students with disabilities in typical classes. *Research in Physical and Sport Education, 3*(1), 40-47.

[35] Fournidou, I., Kudlacek, M., & Evagellinou, C. (2011). Attitudes of in-service physical educators toward teaching children with physical disabilities in general physical education classes in Cyprus. *European Journal of Adapted Physical Activity, 4*(1), 22-38.

[36] Aljarrah, A., & Bataineh, O. (2005). Attitudes of Yarmouk University students towards the disabled. *Abhath Al-Yarmouk: Humanities & Social Sciences, 21*(3), 459-480.

[37] Reina, R., Hutzler, Y., Iniguez-Santiago, M., & Moreno-Murcia, J. (2019). Student attitudes toward inclusion in physical education: the impact of ability beliefs, gender, and previous experiences. *Adapted Physical Activity Quarterly, 36*(1), 132–149.

[38] Li, C., Wong, N., Sum, R., & Yu, C. (2019). Preservice teachers' mindfulness and attitudes toward students with autism spectrum disorder: the role of basic psychological needs satisfaction. *Adapted Physical Activity Quarterly, 36*(1), 150–163.

[39] Al-Khuwaildi, A., Trumba, N., & Kahil, H. (2016). Physical education teachers' attitudes toward inclusion of students with special needs in physical education lessons. *Journal of Physical Education, 1*(1), 302-322.

[40] Al Atrash, M. (2016). The attitudes of physical education teachers towards the integration of students with disabilities with normal students in a physical education class. *Journal of Association of Arab Universities for Research in Higher Education, 36*(1), 173-186.

[41] Al-A'dra, I. (2016). Challenges facing students with disabilities at the University of Jordan. *Dirasat: Social Sciences, 43*(5), 213-232.

[42] Smadi, A. (2016). Attitudes of administrators of sports activities toward the participation of students with disabilities in sports activities in the Jordanian universities. *Al-Istiqlal University Research Journal, 1*(2), 191-208.

[43] Tilfaah, A., & Amaari, E. (2018). The attitudes of faculties' members of physical education towards the admittance of students with disabilities in their study programs. *Mu'tah: Humanities and Social Sciences, 33*(5), 153-186.

[44] Al-Sinani, Y. (2014). The difficulties facing physical education teachers in teaching students with intellectual disabilities in the sultanate of Oman. *Journal of Educational and Psychological Sciences, 15*(3), 153-181.

[45] Al-Qaryouti, I., & Al Shukaili, J. (2014). Sultan Qaboos University students' attitudes toward the inclusion of their peers with disabilities. *Journal of Educational and Psychological Studies, 9*(2), 262-274.

[46] Zayed, K., Al-Qaryouti, I., & Al Mamari, M. (2018). Factors affecting attitudes of undergraduate students toward students with disabilities. *International Journal for Research in Education, 42*(1), 263-277.

[47] Piletic, C., & Davis, R. (2010). A profile of the introduction to the adapted physical education course within the undergraduate physical education teacher education program. *JCHPER-SD Journal of Research, 5*(2), 26-32.

[48] Berry, R., (2010). Preservice and early career teachers' attitudes toward inclusion, instructional accommodations, and fairness: Three profiles. *Teacher Educator, 45*(2), 75-95.

[49] Al Tawansy, M., Moheeb, H., & AbdelMenim, E. (2008). The specialized academic preparation of the physical education teacher as perceived by student teachers and graduates. *Journal of Educational and Psychological Studies, 2*(1), 1-43.

[50] Alghazo E., Dodeen, H., & Al-Qaryouti, I. (2003). Attitudes of preservice teachers towards persons with disabilities: Predictions for the success of inclusion. *College Student Journal, 37*(4), 515-521.

[51] Alsalhe, T. (2015). The influence of the traditional APE Course on the attitudes of preservice physical educators in Saudi Arabia toward teaching students with physical disabilities. *Journal of Educational & Psychological Sciences, 16*(4), 610-624.

[52] Abu Darwesh, M., & Bsharah, M. (2007). The effect of studying the course of teaching those of Special Needs on students' attitudes toward the handicapped. *Jordan Journal of Education Sciences, 3*(4), 385-395.

[53] Abuzaitoun, J. (2013). The effectiveness of teaching the course of developing giftedness and talent on the sample of College of Educational Science Student's Attitudes toward gifted and talented students and their programs. *Dirasat: Educational Sciences, 40*(2), 1584-1601.

[54] Al-Yahyai, F., Al-Zoubi, S., Bakkar, B., Al-Hadabi, B., Al-Gaseem, M., & Al-Qaryouti, I. (2021). Effects of a special art education course on attitudes toward Omani learners with special needs. *International Journal of Higher Education, 10*(1), 191-200.

[55] Knapp, T. (2016). Why Is the One-Group Pretest–Posttest Design still used? *Clinical Nursing Research, 25*(5), 467–472.

[56] Doulkeridou, A, Evaggelinou, C., & Kudlacek, M. (2010). Components of attitudes towards inclusion of students with physical disabilities in physical education in the "ATIPDPE-GR" instrument/scale for Greek Physical Educators. *Acta Universitatis Palackianae Olomucensis.*

Gymnica, 40(4), 63-68.

[57] Kudlacek, M. (2007). Components of attitudes toward inclusion of students with physical disabilities in physical education in the revised "ATIPDPE-R" instrument/scale for prospective Czech educators. *Acta Universitatis Palackianae Olomucensis. Gymnica, 37*(1), 13-18

[58] Perlman, D., & Piletic, C. (2012). The influence of an Adapted Physical Education Course on preservice teacher instruction: Using a self-determination lens. *Australian Journal of Teacher Education, 37*(1), 1-17.

[59] Thiyabat, M. (2018). The effect of studying physical education teaching methods course on improving students' teaching skills. *Journal of Educational and Psychological Sciences, 12*(2), 213-225.

[60] Folsom-Meek, S., & Rizzo, T. (2002). Validating the Physical educators' attitude toward teaching individuals with disabilities III (PEATID III) survey for future professionals. *Adapted Physical Activity Quarterly, 19*(2), 141-154.

[61] Taliaferro, A., Ayres, S., & Housner, L. (2017). A descriptive analysis of the application of PETE standards. *The Physical Educator*, *74*(4), 606–626.

[62] Ammah, J., & Hodge, S. (2005). Secondary physical education teachers' beliefs and practices in teaching students with severe disabilities: A descriptive analysis. *High School Journal, 89*(2), 40-54.

[63] Taliaferro, A., & Bulger, S. (2020). A Delphi study of effective adapted physical education practicum experience. *Adapted Physical Activity Quarterly, 37*(1), 20-40.

[64] Maghayreh, E., & Alelwan, B. (2011). The effect of the "Sports for All" Course on students' attitudes towards sports activities at Al Balqa'a Applied University. *Dirasat: Educational Sciences, 38*(2), 2369-2383.

[65] Wilson, W., & Richards, K. A. (2020). Socialization of preservice adapted physical educators: Influence of teacher education. *Adapted Physical Activity Quarterly, 36*(4), 472–491.

[66] Al-Mamari, S., Al-Zoubi, S., Bakkar, B., & Al-Mamari, K. (2020). Effects of a training module on Omani teachers' awareness of gifted students with learning disabilities. *Journal of Education and E-Learning Research*, *7*(3), 300-305.

[67] Al-Khatri, T., Al-Zoubi, S., & Abu Shindi, Y. (2020). The effect of a training program on the attitudes of teachers of students with learning disabilities towards co-teaching. *International Journal for Research in Education*, *44* (3), 13-40.

[68] Al-Zoubi, S., & Nefaie, R. (2019). Challenges facing learning disabilities program at Tabuk in the Kingdom of Saudi Arabia. *Dirasat: Educational Sciences, 46*(1), 619-633.

[69] Sukarmin, Y., & Ndayisenga, J. (2020). Evaluation of Burundi Physical education teachers, coaches, and athletes' sport nutrition, massage, and physiotherapeutic exercises knowledge. International Journal of Human Movement and Sports Sciences, 8(4), 154 - 159.