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Creative Movement Dance Class for Adolescents with Autism Spectrum Disorder

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Abstract

Objective: The objective of this phenomenological study was to identify how an occupational therapy developed Creative Movement Dance Class (CMDC) addresses social interaction skills in adolescents with Autism Spectrum Disorder (ASD).

Method: Interviews were conducted with a Certified Occupational Therapist Assistant (COTA), Occupational Therapist (OT), ballet instructor, student intern, teacher, and an aide that were directly involved with the CMDC.

Results: Three themes were identified. The first theme, structure of the class, consisted of eight sub-themes including opportunity to practice, fulfilling sensory needs, the Just Right Challenge, classroom support, classroom expectations, interprofessional collaboration, themes, and format of the class. The second theme, engagement techniques, consisted of five sub-themes including peer modeling, turn taking, use of props, making choices, and coping skills. The third theme, teaching techniques, consisted of four sub-themes including instructors body positioning, verbal/physical/visual cues, instructor modeling, and communication (sentence strips, Personal Exchange Communication System [PECS], and core vocabulary).

Conclusion: An occupational therapy developed CMDC addresses social interaction skills through the structure of the class, engagement techniques, and teaching techniques. Many of the techniques identified are supported in the literature for ASD and creative movement. Several novel techniques were found that may prove to be effective in addressing social interaction skills for adolescents with ASD through a CMDC.

MeSH terms

Adolescents, Autism Spectrum Disorder, Creative Movement, Dance, Social Skills
Introduction

Autism spectrum disorder (ASD) is a developmental disability characterized by difficulties in social interaction, verbal and nonverbal communication, and repetitive behaviors or narrow, obsessive interests (CDC, 2015). According to the Centers for Disease Control (CDC), approximately 1 in 68 children are diagnosed with ASD, with a core symptom of ASD being impaired social interaction skills (CDC, 2015). Children with ASD may fail to respond to their name and often avoid eye contact with others. Additionally, they have difficulty interpreting what others are thinking or feeling because they cannot understand social cues, such as tone of voice or facial expressions. Many children with ASD do not know how to play interactively with other children and can have restricted patterns of interest (CDC, 2015).

Creative movement dance therapy focuses on movement as nonverbal expression, interaction, and communication in order to promote connectedness and the health of individuals (Koch & Fischman, 2011). In creative movement dance therapy, the individual utilizes his or her body and its movements as instruments for perceiving, feeling, thinking, and interacting. The social benefits of dance include fostering the development of relationships, enabling communication, assessing where communication is blocked, and intervening on nonverbal and verbal levels (Koch & Fischman, 2011; Scharoun, Reinders, Bryden, & Fletcher, 2014).

There is limited research addressing the benefits of creative movement dance for social interaction skills in individuals with ASD (Scharoun et al., 2014). Furthermore, there is no research addressing creative movement dance as it relates to occupational therapy. Some studies have investigated the motor benefits, sensory function benefits, and cognitive benefits of dance classes (Arzouglou et al., 2013; Gronlund, Renck, & Weibull, 2005; Rosenblatt et al., 2011).
However, only three studies have researched creative movement dance classes (CMDCs), social interaction, and ASD.

Although the research is limited, the evidence provided from these studies suggests that CMDCs have the potential to be a valuable intervention to address social interaction skills for this population. Several studies found that creative movement dance increased empathy in participants (Koch, Mehl, Sobanski, Sieber, & Fuchs, 2015; Mateos-Moreno & Atencia-Doña, 2013). These studies also suggest that CMDCs help to increase the ability to form relationships with others by improving self-modulation, mood regulation, and self-other awareness (Edwards, 2015; Koch et al., 2015). Mateos-Moreno and Atencia-Doña (2013) found an increased capacity to modulate self-adaptive behaviors by avoiding extreme mood swings and behaviors such as aggression towards others and greater self-control.

The purpose of this study was to evaluate how a CMDC, as developed by a certified occupational therapy assistant (COTA), addressed social interaction skills in adolescents with ASD. Additionally, this study aimed to describe how the CMDC and teaching techniques reflected the Occupational Practice Framework-3rd Edition (OTPF-3). This study sought to provide evidence that a CMDC addresses skills within the scope of occupational therapy practice.

**Method**

**Sample**

In this qualitative phenomenological study, six interviews were completed with individuals who were involved with a CMDC at a center-based school for students with disabilities. This study utilized a convenience sample. The COTA in charge of the CMDC supplied the researchers with a list of possible participants that have worked with the class for at
least once a week for a three-month time span and have an understanding of the class objectives. The convenience sample included the COTA, OT, ballet instructor, student intern, a teacher, and an aide that worked in the class.

Procedure

This study was approved by the institutional review boards at the university and school which were relevant to this study. Informed consent was obtained from each participant prior to their interview.

Data Collection

The three researchers were present for each of the interviews. The interviews were conducted at a local university and the school where the CMDC was being held. Prior to the interview the participants were given a brief introduction of the research study and given a sheet of key terms and definitions to reference throughout the interview. Each participant was instructed to refrain from mentioning identifying information of students in the class in order to ensure confidentiality. The interview consisted of 30 questions which addressed topics such as core skills, social skills, and communication skills. These questions were developed based on components of creative movement dance classes as found in the literature. They were developed to give the researchers a detailed picture of the methods used in the creative movement dance class of interest.

Data Analysis

The interviews were recorded with a voice recorder and transcribed by a pre-occupational therapy student who attended Grand Valley State University. First, each researcher individually developed their own set of codes by reviewing each transcribed interview, highlighting key phrases, topics, and quotes. The researchers then developed their own set of codes and typed
these into a Microsoft Word document. The researchers did this individually and then collaborated in order to address triangulation. The researchers then collaborated to negotiate their individual codes to develop a list of three themes with several sub-themes that represented the data. Emerging themes were verified via member checking with several participants (via email) to ensure for accuracy and to provide trustworthiness.

**Results**

This study found three overarching themes: Structure of the class, engagement techniques, and teaching techniques. The first theme, structure of the class, consisted of eight sub-themes including opportunity to practice, fulfilling sensory needs, the Just Right Challenge, classroom support, classroom expectations, interprofessional collaboration, themes, and the format of the class. The second theme, engagement techniques, consisted of five sub-themes including peer modeling, turn taking, use of props, making choices, and coping skills. The third theme, teaching techniques, consisted of four sub-themes including instructor body positioning, verbal/physical/visual cues, instructor modeling, and communication (sentence strips, Personal Exchange Communication System [PECS], and core vocabulary). Many of these themes follow the Person-Environment-Occupational framework used by OT to drive client centered practice.

The themes embody the instructor’s methods of adapting and modifying the environment and the occupation in order promote success in the class.

**Structure of the Class**

One participant frequently stated that the most effective way the dance class builds social interaction skills is by providing an opportunity to practice them. This was reflected in all of the interviews. The class also provided a designated time in the students’ school day to move
around, gain sensory input, and express themselves through creative movement in order for them
to be able to focus in the classroom following the CMDC.

Another sub-theme commonly discussed was how the class graded activities to create the
Just Right Challenge for the students. Activities were chosen to provide challenges for the
students to expand their skills within a supportive context. A participant stated, “We were
expecting the students to be challenged by [social regulation] and so they were essentially
challenged by the tasks and the activities but it was done in a supportive way to help teach them
social regulation skills.”

Each participant also described how there was additional teacher support in the classroom
during the CMDC including the dance instructor, one OT, one COTA, one OT fieldwork student,
the classroom teacher, and several teaching aides. The additional teacher support assisted the
dance class instructors in enforcing the classroom expectations. The CMDC required students to
behave appropriately during class. One participant stated:

The rule is you stay with the group until you don’t exhibit behavior that would be
advantageous to the group or the instructor. And then, you know, if we have to, we’ll
have a classroom aide leave with you, so you have the opportunity to recognize that and
to be able to change your behavior.

Additionally, the CMDC utilized interprofessional collaboration. Participants described
collaborating with a speech and language pathologist on using core vocabulary and sentence
strips, with social work to establish classroom expectations, and with classroom teachers to carry
over classroom goals and learning.

Finally, each participant described the use of themes during each CMDC. Commonly
mentioned themes were animals, space (sun, moon, and planets), square dancing, and weather.
These themes were incorporated throughout the entire format of the class. Each participant described the progression of a typical class as starting with an introduction and warm-up, watching a video clip to introduce the theme of the day, performing the chosen activities/dance, and ending with a cool-down. One participant stated,

> When we have a theme that’s recognized or a theme that’s a returning theme then we can see the difference in the students that participated before. They are recognizing what it is that we are doing and verbally or physically letting you know.

The CMDC provides the students with opportunities to practice these skills in a safe and modified environment to allow optimal chances for learning and development.

**Engagement Techniques**

Each participant addressed the sub-themes of turn taking and peer modeling to build social interaction skills. To describe one way the CMDC instructors promoted turn taking and peer modeling, one participant stated:

> Most of the time we are using a group activity, where half of the group is taking their turn while the other half is seated. As we got towards the end there was turn taking with each other within the actual activity like square dancing, where one person stands still and the other person walks around, trades places, and then we repeat.

Furthermore, participants described offering choices to the students and working on coping skills to enhance social interaction skills. One participant explained the opportunity for making choices and using coping skills saying:

> A lot of times we would ask students, especially if the students seemed frustrated or like they didn’t want to participate, we would give them a choice to participate in the activity or take some time alone, and they would give us a clear answer.
This demonstrates the students’ ability to use expressive communication and make an appropriate choice. Another sub-theme that was consistently represented throughout the interviews was the use of props to foster engagement and imaginative play. Common props that were discussed were butterfly wings, dragon costumes, and hula hoops.

Teaching Techniques

Several participants reported using strategic instructor positioning when teaching the CMDC. The instructors positioned themselves in front of the students in order to increase attention and facilitate learning. Another sub-theme addressed was the use of verbal, physical, tactile, and visual cues throughout the CMDC. A participant stated:

Typically, one person leads and everybody faces in a circle, the other people are doing physical assists like hand-over-hand, verbal cues such as saying a student's name repeatedly to get their attention to attend to what the instructor is doing or he may be right in front of them doing the movement.

All participants stated that the instructors modeled appropriate social skills such as introducing themselves, greeting others, personal space, and appropriate physical contact. They also modeled the dance motions that were integrated into the class activities.

The participants reported that the instructors used communication systems familiar to the students. PECS, sentence strips, and core vocabulary were three commonly used forms of communication. A participant stated, “days that are really successful are when I can show [students] a core card or a sentence strip and they spontaneously react to what I’m asking them to do because we are communicating.”
Discussion

This study aimed to describe how an occupational therapy developed CMDC addresses social interaction skills in adolescents with ASD. Three themes, each with several sub-themes, emerged from six participants involved with the current CMDC. Several themes and sub-themes reflect techniques reported in existing literature related to ASD and CMDC, several themes reflect techniques shown to be useful for ASD but not specifically in a CMDC, and several themes provide novel insight into the development of a CMDC in addressing social interaction skills.

The current CMDC utilized the same class format each week. Previous studies have demonstrated the benefit of having a set format of a dance class in order to enhance the participation of individuals with ASD (Hartshorn, et al., 2001; Koch et al., 2015; Mateos-Moreno & Atencia-Doña, 2013; Rosenblatt et al., 2011). Furthermore, the repetition of activities each week was reported to be a valuable technique and is supported in the literature as necessary for learning for those with ASD (Zilius, 2010). Additionally, the current CMDC has classroom teachers and aides who assist the dance instructors during class which has been demonstrated to be a beneficial technique (Hartshorn et al., 2001; Mateos-Moreno & Atencia-Doña, 2013; Rosenblatt et al., 2011). Finally, the present CMDC reported using a variety of visual, verbal, and physical cues to assist the students when participating in the dance activities. The literature supports the use of cueing to enhance learning for those with ASD in a CMDC (Hartshorn et al., 2001; Mateos-Moreno & Atencia-Doña, 2013).

The current CMDC uses video modeling which is well-supported by general ASD research for improvements in social interaction skills (Alzyoudi, Sartawi, & Almuhiri, 2015; McCoy & Hermansen, 2007; McDowell, Gutierrez, & Bennett, 2015). Additionally, the current
CMDC uses communication systems such as PECS and sentence strips that are widely supported as effective interventions for individuals with ASD (Lerna, Esposito, Conson, & Massagli, 2014; Jurgens, Anderson, & Moore, 2009). Although these techniques have not been reported in the literature relating to ASD and CMDCs, they show potential for being effective methods of addressing social interaction skills for adolescents with ASD in a CMDC.

Some techniques being implemented in the current CMDC have not been previously demonstrated in literature as interventions for individuals with ASD in CMDCs. One of these techniques is turn taking with partners and/or in groups as a method of peer modeling. Research supports the use of peer modeling with peers who are typically developing (Hundert, Rowe, & Harrison, 2014). However, no research has been conducted to study the effects of peer modeling between peers who both have ASD diagnoses. The use of themes and offering choices as coping skills have not yet been demonstrated in the literature as effective techniques when teaching a CMDC for adolescents with ASD. However, based on the findings of this study, they have the potential to be effective teaching techniques for developing social interaction skills as reported by the participants.

A limitation to this study was the limited number of participants. Furthermore, the participants included individuals who were involved in the dance class as well as the research committee for this study creating a potential for bias. Another limitation was a lack of a quantitative measure for social skills. Therefore, there is no quantitative data available to determine the effect of the dance class on the improvement in social skills of the adolescents. A final limitation was researcher bias due to previous knowledge of the current class objectives when researching class structure and teaching techniques. Future studies should focus on the effects a CMDC can have on social interaction skills in adolescents with ASD through
quantitative analysis. Furthermore, studies to assess parental perceptions of the effectiveness of CMDCs and improvement of social interaction skills would provide a more comprehensive understanding of the benefits from a CMDC.

Implications for Occupational Therapy Practice

OT’s scope of practice includes education, play, leisure, and social participation, all of which are addressed in a CMDC (American Occupational Therapy Association, 2014). In addition, OT focuses on client-centered and holistic care leading to increased participation in meaningful occupations. The Person-Environment-Occupational framework for OT drives therapists to modify and adapt the person, environment, and environment (Strong, Rigby, Stewart, Law, Letts, & Cooper, 1999). A CMDC combines all of these same aspects to improve social interaction skills in adolescents with ASD, which is a primary concern of occupational therapists working with this population. Due to OT’s scope of practice aligning with the objectives of the current CMDC, this suggests that OT practitioners are uniquely qualified to organize and implement a CMDC for adolescents with ASD.

Conclusion

Social interaction skills are an area of focus for occupational therapists as identified in the OTPF-3 (American Occupational Therapy Association, 2014). This study aimed to describe how an occupational therapy developed and lead CMDC addressed social interaction skills in adolescents with ASD. The current CMDC addressed social interaction skills through the structure of the class, engagement techniques, and teaching techniques. Many of the techniques reported are supported in the literature for ASD and creative movement. However, several novel techniques were found that may prove to be effective in addressing social interaction skills for adolescents with ASD through a CMDC.
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