Development of a Performance Evaluation Tool to Track Progress in an Inclusive Dance Syllabus

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Abstract

The lack of systematic training available for young dancers with disabilities has previously presented a barrier for those wishing to develop their skills and pursue a career in dance. Recently, a number of initiatives have launched to help bridge this gap; however, currently no established assessment measures exist that are sensitive to the needs of young dancers with disabilities while providing evidence of their competencies. The aim of this study was to develop a performance evaluation tool to allow tracking of progress in technique and performance skills in young dancers with a range of physical and/or intellectual disabilities. The tool allows scoring on a Likert-type scale on eleven criteria, including control of movement, coordination, spatial awareness, timing and rhythm, and surface or partner work. Six dancers were filmed during classes to allow retrospective evaluation of their performance by four judges. Intra-Class Correlation Coefficients (ICCs) for inter-rater and test-retest reliability demonstrated good reliability. Inconsistencies in scoring reduced and ICCs strengthened when trial one was removed from analysis; therefore, a familiarisation trial is recommended for future uses of this tool. Overall, this appears to be a reliable tool for evaluating elements of dance technique and performance in young dancers with disabilities.

Keywords: dancers, disability, training, development, assessment

Introduction

A number of barriers exist to dance for young people with disabilities, including aesthetic, attitudinal and logistic barriers. Aesthetic barriers include concerns that the dance industry remains focused on aesthetic and physical factors rather than purely on artistic qualities, promoting the exclusionary notion of a singular ideal dancing body. Attitudinal barriers comprise what can often be well-intentioned exclusion from dance and physical activity by gatekeepers, and underestimations of what disabled people are capable of achieving. Logistic and access barriers include building access, and transport, care, and support needs, which often create additional financial barriers (see Aujla and Redding 2013, for a review). However, perhaps the most significant barrier is the lack of systematic training available for young dancers with disabilities who wish to develop their skills and pursue a career in dance. The gap between recreational classes and the profession means that young dancers with disabilities who may have the potential to work in the dance industry are excluded from doing so as they do not have the opportunities to train at a similar level to their non-disabled peers (Aujla and Redding 2013; Charnley 2011; Verrent 2003).

Recently, a number of organisations have launched initiatives to help bridge this gap and provide systematic training routes to professional dance practice for young people with disabilities (Aujla and Needham-Beck, 2018; Aujla 2019; Urmston and Aujla 2018). Such initiatives are commonly referred to as inclusive dance and, as such, cater to participants ranging in age from children to young adults, referred to as 'young' people/dancers, who present with a wide range of physical and/or intellectual disabilities. These initiatives are playing a crucial role in addressing training-related barriers to dance by increasing equality of access to talent development opportunities. Positively, research is now beginning to demonstrate the importance of not only participation but progression for young disabled people

with an interest in and aptitude for dance. Research reports attest to the benefits of learning and progressing in codified or set dance techniques in terms of enhanced perceived competence, confidence, and motivation to continue learning (Aujla 2019). Talent development opportunities can also provide a like-minded peer group or community, and can contribute to wellbeing through feelings of achievement and satisfaction (Aujla and Needham-Beck 2018). One such programme is IRIS, a contemporary dance talent development programme created by Stopgap Dance Company, a professional inclusive dance company with expertise in learning and teaching.

IRIS is a systematic programme designed to develop technical and creative skills within an inclusive contemporary dance syllabus for young dancers with disabilities. The syllabus consists of four levels, the first of which is *include*, which aims to build foundation dance competencies such as contact dance and performance skills, and is run as one 90-minute class per week. Several community-based, inclusive dance groups throughout the UK are currently piloting the *include* level of the syllabus, and some participants have progressed to the second stage, *respond,* which works on technical skills specific to the individual dancer.

An important component of IRIS is assessment of participants at each of the four levels. Although assessment measures exist in established mainstream syllabi, these may not allow young dancers with disabilities to progress alongside their peers due to inflexible assessment criteria. Currently no tool exists that is sensitive to the needs of young dancers with disabilities while providing evidence of their competencies. Therefore, the aim of this study was to develop a performance evaluation tool to allow tracking of progress in technique and performance skills in young dancers with disabilities who are enrolled in IRIS. This study is part of a larger project investigating the efficacy of IRIS in its first two pilot years.

Materials and Methods

Tool Development

Various measures for scoring or judging the performance ability or performance/ aesthetic competence of dancers have been developed for use in previous research (Koutedakis et al. 2007; Chatfield 2009; Krasnow and Chatfield 2009; Angioi et al. 2009). Measures commonly assess aspects such as posture/ alignment, skill/ technique, space, time/ rhythm, energy, phrasing, control, and performance quality/ presence, with descriptors given for each characteristic to aid scoring. Particular reference to the *Aesthetic Competence Tool*, developed by Angioi et al. (2009), was made during development of the specific performance evaluation tool used in the present study, due to its high inter-rater and test-retest reliability (demonstrated in the initial reliability study; Angioi et al. 2009), ease of use, specificity to contemporary dance, and sensitivity to differences in levels of dancers (Angioi et al. 2012; Needham-Beck 2017). A comparison between this tool, previous literature on talent identification of young dancers with disabilities (Aujla and Redding 2014), and the key principles upon which the IRIS syllabus is built was drawn and used to identify key criteria for evaluation and write relevant criterion descriptors. Consultation with the expert practitioners who developed the IRIS syllabus allowed refinement of the tool before the final version was presented for testing.

A full copy of the developed tool's scoring guidelines and data sheet are provided in Table 1. The tool includes a total of eleven criteria for scoring, distributed across three specific exercises undertaken within the IRIS class and an additional 'throughout' score. Each exercise had a specific focus within the class structure; the articulation exercise focused on principles of working positions, being precise with action, and weight placement through the feet or hands; the travelling exercise focused on principles of control and shift, spatial awareness and observation; and the surface and partner work exercise focused on principles of sensing and

responding to a partner, sharing weight, and softening into a surface (floor, chair, etc.) Three to four criteria were scored for each exercise according to the demands of that exercise and referred to control of movement, coordination, spatial awareness, timing and rhythm, and surface or partner work (as further defined in Table 1). The range of exercises scored ensured that all dancers had the opportunity to demonstrate at least some of the criteria. This flexibility has particular importance for dancers with disabilities where day-to-day fluctuations in performance can be magnified by their disability and/or external factors (Aujla and Redding 2014).

For each individual criterion, detailed descriptions and elements of performance to observe are provided to guide scoring. Scoring is on a Likert-type scale from 1-10, with 1-3 representing little or no ability to perform elements as required, 4-6 representing some elements performed appropriately, 7-9 representing elements performed appropriately for about 80% of the time, and 10 representing elements performed appropriately during the whole exercise.

[Table 1 here]

Procedures

Ethical approval was granted for this study by the ethics committee of a higher education institution. Information about the research was provided to the participants and their families, and both the dancers and their parents provided informed consent.

Existing weekly IRIS classes were filmed to provide video footage for retrospective performance scoring for six volunteer dancers (four female, two male, average age 19.33 ± 5.01 years) with a range of physical and/or intellectual disabilities including Down's

syndrome, cerebral palsy, global development delay, and autistic spectrum disorder. Films were edited to include three exercises that demonstrated either articulation, travel, or surface and partner work. The dancers were filmed performing each exercise and the clips were randomised before being assessed by the judges.

Four judges (two female, two male) undertook evaluation of the dancers' performance on four separate occasions to allow assessment of the reliability of the developed tool. Judges were invited to take part in the research, based on their expertise, who had at least four years' experience of teaching in an inclusive dance setting, but were not involved in the development or delivery of the IRIS syllabus. The first assessment occasion was treated as a familiarisation session, allowing judges time to become familiar with the assessment tool and ask questions related to the scoring procedures; however, on all four occasions, assessment scores were collected and recorded from each judge. During assessment, judges all sat in one room watching the clips at the same time and independently scored each dancer in each clip. Judges were given the following instructions (as per Angioi et al. 2009): 1. to mark all dancers from the video on the same day, 2. not to rewind the video clips at any time once the scoring procedure had begun, 3. to perform the assessment during the first hours of the morning on a pre-arranged specific day, and 4. to follow the scoring guidelines (Table 1).

Analysis

Both inter-rater reliability and test-retest reliability of the tool were determined using intra-class correlation coefficients (ICC) and 95% confidence intervals (CI). Analyses were initially run on all four trials and then on trials two to four only, in order to assess the influence of inclusion or exclusion of the first familiarization trial on both inter-rater and test-retest reliability. The following acceptable ICC cut-points were used: < 0.5 poor, 0.5 - 0.75 moderate,

0.75 - 0.9 good, > 0.9 excellent (Koo and Li 2016). The alpha level for significant correlations was set at 0.05. All analyses were undertaken using SPSS v23.

Results

Inter-rater reliability ICCs were classed as *good* for raters 1, 3, and 4 across all four trials (Table 2). With trial one removed from analysis, rater 1, 3, and 4 remained *good* and rater 2 remained *moderate*, although with an increase from a coefficient of 0.682 to 0.708, which was marginally short of the *good* cut-point (Table 2). All inter-rater ICCs were highly significant ($p < 0.01$) (Table 2).

[Table 2 here]

Test-retest reliability ICCs were classed as *good* for six of the 11 individual criteria across all four trials (Table 3). With trial one removed from analysis this improved to nine out of the 11 individual criteria reaching the *good* agreement cut-point (Table 3). Across trials two to four, 'exercise 1 coordination' and 'exercise 1 timing' criteria displayed ICCs of 0.742 and 0.738 respectively, which are only marginally short of the 0.75 *good* agreement cut-point (Table 3). All test-retest ICCs were highly significant ($p < 0.01$) (Table 3).

[Table 3 here]

Discussion

While numerous barriers to dance exist for young disabled people, one which has received increasing attention in recent years is the lack of systematic training and talent development opportunities. High quality, systematic training is essential for young dancers with disabilities

to equip them with the skills and confidence needed to access further training and the profession (Aujla and Needham-Beck 2018). Addressing this gap in provision, Stopgap's IRIS programme aims to remove training and attitudinal barriers by providing rigorous training in contemporary dance. The aim of this study was to develop a tool that could be used to assess the performance of young dancers with disabilities. Overall, ICCs for inter-rater and test-retest reliability were classed as demonstrating good reliability, with only 1 rater, and 2 criteria being moderate (marginally below good). Overall, ICCs strengthened when trial one was removed from analysis and judges commented on feeling more confident in the accuracy and consistency of their scores from the second trial onwards, once they were familiar with the scoring system. Therefore, a familiarisation trial is recommended for all future uses of this tool, to allow raters to become familiar with the tool and therefore generate more reliable rating scores in subsequent measurements.

Having a reliable tool to assess young dancers with disabilities may represent an important move forward in removing barriers to dance training and the profession. The inflexibility of assessment criteria in mainstream examining bodies and talent development routes may prevent young dancers with disabilities from progressing; therefore, it is important to have a reliable tool specific to inclusive settings that enables young dancers with disabilities to demonstrate their skills and competencies while being sensitive to their needs (for instance, placing more emphasis on movement and performance quality than achieving specific positions which may be unattainable for some dancers). Alongside the systematic training they receive, this may also provide the evidence required for young dancers with disabilities to access other opportunities and further training, helping to provide a route into the profession. It may also enable them to progress relative to their non-disabled peers (Aujla and Redding 2013); to this end, the next part of the research will be to assess the ability of the tool to detect

change in the dancers' progress over an academic year.

Further trials of this tool with a different sample of judges may also be required to ensure that it can be reliably adopted by different teachers across the IRIS programme. The relatively small samples of both dancers and judges in the present study, as well as the specificity of the tool to exercises and learning objectives of the IRIS programme may limit its generalisability.

However, if guidelines for use laid out in this paper are followed, this appears to be a reliable tool for evaluating elements of dance technique and performance in young dancers with disabilities. This study contributes to a small but growing body of literature focused on talent development and progression in inclusive dance settings (Aujla 2019; Aujla and Needham-Beck 2018; Urmston and Aujla 2018). The benefits of technique training for young disabled dancers are only now beginning to be understood, and include enhanced competence, confidence and wellbeing (Aujla and Needham-Beck 2018; Aujla 2019). The findings of this study indicate that the talent and abilities of young disabled dancers can be documented in a relatively objective way, and may provide a useful means of tracking development through the duration of a training programme. Given that assessments and qualifications can provide evidence of young disabled dancers' competencies, use of the tool may help to address barriers to further training and the profession.

References

Angioi, M., G. S. Metsios, E. Twitchett, Y. Koutedakis, and M. Wyon. 2009. "Association between selected physical fitness parameters and aesthetic competence in contemporary dancers." *Journal of Dance Medicine & Science* 13 (4): 115–123.

238 Angioi, M., G. Metsios, E. A. Twitchett, Y. Koutedakis, and M. Wyon. 2012. "Effects of
239 supplemental training on fitness and aesthetic competence parameters in contemporary
240 dance: A randomised controlled trial." *Medical Problems of Performing Artists* 27 (1):
241 3–8.
242 Aujla, I. J., and E. Redding. 2013. "Barriers to dance training for young people with
243 disabilities". *British Journal of Special Education* 40 (2): 80-85.
244 Aujla, I. J., and E. Redding. 2014. "The identification and development of talented young
245 dancers with disabilities." *Research in Dance Education* 15 (1): 54-70.
246 Aujla, I. J., and S. C. Needham-Beck. 2018. *Access, inclusion and excellence: Evaluating*
247 *Stopgap Dance Company's IRIS programme*. Farnham: Stopgap Dance Company with
248 the University of Bedfordshire.
249 Aujla, I. J. 2019. *Accessing pathways to training for young disabled dancers*. London: Imperial
250 Society of Teachers of Dancing with the University of Bedfordshire.
251 Charnley, E. 2011. "Towards a new vision of dance." *Animated*: 25–27.
252 Chatfield, S. J. 2009. "A test for evaluating proficiency in dance." *Journal of Dance Medicine*
253 *& Science* 13 (4): 108–114.
254 Koo, T.K., and M.Y. Li. 2016. "A guideline of selecting and reporting intraclass correlation
255 coefficients for reliability research." *Journal of Chiropractic Medicine* 15 (2): 155-163.
256 Krasnow, D., and S. J. Chatfield. 2009. "Development of the "performance competence
257 evaluation measure: assessing qualitative aspects of dance performance." *Journal of*
258 *Dance Medicine & Science* 13 (4): 101–107.
259 Needham-Beck, S. (2017). *Cardiorespiratory fitness in contemporary dance training*
260 *and performance.* (Doctoral dissertation). London: Trinity Laban
261 Conservatoire of Music and Dance.

262 Twitchett, E. A., M. Angioi, Y. Koutedakis, and M. Wyon. 2011. “Do increases in selected
263 fitness parameters affect the aesthetic aspects of classical ballet performance?” *Medical*
264 *Problems of Performing Artists* 26 (1): 35–38.
265 Urmston, E., and I. J. Aujla. 2018. *Developing potential amongst young disabled dancers*.
266 Farnham: Stopgap Dance Company with the University of Bedfordshire.
267 Verrent, J. 2003. *Disability and the dance and drama awards report*. Sheffield, UK:
268 Department for Education and Skills
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Table 1. Scoring guidelines and data sheet.

Scoring guidelines					
General Descriptions: **Control of movement** – The ability to purposefully and accurately place the body in the desired positioning and orientation. Movement is precise and controlled. Effective weight transference through hands or feet is achieved. **Coordination** - Movement is executed in fluid sequences. There is an awareness of centre and effective use of core muscles. Able to coordinate different elements of movement at the same time. **Spatial awareness** - Ability to shift through space in a controlled manner and can maintain required pathway. Awareness of own body and other dancers in the space. **Surface or partner work** - The ability to sense and respond to a partner, working together and sharing focus. They are able to share weight and soften into a surface. Able to remain engaged whist waiting for own turn to move. **Timing & rhythm** - Dancing and responding to musical cues and rhythms. Able to change tempo of movement and synchronise timing with other members of the group. **Focus & approach** – Shows determination, focus, concentration, and perseverance in the session. Interacts well with others. Is able to use feedback.					
Ratings: **1-3** = little or no ability to perform elements as required; **4-6** = some elements performed appropriately; **7-9** = elements performed appropriately for about 80% of the time; **10** = elements performed appropriately during the whole exercise					
PRINCIPLE		**1-3 Little/ no**	**4-6 Some**	**7-9 Most (80%)**	**10 All**
Exercise 1 – Articulation		Did not participate ☐			
Control of movement	• Precise and controlled placement of hands or feet • Controlled long limbs • Effective transference of weight in lunges				
Coordination	• Fluid control of chair throughout exercise • Awareness of centre when shifting in space				

	• Coordinating different elements of movement at the same time				
Timing & Rhythm	• Dancing in time with the music • Achieving movement on musical cues				
Exercise 2 – Travelling		Did not participate ☐			
Control of Movement	• Efficient and controlled stopping • Controlled movement when moving slowly • Efficient use of energy when moving quickly				
Coordination	• Awareness of centre when shifting through space • Fluid sequencing of movement across the space • Multiple parts of body moving simultaneously				
Spatial Awareness	• Travelling through space without colliding into other dancers • Can maintain required trajectory • Awareness of own body in space • Able to wait and take turns				
Timing & Rhythm	• Able to change tempo of travelling • Synchronising starting with other dancers				
Exercise 3 – Surface and partner work		Did not participate ☐			
Control of Movement	• Precise placement of hands and feet into a surface or onto a partner • Controlled weight transference and softening into a surface or partner				

Spatial Awareness	• Awareness of where own body is in relation to partner's • Able to keep engaged while waiting for own turn to move • Able to work with a partner				
Surface or Partner work	• Sensing and responding to partner's movement • Sharing weight in a lean • Softening weight into the surface or partner • Providing strong stable base • Sharing focus when dancing with a partner				
Throughout					
Focus & Approach	• Shows determination, focus, concentration and perseverance • Interacts well with others • Able to use feedback				

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273 **Table 2. Inter-rater reliability statistics**

Rater	Trails 1-4				Trials 2-4			
	ICC	**P value**	**95% CI lower**	**95% CI upper**	**ICC**	**P value**	**95% CI lower**	**95% CI upper**
1	0.807	0.000	0.381	0.641	0.753	0.000	0.618	0.846
2	0.682	0.000	0.527	0.796	0.708	0.000	0.552	0.826
3	0.837	0.000	0.757	0.895	0.834	0.000	0.746	0.896
4	0.879	0.000	0.820	0.922	0.808	0.000	0.705	0.879

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276 **Table 3. Test-retest reliability statistics**

Criteria	Trails 1-4				Trials 2-4			
	ICC	**P value**	**95% CI lower**	**95% CI upper**	**ICC**	**P value**	**95% CI lower**	**95% CI upper**
Exercise 1: Control of Movement	0.788	0.000	0.605	0.899	0.813	0.000	0.617	0.922
Exercise 1: Coordination	0.707	0.000	0.453	0.860	0.742	0.000	0.471	0.893
Exercise 1: Timing & Rhythm	0.564	0.004	0.187	0.792	0.738	0.000	0.463	0.891
Exercise 2: Control of Movement	0.764	0.0000	0.560	0.887	0.832	0.00	0.655	0.930
Exercise 2: Coordination	0.776	0.000	0.582	0.893	0.825	0.000	0.642	0.927
Exercise 2: Spatial Awareness	0.714	0.000	0.466	0.863	0.783	0.000	0.554	0.910
Exercise 2: Timing & Rhythm	0.733	0.000	0.503	0.872	0.758	0.000	0.503	0.899
Exercise 3: Control of Movement	0.824	0.000	0.632	0.929	0.795	0.000	0.506	0.934
Exercise 3: Spatial Awareness	0.862	0.000	0.710	0.944	0.875	0.000	0.699	0.960
Exercise 3: Surface or Partner Work	0.801	0.000	0.583	0.920	0.802	0.000	0.523	0.936
Throughout: Focus & Approach	0.741	0.000	0.504	0.881	0.831	0.000	0.639	0.934

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