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Drama-based intervention to support social inclusion: evaluation of an approach to include students with ADHD in Algeria

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ABSTRACT

This paper explores the impact of a drama-based intervention on the social inclusion of middle school learners including some with ADHD in Algeria. The intervention included drama-based activities and was delivered over a period of six weeks (24 sessions). One second-year middle school classroom ($n = 29$), including students with ADHD ($n = 3$), was recruited for the study. A mixed-methods, explanatory sequential design was adopted: Social Inclusion Survey data were collected before and after the intervention; and qualitative data were collected using semi-structured interviews and focus groups two weeks after the intervention. The findings suggest an increase in the acceptance levels (and a decrease in the rejection levels) of students with ADHD in line with the group as a whole. Furthermore, the findings suggest a positive drama influence on the students' social interactions, friendships, and sense of belonging. The findings highlight the need for schools to promote the social inclusion of all the students through embracing creative teaching strategies and recognising the importance of social development in inclusive settings.

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Introduction and literature review

Regardless of the emerging literature and growing policy and legislation, defining the concept of inclusion is not an easy task. The conceptualisation of inclusion as well as inclusive practices differs across and between different settings and countries (Hernández-Torrano et al., 2020, Mitchell, 2005). For instance, Norwich (2014) argues that the key themes of inclusive education include: accepting and valuing all; not leaving anyone out; enhancing equal opportunity; and active participation in school life (Norwich, 2014). Inclusive education aims to “provide a principled and systematic approach to identifying and dismantling barriers for vulnerable populations” (Slee, 2020, p. 6). As such, inclusion aims to maximise the educational experience of all students, including students with special educational needs (SEN), such as students

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with Attention Deficit Hyperactivity Disorder (ADHD). Research on ADHD in schools suggested a link between ADHD and poor grades, poor reading and writing skills, and exclusion from school (Loe & Feldman, 2007).

The relationship between ADHD and lower academic competence has been addressed in different studies (Molitor et al., 2016, Fleming et al., 2017, Arnold et al., 2020). In addition to academic difficulties, children with ADHD were reported as having social and emotional difficulties (Staikova et al., 2013; Wehmeier et al., 2010; Özbaran et al. 2018). Even though extensive research has addressed the social inclusion/social participation of students with SEN (for example, Vyrastekova and Kovanovic, 2021, Avramidis et al., 2022), less attention has been paid to developing and/or evaluating social inclusion strategies and practices for those students.

As Slee et al. (2019) suggest, inclusion has two key components: the first is related to the need to provide a comprehensive understanding of the impact of exclusion; and the second component relates to the need to design strategies to mitigate exclusion practices in society and school. As such, the current study aims to explore the impact of a drama-based intervention on the social inclusion of students with ADHD in Algeria. Firstly, the paper reviews research related to social inclusion, ADHD in Algeria, and social difficulties of students with ADHD. The paper then provides an overview of the drama-based intervention under investigation, before describing how this was evaluated. Following the presentation of the findings, the paper provides a rationale for the potential of these approaches in supporting social inclusion in the classroom.

The social inclusion of students with SEN

The academic literature on inclusion in education has revealed the emergence of several discussions around “dimensions of inclusion”, comprising physical, academic (Kart & Kart, 2021), social (Avramidis et al., 2017, Hymel & Katz, 2019), and psychological dimensions (Braun, 2019). These bring to the fore the importance of addressing inclusion based on different domains to contribute to an understanding and implementation of inclusion strategies. Moreover, these dimensions highlight the core values of inclusion which should go “beyond merely counting students to evaluate success, but should include measures of educational quality, outcomes, and experiences” (Schuelka, 2018, p. 2).

From a social developmental perspective, inclusion refers to more than the physical placement of students with SEN (Juvonen et al., 2019, King & Ryan, 2019). The term social inclusion has been “derided as a pleonasm” in literature as the term implies that inclusion in education should incorporate a social dimension (Colum and McIntyre, 2019, p. 23). However, the term “social participation” is usually used in literature to capture the social aspect of inclusion (Avramidis et al., 2018, Avramidis et al., 2022). Proponents of the social perspective refer to reciprocal friendships, the frequency of interactions between students, acceptance of students with SEN by their non-SEN peers, and the social status of students with SEN in inclusive classrooms in defining social inclusion (Vyrastekova and Kovanovic, 2021).

It is proposed that the main objective of social inclusion is ameliorating the social participation of students with SEN, who are more often segregated (Schwab et al., 2014). In order to measure the social inclusion of students with SEN, researchers tend to use different sociometric techniques, such as the peer nomination method, the peer rating method, and the social cognitive mapping method (see Avramidis et al., 2017). The

importance of social inclusion is evident in the detrimental impacts of peer rejection, peer victimisation, and other social challenges that students with SEN experience in the classroom (Juvonen et al., 2019).

A number of interventions were developed to foster the social participation of students with SEN, such as MOSAIC (Mikami et al. 2019), character strength intervention (Vuorinen et al., 2019), and FRIEND-SHIP (see Hassani et al., 2020). Most of these interventions were developed for primary school children. In a similar vein, one well-known intervention, Circle of Friends (Newton, Taylor, & Wilson, 1996), focusses on developing support networks for individuals in schools. Nevertheless, this intervention is mainly used with younger students, and, to date, less evidence is available with regards to its impact on the students' social development (Hassani et al., 2022). Therefore, the current study seeks to contribute to research on the inclusion of students with SEN by providing an evaluation of a drama-based intervention to promote the social inclusion of students with ADHD.

Social difficulties of children with ADHD

ADHD is a relatively frequently identified special educational need/disability in many Western countries. For example, ADHD is considered one of the most frequently diagnosed and controversial disorders in North America (Visser et al., 2013, Magnus et al., 2021). The notion of ADHD has been highlighted through different standpoints (Bowden, 2014) with the medical orientation perceiving ADHD as a bio-medical condition in which psychological and sociological factors are of less importance (Cooper, 1997). From a medical perspective, ADHD is primarily defined by sustained inattention, over-activity, and impulsiveness (Nixon & Richardson, 2004, Barkley, 2006). This perspective is rejected, in part or in full, by the social orientation model which advocates that ADHD is a social and cultural construct (Bowden, 2014). Therefore, the medical and the social perspectives are often highlighted in the literature as oppositional standpoints (Bowden, 2014). As a result, a conciliatory position has emerged to affirm that the medical and the social models of understanding ADHD have some similarities or structure, but “are also not mutually exclusive” (Bowden, 2014, p. 425). The lack of strong arguments regarding the aetiology of ADHD has led some researchers to advocate a holistic bio-psychosocial approach, also called the integrated model, to contextualise the notion of ADHD (Cooper, 2008, Colley, 2010, Richards, 2012, Bowden, 2014). A bio-psychosocial approach, which the current study adopts, contends that the concept of ADHD evolves from theoretical perspectives of medical, psychological, and sociological strands and a “multi-disciplinary approach” can be used to treat it (Cooper, 2008).

Students with ADHD and other social-emotional and/or behavioural difficulties (SEBD) are described in literature as less accepted, and experiencing significant social difficulties compared to their typically developing (TD) peers (Hassani et al., 2022). Literature demonstrates that these social difficulties are due to the impaired social and emotional functioning in children with ADHD (Staikova et al., 2013, Wehmeier et al., 2010, Özbaran et al., 2018). Pre-school children with the condition were found to be “less socially skilled” and have more “negative social behaviour” (DuPaul et al., 2001, p. 513). A study conducted by Aduen et al. (2018) suggests that students with ADHD display social performance deficits on several specific behaviours involving “attention to peer directives, emotion regulation,

and social reciprocity” (p. 440). Regardless of their social performance difficulties, children with ADHD are approximately four times more likely to be rejected by their TD peers (Hoza et al., 2005).

Research also suggests that students with ADHD are considered as “less popular” in the classroom and have poor relationships with their peers (See Mikami & Normand, 2015). Further, teachers were reported to experience less emotional closeness and more conflicts with their students with ADHD (Ewe, 2019). Therefore, it could be argued that social difficulties that students with ADHD experience could be due to two factors: (i) the social performance difficulties of the students (internal or individual difficulties); (ii) the social rejection/exclusion that the students experience (external or societal difficulties).

ADHD in the context of the study, Algeria

Algeria is the largest country in Africa and the Arab world and is located in the Northern part of Africa. It covers an area of 2.4 million km² with a population of 43.9 million (CIA [Central Intelligence Agency], 2021), and is a gateway between Africa and Europe. Much uncertainty still exists about disability prevalence and inclusion practices in Algeria. It is assumed that disability and inclusion studies are based on Western-based assumptions which can lead to the misrecognition of disability voices in other parts of the world (Meyers, 2018). It has previously been suggested that disability studies in the Middle East and North Africa (MENA) region are characterised by a dearth of information (Benomir et al., 2016, Rohwerder, 2018). In Algeria, the available evidence suggests a 5.5% disability prevalence in the population (Humanity and Inclusion, 2016). Nevertheless, much literature suggests that disability is underreported in the country (Humanity and Inclusion [Handicap International], 2016, Rohwerder, 2018). Algeria is considered one of the first countries that ratified the convention on the rights of people with disabilities in 2009 (Rohwerder, 2018), yet there is a massive backlog regarding the facilities provided to children with disability in education with most children with special needs attending special education schools. Bessai (2018) claims that, “there is a lack of mechanisms for their inclusion in the Algerian educational system” (p. 371).

In Algeria, ADHD is considered an under-diagnosed disorder (Merkouche, 2011, Hammadi, 2010), and literature on ADHD in the country is limited (Alkhatib & Alhadidi, 2016). Hammadi (2010), psychologist and member of the THADA Association (from the French “troubles de déficit de l’attention et de l’hyperactivité en Algérie”), delivered a presentation on attention deficit disorder with or without hyperactivity. This claimed that the disorder affects between 4 to 12% of the school population, and appears at an early age, around three or four years (Hammadi, 2010). Educators refer to ADHD as a learning delay, a mild educational disability and/or a behavioural disorder (Hammadi, 2010). Thus, the present study attempts to address the issues relevant to young people with ADHD, including in Algeria.

The current research and research questions

Literature in the field signals a paucity and sometimes conflicting picture of evidence regarding inclusion practices for students with ADHD. Further, the challenge in inclusive education has been linked to the gap between inclusion ideals and inclusion actions

(Haug, 2016). As a result, the focus has shifted towards a more practical vision of inclusion, that is, how inclusion can be implemented and how teachers can best cope with diverse classrooms (see European Agency for Special Needs and Inclusive Education, 2014), which implies a need to explore inclusion practices in different settings. One strategy that showed evidence of potential effect when used as an educational approach is drama (Beadle-Brown et al., 2017). While research evidence suggests the effective role which drama plays in education generally, and particularly when used as a social intervention, the literature has not to date investigated the use of drama with children with ADHD. Accordingly, this study aimed to design and evaluate the social impact of drama-based intervention on students with ADHD, and investigate the experiences of the participants of the intervention. Based on this, the following research questions were formulated:

- (1) What are the impacts of the drama-based intervention on the social inclusion of students with ADHD in Algeria?
- (2) What are the participants' experiences of the intervention?

The drama-based intervention

Interventions for students with ADHD have primarily focused on altering the individual's behaviour through cognitive and affective processes (Da Camara et al., 2018) but failed in reducing the students' academic and social difficulties (Daffner et al., 2020). Given the need to develop more inclusion practices with the aim of promoting the social inclusion of students with ADHD, this study suggests that there is a potential in exploring the social impacts of drama intervention. This focus is based on the fact that, through drama being "a collaborative and not competitive methodology", the fear of rejection and failure can be negated' (Roy and Dock, 2014, p. 30). In addition, research evidence suggests that students with the ADHD label thrive with more space for physical activity and playful learning (Song et al., 2016, Meerman et al., 2017).

Drama in education refers to the process of teaching and learning through drama. The term implies "a method which engages students in different subject areas in different topics through drama" (Tschurtschenthaler, 2013, p. 22). According to Dawson and Lee (2018) drama "uses active and dramatic approaches to engage students in academic, affective, and aesthetic learning through dialogic meaning making in all areas of the curriculum" (p.17). Literature evidence further associates drama with the psychological dimension of inclusion. It is argued that drama can play an important role in supporting emotional development (Gul & Caglayan, 2017) and self-confidence (Asimidou et al., 2021). Drama is also considered an effective tool that enables students to express thoughts and emotions (Isyar & Akay, 2017). The social and psychological mechanisms that underpin drama suggest that, if well-designed and well-delivered, it can enhance the social skills of all the students.

To serve the aim of the study, a drama-based intervention for grade 2 English as foreign language (EFL) students (middle school) was designed. The intervention was considered part of ongoing teaching pedagogy and not just a research intervention. It combined a number of drama techniques and language games, such as icebreakers, brain-teasers, role play, improvisation, simulation, mime, skits, frozen image building, scriptwriting, and reader's theatre. The intervention sessions were structured according to the national

curriculum and syllabus. In terms of timing, the intervention comprised twenty-four sessions delivered over a period of six weeks (three main sessions and one tutorial session per week).

Each one-hour drama session began and ended with a discussion of the learning/social objectives. All the sessions were led by the class teacher and were open-ended, allowing the teacher to lead the direction of the activities according to the students' needs. A PDP framework (pre, during, post) was used in each session ([Appendix A](#)). The sessions were planned based on a play, poem, or story and incorporated peer/group and individual activities. The drama activities were built around culture-based values and themes, and all the sessions had social objectives. The social objectives included collaboration and social interactions, diversity awareness, understanding and accepting others, peers' friendships, and promoting social and emotional skills. The participants were asked to reflect on these skills through self-evaluation and peer feedback. In addition, the students were asked to use these skills outside the classroom to embed what had been learned. The drama activities were based on the social and psychological mechanisms that underpin drama (for example, focus on self-expression, developing sense of belonging, agency, and confidence in social skills).

Before implementing the intervention, teachers were invited to attend two-whole day drama workshops. The two-day workshop was facilitated by a drama practitioner. The workshop was designed to prepare teachers to deliver the intervention and provide them with the necessary guidelines, lesson plans, and drama materials. The workshop sought to boost the teachers' self-esteem and self-confidence in the use of drama techniques. Furthermore, it was deemed fundamental to introduce the student participants to drama practices before the intervention. As such, all the students were invited to attend two familiarisation sessions. The sessions aimed to familiarise the students with drama conventions, terms, and skills. Moreover, the sessions sought to increase the students' confidence in practising drama. The sessions were led by the EFL teachers in the presence of the drama practitioner. Therefore, the sessions gave all the participants (teacher and students) the opportunity to practise drama in a friendly and non-threatening environment.

Materials and methods

Design

A mixed-methods explanatory sequential design (Creswell & Plano Clark, [2018](#)), within a critical realist framework, was adopted to fully examine the impact of drama-based intervention using the most appropriate quantitative and qualitative data collection tools. The role of the quantitative methods within the study was descriptive and aimed to answer, "what works?" type of questions from a particular point of view (social inclusion). The qualitative methods in the study were more targeted and aimed to answer, "what matters?" type of questions from the point of view of the participants (see McLinden et al., [2023](#)). This design entailed the collection and analysis of quantitative data (using quantitative tools) and "using the results to inform the follow-up qualitative data collection" (Creswell & Plano Clark, [2018](#), p. 190). The quantitative data collected and analysed the impact of the intervention. The qualitative data collected and analysed, on the other

hand, offered an explanation of the statistical findings by an in-depth exploration of the experiences of the participants. While the quantitative data were collected using the Social Inclusion Survey (SIS) before and after the intervention, the qualitative data were collected using semi-structured interviews and focus group discussions at the second phase of the study with the participants (teachers and students).

Participants

The intervention study involved a grade 2 middle school (equivalent to year 7 in the UK educational system) class (age 10–13), for a total of 29 students (females $n = 17$, males $n = 12$). Out of this group, three students (all males) were diagnosed with ADHD. Two of these participants experienced grade retention at least once in their course of study. Those participants were diagnosed with ADHD six months to five years before the start of the intervention. The participants showed a high level of ADHD symptoms based on their teachers' and parents' reports. The participants were reported in the school to have social and behavioural difficulties.

The original intention was to include a comparison group of a class that did not receive the drama-based intervention but experienced typical English as foreign language (EFL) classes and would receive the intervention at a later time. The COVID-19 pandemic meant that this could not take place, and only baseline data could be collected from this comparison group before lockdown was implemented in Algeria in 2020. While the data collected from the comparison group were limited, they offered a useful opportunity to check whether the intervention group was typical – the pre-intervention scores between the intervention and the comparison groups were similar (no statistically significant difference). This comparison group included 30 students (females $n = 18$, males $n = 12$). Out of this group, three students (all males) were diagnosed with ADHD.

In addition to the students, two EFL teachers were involved in delivering the intervention. The school was purposively selected based on its inclusion process and the prevalence of students with ADHD in the school. Participants with ADHD were identified based on a formal diagnosis.

Measures

The Social Inclusion Survey (SIS)

Sociometric techniques are usually used to measure the social inclusion of students with SEN (Avramidis et al., 2017). For instance, measuring peer acceptance/rejection is one of the most well-known sociometric techniques (Frederickson & Furnham, 1998, Kemp & Carter, 2002, Doll et al., 2003). The Social Inclusion Survey (SIS; Frederickson & Graham, 1999) is a sociometric assessment tool that has been widely used by researchers of social inclusion (for example, Symes & Humphrey, 2010, Jones & Frederickson, 2010). The survey includes two questionnaires. The first questionnaire is called "Like to Work" (LITOW) and the second one is called "Like to play" (LITOP). In this study, each questionnaire included a list of the students of the classroom in alphabetical order as it appears in the class register presented by the administration.

Besides each name of the pupils, four emoticons were provided. The first one presented a confused face emoji which indicates that the participant does not know that

student well enough to decide whether or not s/he likes to play/work with him/her. The second presented a smiling content face emoji which means that the participant likes to play/work with that particular student. The third included a neutral face emoji which stands for the fact that the participant does not mind to play/work with those students or not. The last one presented a sad face emoji that means that the participant does not like to play/work with that student. The participants were asked to tick the emoji face which stands for the extent to which they were willing to associate (like to play/work) with each student in the list. As such, the SIS aimed to measure the students' acceptance and rejection levels with regards to "play" and "work". The participants were asked to complete the survey before and after the intervention.

Focus group discussions

Focus group discussion is an instrument where the researcher gathers a small group of individuals (generally 6 to 10 persons) to discuss a particular topic (Babour, 2008). It aims to draw from the experiences, beliefs, perceptions, and attitudes of individuals through a "moderated interaction" (Nyumba et al., 2018). Focus groups, in this study, aimed to explore the student participants' experiences and perspectives regarding the impact of the intervention on their social inclusion. Participants from the intervention were divided into small groups of six students. Focus groups' data were audio-recorded and then transcribed. The first phase of the study helped the researcher to build rapport and engage in discussion with the student participants. During the follow-up phase, seven focus groups were conducted. While five focus groups were devoted for the TD peers, two focus groups aimed to expand the discussion with students with ADHD. Throughout the discussions, a moderator/facilitator role was adopted by the researcher to promote group interactions (Parker & Titter, 2007). Each focus group discussion started with a warm-up drama activity. In order to encourage participation, pictures of the participants taken during the intervention were pinned on the board and questions such as "Student x- You were engaged in that session ... Can you tell us about your experience during the session?" were asked. The focus groups data were analysed following Braun and Clarke's (2006, 2021) reflexive thematic analysis.

Semi-structured interviews

Teachers' perceptions and views regarding the impacts of the implemented intervention on their students and on their relationship with their ADHD students were explored using semi-structured interviews. It is considered that semi-structured interviews gained momentum in the field of social science research because they offer a flexibility of data collection (Kallio et al., 2016) permitting the researcher to improvise follow-up questions based on the answers of the interviewee (Rubin & Rubin, 2005). Two interviews were conducted with two different teachers (intervention providers) at the second phase of the study. The interviews data were analysed following Braun and Clarke's (2006, 2021) reflexive thematic analysis.

Procedure

This study obtained an ethical approval from the University of Birmingham's ethics committee and a research approval from the Algerian Ministry of Higher Education

Table 1. The SIS domains and explanation of scores.

SIS Domain	Description
<i>Like to Play (LITOP) Acceptance</i>	Higher score implies greater social inclusion
<i>Like to Play (LITOP) Rejection</i>	Lower score implies greater social inclusion;
<i>Like to Work (LITOW) Acceptance</i>	Higher score implies greater social inclusion
<i>Like to Work (LITOW) Rejection</i>	Lower score implies greater social inclusion

in 2019. Following that, invitation letters were sent to different schools. After obtaining the school’s consent, the researcher approached the students, their parents, and the teachers with invitation letters, information sheets, and consent forms. Preceding that, teachers were invited to drama workshops, and students were invited to familiarisation sessions. Once all consent forms were returned, the student participants were asked to complete the SIS. Next, the intervention was delivered by the teacher in the intervention group. An external examiner attended 30% of randomly selected sessions to evaluate the intervention’s fidelity. After the intervention, all the students were asked to complete the SIS. Two weeks after the intervention, the students were invited to focus group discussions, and the teachers were invited to interviews.

Data analysis

The SIS data were analysed using IBM SPSS 27. To outline the social inclusion outcomes of the intervention, a series of within-group and between-group comparisons at the levels of social acceptance and social rejection were conducted. It is worth highlighting that for each group there was a pre-and post- score for the four domains of the SIS (Table 1).

The focus groups and interview data were analysed following Braun and Clarke’s (2006, 2021) reflexive thematic analysis (RTA). RTA acknowledges the active role of the researcher in the production of knowledge (Braun & Clarke, 2019). In their recent work, Braun and Clarke (2021, 2022) outline that RTA is based on the intersection of the dataset, the theoretical assumptions, and the analytical skills of the researcher (Byrne, 2022). As a result, it is important to report the philosophical assumptions upon which this study stands. This study adopted a critical realist perspective that is based upon three main principles: the transitive world of knowing is different from the intransitive world of being; the social world is considered systemically open; and the knower needs to consider the ontological depth of reality (Scott 2010). Braun and Clarke’s (2012, 2014, 2021) six-phase process was followed in analysing the data. The themes generated from the interviews and the focus groups are presented in the results section.

Results

Social inclusion

The two-way repeated-measures ANOVAs were performed to evaluate the efficacy of the drama-based intervention in increasing the social acceptance and reducing the social rejection of a group of students including some with ADHD. The findings revealed a broadly positive influence of the intervention on the social acceptance and social

rejection for both groups (ADHD and TD). A comparison between the pre-intervention means and the post-intervention means showed a rise in acceptance levels and a fall in rejection levels for both groups.

LITOP social acceptance (play)

The descriptive statistics (Table 2) indicate a general lower level of social acceptance for students with ADHD in the LITOP (acceptance) domain, and a slight increase in the social acceptance of all the participants following the intervention. Nevertheless, the repeated measures ANOVA found neither of these to be significant. The between-subjects effects were found to be non-significant. In summary, it can be concluded that the LITOP social acceptance was not affected (positively or negatively) by the drama-based intervention.

LITOP social rejection (play)

The descriptive statistics (Table 3) indicate a general lower level of social acceptance for students with ADHD in the LITOP (rejection) domain, and a decrease in the social rejection of all the participants following the intervention. The repeated measures ANOVA found both of these effects to be statistically significant. Furthermore, the interaction of these variables was also found to be significant (albeit at a less significant level of $p = .05$). Inspection of the means suggests that this is caused by the decrease in social rejection following intervention being greater for the ADHD group than the TD group. In summary, it can be concluded that the LITOP social rejection was reduced by the drama-based intervention for all groups, and this might have been particularly so for the ADHD group

Table 2. Descriptive statistics and ANOVA findings of LITOP social acceptance.

Descriptive Statistics				
	SEN Grp	Mean	SD	
Pre-test LITOP Acceptance	ADHD	0.40	0.40	
	Non-ADHD	0.47	0.10	
Post-test LITOP Acceptance	ADHD	0.42	0.23	
	Non-ADHD	0.49	0.08	
Repeated Measure ANOVA				
Source		F (1,27)	Sig (p)	Partial Eta Squared (η^2)
Main effect (within-subject)	Acceptance	3.16	.087	.105
Main effect (between-subjects)	SEN group	1.78	.193	.062
Interaction effect	LITOP Acceptance*SEN group	0.007	.963	.000

Table 3. Descriptive statistics and ANOVA findings of LITOP social rejection.

Descriptive Statistics				
	SEN Grp	Mean	SD	
Pre-test LITOP Rejection	ADHD	0.57	0.51	
	Non-ADHD	0.42	0.90	
Post-test LITOP Rejection	ADHD	0.32	0.02	
	Non-ADHD	0.29	0.03	
Repeated Measure ANOVA				
Source		F (1,27)	Sig (p)	Partial Eta Squared (η^2)
Main effect (within-subject)	Rejection	39.94	<.005	.519
Main effect (between-subjects)	SEN group	12.17	<.005	.311
Interaction effect	LITOP Rejection*SEN group	4.20	.050	.135

Table 4. Descriptive statistics and ANOVA findings of LITOW social acceptance.

Descriptive Statistics				
	SEN Grp	Mean	SD	
Pre-test LITOW Acceptance	ADHD	0.20	0.03	
	Non-ADHD	0.47	0.05	
Post-test LITOW Acceptance	ADHD	0.51	0.03	
	Non-ADHD	0.56	0.06	
Repeated Measure ANOVA				
Source		F (1,27)	Sig (p)	Partial Eta Squared (np 2)
Main effect (within-subject)	Acceptance	87.37	<.005	.764
Main effect (between-subjects)	SEN group	28.52	<.005	.514
Interaction effect	LITOW Acceptance*SEN group	25.11	<.005	.482

(although there must be caution about this more specific interaction effect given the low numbers).

LITOW social acceptance (work)

The descriptive statistics (Table 4) indicate a general lower level of social acceptance for students with ADHD in the LITOW (acceptance) domain, and an increase in the LITOW acceptance of all the participants following the intervention. The repeated measures ANOVA found both of these effects to be statistically significant. Furthermore, the interaction of these variables was also found to be significant ($p < .001$). Inspection of the means suggests that this is caused by the increase in social acceptance in the LITOW domain following intervention being greater for the ADHD group than the TD group. In summary, it can be concluded that the LITOW social acceptance was improved by the drama-based intervention for all groups, and this might have been particularly so for the ADHD group (although there must be caution about this more specific interaction effect given the low numbers).

LITOW social rejection (work)

The descriptive statistics (Table 5) indicate a general higher level of social rejection for students with ADHD in the LITOW (rejection) domain, and a decrease in the LITOW rejection of all the participants following the intervention. The repeated measures ANOVA found both of these effects to be statistically significant ($p < .001$). Furthermore, the interaction of these variables was also found to be significant. Inspection of the means

Table 5. Descriptive statistics and ANOVA findings of LITOW social rejection.

Descriptive Statistics				
	SEN Grp	Mean	SD	
Pre-test LITOW Rejection	ADHD	0.79	0.04	
	Non-ADHD	0.19	0.07	
Post-test LITOW Rejection	ADHD	0.34	0.03	
	Non-ADHD	0.14	0.04	
Repeated Measure ANOVA				
Source		F (1,27)	Sig (p)	Partial Eta Squared (np 2)
Main effect (within-subject)	Rejection	188.90	<.005	.875
Main effect (between-subjects)	SEN group	147.26	<.005	.845
Interaction effect	LITOW Rejection*SEN group	123.93	<.005	.821

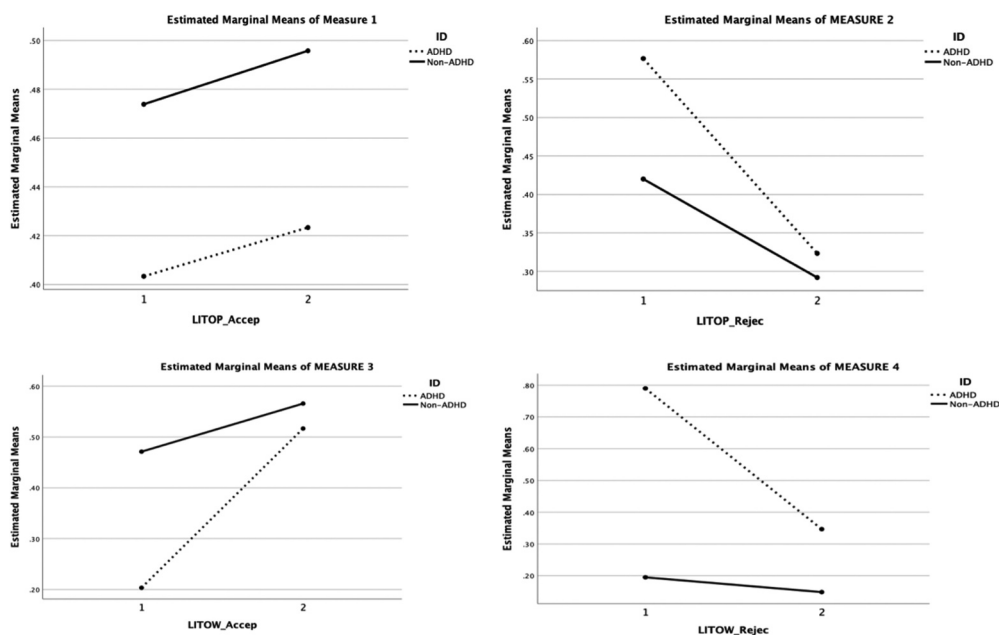


Figure 1. Means plots illustrating the SIS pre-test \times post-test interactions.

suggests that this is caused by a decrease in social rejection in the LITOW domain following intervention being greater for the ADHD group than the TD group. In summary, it can be concluded that the LITOW social rejection was decreased by the drama-based intervention for all groups, and this might have been particularly so for the ADHD group (although there must be caution about this more specific interaction effect given the low numbers).

Overall, the intervention appeared to have a positive impact on the social inclusion for both student groups. While the small sample size makes it more difficult to discern with confidence, there is an indication that the intervention was especially positive for the social inclusion of the ADHD group (Figure 1).

The participants' experiences

The participants' experiences of the intervention were crucial to move the intervention's evaluation from "what works" towards a deeper understanding of the participants' subjective views. Four main themes emerged from the analysis of the participants' discussions and experiences. These themes will be further elaborated upon in what follows.

The students' social interactions

The interviewed teachers reported that the intervention influenced their students' social skills and interactions in the class. The teachers considered that students with ADHD, alongside their TD peers, demonstrated good participation and capacity to cope with the inclusive classroom community. Teachers emphasised the role of the intervention in

boosting reciprocal social interactions in the classroom. As one of the teachers put it, *"drama increased the social interactions in the class and reduced classroom conflicts between students with ADHD and their peers"* (Teacher 1, I01). Teachers reported that it was very rare to observe aggressive reactions, rejection behaviours, and/or peer bullying in the classroom during the intervention, *"only once or twice a fight broke between students with ADHD and their peers, and students with ADHD were not rejected in group activities"* (Teacher 1, I01). The focus on fostering social skills during the intervention, according to the interviewees, helped in fostering relationships with peers and teachers and increased the students' empathy towards each other. The social skills were vital in increasing acceptance among the students, *"most of the students displayed positive social and cooperative behaviours. Also, the TD peers did not refuse to work with children with ADHD ... drama activities kept them busy and they weren't focusing on their individual differences"* (Teacher 2, I02).

While the teacher participants focused on the role of drama in enhancing the inter-student interactions, the student participants emphasised that drama increased their student-teacher interactions. It was apparent from the students' accounts that factors such as humour, care, and empathy played a major role in fostering the student-teacher relationship. In outlining this, one of the students argued *"before the intervention, the teacher looked a very serious person but during the intervention, we realised that she is kind and has a sense of humour"* (non-ADHD learner, FG5). This finding suggests that drama brought laughter to the classroom and, therefore, boosted the students' social interactions. Similarly, participants with ADHD proclaimed that drama positively influenced their relationship with their teacher.

To be honest, I was feeling that the teacher doesn't like me ... I don't know why but I had an inferiority feeling because she never asked me to participate ... but she's actually cool. She took part in the play and because of my role I felt very close to her ... She was very kind. (learner with ADHD, FG6)

Social acceptance and awareness

The interviewed teachers described how drama increased the students' awareness of diversity and acceptance of others. The participants spoke extensively about how the core themes of the intervention had the potential to influence the students' *"attitudes towards their ADHD peers"* (Teacher 1, I02). The drama activities exposed all the students to themes of rejection, inequality, and difference which allowed them to develop an awareness of diversity in their own context. Such conversations are usually avoided in schools (Samuels, 2018); thus, the intervention allowed the students not only to explore these topics, but to experience them in drama in context. The teachers reported that this allowed the students to become more knowledgeable about their social community; thereby encouraged considering the importance of diversity in the classroom.

In a similar vein, the non-ADHD students spoke about how drama helped them to positively view individual differences through engaging in constructive collaborative learning. As one of the students put it, *"it is just like the characters in the play ... We are different ... We can't take the same role because it will be boring and make no sense"* (non-ADHD learner, FG1). The students embraced diversity and demonstrated an understanding of individual uniqueness. Many students reported

that they were happy to work with other peers. For instance, one of the participants reported: *"I don't mind working with [learner with ADHD] ... Well, he is a very slow learner, but we can help each other ... I'm bad at maths too"* (non-ADHD learner, FG4). This showed the student's open-mindedness and acceptance not only of others' differences, but also of their own individual differences and difficulties. Extending beyond others' acceptance, participants with ADHD argued that drama inspired them to maintain individual uniqueness and to accept their individual difficulties.

It was a great experience ... I'm not afraid of sharing my views and participating anymore. It is OK to make mistakes but at the end of the day, I will learn something ... I have good performing abilities and I loved the role of the soldier. This role in particular made me realise that even with ADHD I can do helpful things. (Learner with ADHD, FG6)

The intervention provided an opportunity for the students to understand and accept their differences, which influenced their self-confidence and self-esteem. The participants highlighted that acceptance from others during the intervention increased their self-worth because they felt valued within their community.

Friendships and sense of belonging

Reflecting on their experiences of the intervention, the students highlighted the impact of drama on their friendships and sense of belonging. Many students focused on the idea of friendlessness either inside or outside the classroom. Those students argued that they struggled to establish friendships with their classmates for many reasons (mainly SEN, being overweight, behavioural difficulties, lack of social skills). According to the same participants, the intervention increased their interactions and friendship opportunities. As one student stated: *"some of the activities in the programme gave me the opportunity to work with other classmates such as [student x]. We have many things in common and we became friends"* (non-ADHD learner, FG 5). Hence, facilitating group activities and encouraging teamwork was crucial in allowing the students to get to know one another better. Comments such as *"I have even more friends now"*, and *"I don't feel lonely anymore"* show the role of the intervention in promoting a sense of connectedness and positive relationships in the context of the study. While some students associated their social experience with an increase in the number of their friends, others referred to an increase in their empathy towards peers.

Extending beyond friendships, learners with ADHD alluded to an increase in their sense of belonging following the intervention. Participants asserted that drama activities and performance plays created a sense of connectedness between the students. Instances of support and acceptance were reported by learners with ADHD to have increased their connection to the classroom. One of the participants stated: *"the teacher was very caring which made me feel home"* (learner with ADHD, FG 6). This suggests a positive influence on the student's sense of belonging, which is usually associated with positive social relations within the school setting (see Dimitrellou and Hurry, 2018). The students emphasised the role of some drama group activities in boosting their sense of belonging.

Drama and the social challenge

Along with perceived impacts and experiences, the participants also reflected on the social challenges of the drama-based intervention. The non-ADHD participants spoke extensively about the limitations of working in groups which, according to them, did not reflect their individual skills and capacities. Some students suggested that they prefer solitary reflection and feel less engaged in group activities. Although group activities served to encourage diversity, such discussion should pave the way for devising novel strategies based on universal and differentiated instructions. Exploring the limitations of the intervention, learners with ADHD reported feeling under the spotlight throughout the study. In social psychology, the term spotlight effect is used to refer to “an egocentric bias in estimates of the salience of one’s own actions and appearance” (Brown & Stopa, 2007, p. 804). In this context, the term is used to refer to the uncomfortable experience of being conspicuous in the intervention. Students with ADHD were concerned with what others think about them even before the start of the intervention. However, the participants argued that the traditional seating arrangements gave them a sense of confidence because they were out of sight sitting at the back of the class. One potential causal mechanism that could have led to students with ADHD preferring not to take an active role in the classroom is their low self-confidence and their perception of being rejected by others. During the intervention, the seating arrangements were changed to meet the needs of the intervention. Consequently, two students with ADHD expressed that the seating arrangements used (for example, drama circles) increased the likelihood of their actions and behaviours being noticed by their teacher and peers. One of the participants alluded to the notion of the spotlight effect by arguing:

It was really difficult because everyone else was looking at me and I felt uncomfortable. I knew my friends will make fun out of me ... It was not comfortable to sit in a circle where everyone can see you ... I knew the focus was on us [students with ADHD], and that made me feel uncomfortable as if everyone in this world is noticing me. (Learner with ADHD, FG6)

Fortunately, the student noted that this feeling gradually decreased during the intervention, as one of the learners with ADHD put it “*two weeks after the start of the programme, I started to forget about that and started to focus on the activities instead*” (FG6). Notwithstanding the valuable social experience that drama offered, the sudden change in the seating arrangements exposed some of the students to the spotlight effect. Consequently, students with ADHD suggested a more flexible seating arrangement that does not expose them to a salient experience.

Discussion

Data from SIS, focus group discussions, and interviews provided the opportunity to explore the social inclusion of students with ADHD in Algeria. The findings suggested that students with ADHD had lower social acceptance levels and limited classroom interactions compared to their non-ADHD peers. This finding is consistent with that of Avramidis et al. (2022) which showed that students with moderate learning difficulties (MLD) held reduced peer acceptance, had fewer friendships, and engaged less often in social interactions than their TD peers. The findings of the present study demonstrated

positive impact of the drama-based intervention on the participants' social inclusion. Social inclusion is "not only about being a part of something as a passive participant ... but also about perceiving oneself as connected and emotionally positively affected" (Vyrastekova & Kovanovic, 2021, p. 4). Social inclusion in the classroom cannot be attributed solely to peer acceptance/rejection as an explicit and observable behaviour, given the complexity of the process. As such, the study findings captured a deep interpretation of the students' social development following the intervention.

At the social-emotional or the individual level, the drama activities reinforced diversity awareness inside the classroom, which increased the social acceptance and sense of belonging among the students. The interviews' findings and the focus group discussions revealed that the universal values that drama incorporate helped the students to embrace those differences inside the classroom. At the micro-level, the students demonstrated their acceptance of individual differences and their willingness to support each other. Moreover, the non-ADHD peers proclaimed that experiencing rejection, isolation, exclusion, and discomfort (through play) resulted in understanding others and, thus, accepting them. The teachers' interviews and the students' discussions revealed a crucial role of drama practices in increasing the students' empathy. The students revealed that drama strategies created connections inside the classroom and the students grew socially together through drama. The non-ADHD students demonstrated their empathy towards their peers with ADHD through offering support, showing acceptance, sharing feelings, and collaborating. According to Binns (2020), empathy "is strongly linked to imagination and is reliant on a compassionate and curious understanding of others" (p. 152). Performing different roles and investing in different characters, the students were able to understand different characters in a way that shaped the struggle of their peers.

Previous studies have demonstrated a link between the use of drama practices and the increase of students' empathy. However, most of these studies addressed empathy behaviours in medical students (Lim et al., 2011). No previous research could be found on the influence of drama on the empathy behaviours of students in inclusive settings. However, literature evidence associated social-emotional skills such as empathy with the students' social competence and high-quality friendships (see Avramidis et al., 2022).

Although the study finding has not established a causal relationship between drama and empathy, and drama and diversity awareness, it presented indicators of social development following the intervention. Overall, the use of drama as a tool for social inclusion and social development inside the classroom is an underused strategy. This study presented evidence regarding the effectiveness of drama techniques in promoting the social skills and diversity awareness of all the students. Those students with ADHD, on the other hand, demonstrated the positive influence of their peers' empathy and acceptance on their social skills and sense of belonging.

Limitations of the study

Notwithstanding its contribution to an understanding of the impact of drama on the social development of students with ADHD, this study is subject to certain limitations. The major limitation of the study is related to methodological constraints. First, only a few students with ADHD were recruited for the research which limited statistical power of the findings. The sample size was limited because learning difficulties and disability prevalence in the

country is characterised by underreporting and dearth of information (Humanity and Inclusion [Handicap International], 2016, Rohwerder 2018). Thus, the stated number of students with SEN was low. Given the research interest in universal approaches, it was necessary to have diverse learners in the class. Moreover, only students with a formal ADHD diagnosis were recruited (as students with ADHD) in the study to avoid issues related to assumptions and perceptions. It was not deemed appropriate to recruit students from different schools as the study aimed to explore the social acceptance/rejection among peers and the participants had to be familiar with each other. As such, and as noted, the sample size limited any statistical generalisation of the findings. However, this allowed the collection of rich and in-depth data through the use of qualitative methods. This increased the ecological validity of the study. Moreover, although the study adopted a multi-method design to evaluate the academic and social outcomes of the intervention, it may be argued that using other sociometric techniques to assess the social impacts of the programme could have been helpful. For instance, Social Cognitive Mapping is viewed as a robust approach when addressing the participants' social relations (see Avramidis et al., 2017). Another limitation of the study can be associated with time constraints. The study involved a short-term intervention that was delivered over a period of six weeks. As such, the time-limited nature of the intervention made the evaluation of its outcomes highly complex.

Conclusion and implications for practice

Considering the reviewed literature and the study findings, it is critical that schools adopt different teaching strategies to support the social inclusion of students with SEN in general and students with ADHD in particular. Previous studies suggested a need to develop interventions for students experiencing low social participation (Hamel et al., 2022). Students with ADHD are an example of students reported to experience social difficulties and social rejection by their peers in school.

In this study, the focus was placed upon developing and evaluating the impacts of a drama-based intervention on the social inclusion of students, including those with ADHD. The findings demonstrated a positive impact of the intervention on their social development including social acceptance, peer interactions, friendships, and sense of belonging of all the participants. With these conclusions, this study combined arts and pedagogical recourses in addressing inclusion in the classroom. The study's results suggest that drama approaches have potential for increasing the social inclusion of children with ADHD in a general classroom. With suitable training, drama-based activities offer helpful teaching strategies for educators to facilitate collaboration, trust and relationship building in their settings. In many countries, educational psychologists (EPs) have a unique and privileged role in advising classroom teachers, schools and wider educational settings to explore a range of approaches which promote inclusion (See Bartolo, 2015). Often EPs are expected by schools to undertake targeted interventions with those with ADHD (and other young people with SEN), but drama-based activities provide a more universal or systems-based approach which can lead to significant gains for all children in the classroom. Drama-based activities may therefore provide a useful addition to the EPs toolkit when working with classroom teachers, not least because these activities may appear familiar and appealing to teachers rather than something additional.

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Appendix A: Sample Lesson Plan: I read and do'

Framework (PDP)	procedure		Aims	Materials
	Teacher's Role	Students' Role		
Warm-up	–T explains the objective of the session –Led by the nose drama game (T explains the game)	–Ss play led by the nose drama game for 3 minutes	Interacting to introduce the topic and the key vocabulary. Icebreaking.	
Pre-reading	T reads the task: –Student A reads a newspaper article about obesity and decides to start eating healthily. She/he consults student B who is a nutritionist strongly averse to giving out unhealthy food habits.	Brainstorm and start the improvisation activity.	Interacting to develop creativity and imagination Think about healthy food. Promoting diversity awareness, accepting individual differences, and encouraging solidarity	Improvisation (A)
Reading	T instructs the students to read “the food pyramid disaster”. T explains the difficult words and phrases using flashcards and real food items. T asks students (volunteers to act the story). T asks students to answer comprehension questions, synonyms/antonyms. (T supervises the students).	Read the story individually. Circle words or phrases not familiar. Discuss words and phrases not familiar. Act the story.	Read to get information. Develop imagination. Read to get new information.	Reader's theatre (The food pyramid disaster) Flashcards Food items (Cucumber, Broccoli, Candy ...)
Post-reading Reflection activity	Short discussion: Can you draw your own healthy food pyramid? What should a healthy food pyramid include?	Discuss healthy food items. Write their opinions and what they have learned in their journals	Develop the students' critical thinking and imagination. Reflection	