

Promoting the development of children with disabilities through school inclusion: clinical psychology in supporting teachers in Mozambique

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Abstract

This article presents an intervention study developed within an international cooperation program, and aimed at promoting the school inclusion of children with disabilities in Mozambique. To avoid the risk of exporting models from a local context to another, and in order to favour a sustainable social change, a participatory and ecological framework was adopted. The main aim of the Participatory Action Research (PAR) carried out was to explore teachers' views and beliefs concerning disability and inclusion, and determine best practices to

fully include students with disabilities. The paper illustrates the overall outcomes of a participatory research development process, and the results achieved in each phase. The final purpose is to increase the knowledge on school inclusion of children with disabilities in the Global South. Potentials and challenges of using clinical psychological, ecological and collaborative paradigms to address issues concerning health promotion and development of children with disabilities and local development are also discussed.

Key words: Teachers' inclusion beliefs, school inclusion, disability, sustainable development, local culture, health promotion

Introduction

In 2014, the WHO estimated that over a billion people in the world live with some form of disability. Article 25 of the UN Convention on the Rights of Persons with Disabilities (CRPD), framing disability as a human rights issue, stresses the right for these people to enjoy “the highest attainable standard of health without discrimination” (UN, 2006).

Unfortunately, health promotion and prevention activities are rarely concerned with people with disabilities (WHO, 2014). This is particularly true in the case of resource-constrained countries such those in Africa that have recently started to address the issue of disability (WHO, 2011). Due to strong stigma, social exclusion and discrimination are everyday experiences for persons with disability, their families and caregivers, both in their communities and in public services (such as healthcare and educational ones) (Daar et al., 2014).

In this context, planning improvements for access and inclusion of persons with a disability to healthcare, education, and employment is urgent in order to improve their wellbeing, and that of their households. Being located at the interface of the micro and mesosystems, schools are important platforms for promoting health interventions (Tomlinson, Rohleder, Swartz, Drimie, & Kagee, 2010).

Consistently with international trend moving towards inclusion (UN, 2006; UNESCO, 2000) and the Millennium Goals achievement efforts, since 1995 the

Republic of Mozambique has provided education as a right for all citizens, including people with a disability. With the 1998 “Inclusive schools program” (Ministério da Educação e Cultura, 2006, 2007), the Ministry of Education and culture began a series of policies aimed at including children with a disability in regular classes.

Disability in Mozambique represents a massive socio-economic problem because preventing school attendance and restricting human capital accumulation of children and youth, it reduces their possibility to be employed and earn an income (Mitra, Posarac & Vick, 2012).

Cultural prejudices constitute a further obstacle to the promotion of an inclusive culture, and families tend to segregate their children with disability at home, preventing them from participating in the educational process (Agbenyega, 2007; Malundah, 2008).

Full inclusion represents the only chance of making education available for children and adolescents but a specific law effectively addressing inclusion is still lacking. Furthermore, Mozambique still deals with many problems related to general educational needs. Poverty prevents many families from sending their children to school, especially in the rural areas (MEC, 2007), and overcrowded classes force teachers to teach 40 - 60 students at a time. Teachers are few and untrained and training in special needs education is inexistent. The educational services are not in contact with health services and, consequently, functional diagnoses are not provided, making it difficult for schools to set up individual curricula. In this context, special classes and schools remain the primary educational resource for disabled children. However, there are only five schools all over the national territory, highly in demand, and all of them are primary schools, suitable for basic education needs and not for advanced skills. Starting from these considerations, this paper presents an international cooperation program aimed at implementing a full inclusion of students with disabilities into the mainstream classes of some primary and secondary schools of Maputo. Many studies, in countries with and without resources, have shown that success in implementing effective inclusive practices in schools is closely related to positive

teacher attitudes towards and their knowledge and beliefs of inclusion (Avramidis & Norwich, 2002; Kuyini & Desai, 2007; Parchomiuk, 2015), as well as to the use of effective teaching practices to meet the needs of students with disabilities (Mastropieri & Scruggs, 2000). Acknowledging the need to increase the knowledge about disability-related issues in resources-constrained countries, and the importance to actively involve local stakeholders in research and intervention processes (Polat, 2011), our project focused on exploring parents', children's and teachers' implicit and explicit representation on disability and school inclusion and giving priority to work with teachers in a psychological clinical approach. Sustaining community development through an ecological and collaborative perspective Inclusion involves the processes of changing values, attitudes, policies, and practices within the school setting and beyond (Polat 2011). The complexity of this goal, especially in African countries (Tomlinson, et al., 2010), call scholars to use multilevel community-based and culturally-situated interventions, framed in an ecological perspective (Prilleltensky, 2005; Trickett, 2009). The traditional individual-level focus has long shown its limits, having been highlighted that individual behavior is nested within multiple systems of influence (Trickett & Beehler, 2013). On the contrary, multilevel interventions, rely on the adoption of simultaneous or sequential strategies that are conceived in a systemic, and not additive, view (Schensul, 2009). Furthermore, an ecological approach to development and health promotion enhances existing local capacity to promote equality and future well-being (Trickett 2009; Trickett & Beehler, 2013). Unlike the interventions carried out in the early 50 years of international development cooperation (Antonelli & Raimondi, 2001), this perspective considers "development" not as a pre-determined condition based on models, values, and standards typical of donor countries, but as the product of a continued negotiation among counselors and local stakeholders involved in the process of social transformation. Development is not conceived as a phenomenon separate from the culture of the local context in which it takes place, and experts are not considered the only "owners" of knowledge. In this view, the development of better health conditions becomes a process of local construction, taking place inside people's living environments (O'Neill, Rootman, Dupère & Pederson, 2012; Parent, Simard, Roy & O'Neill, 2015).

The emphasis on the local culture/context and the collaborative construction of knowledge, as well as the conception of intervention as multilevel, community-based, and focused on improving local resources and capacities, are fundamental pillars of the ecological paradigm as formulated in community psychology (Francescato & Tomai, 2001; Kelly, 2006; Trickett, 2005, 2009). This paper adopts such ecological framework, in a clinical psychological approach, acknowledging its validity and effectiveness in addressing health-related goals.

Framing intervention as Participatory action research

Considering the value of local collaboration, and the impact of participation in terms of people's empowerment (Hombrados Mendieta & Moscato, 2006) as well as sense of belonging and responsibility (Putman, 2000), a Participatory-Action Research (PAR) model was adopted. PAR (Kagan, Burton & Siddiquee, 2008) promotes an active involvement of all local actors, considered as owners of local knowledge, actively collaborating with the experts (Maiter, Simich, Jacobson & Wise, 2008; Kagan, Burton, Duckett, Lawthom, & Siddiquee, 2011). Self-reflection, collaborative solution finding, and a sense of responsibility for change weaken delegatory or dependent attitudes while favoring confidence in one's own capabilities. This has a clear effect in terms of sustainability of the development efforts implemented. Inspired on the model of PAR as described by Kemmis & McTaggart (2005), each step of PAR is discussed and negotiated with the stakeholders in order to allow the sharing of the goals and it is thought to involve a spiral of self-reflective cycles. In setting with no history of egalitarian participation, such as the present, social norms may constrain participatory processes causing tension between the social norms of the community and the egalitarian PAR model that can lead to community resistance (Wallerstein, 1999).

In our experience, the social norms and the school power structures hindered the direct involvement of some stakeholders, the parents and the students. As Riggs & Langhout (2010) maintain, in community where power asymmetries exist PAR should be adapted to be relevant in the specific context and to be "responsive to community needs and norms" (Harper et al. 2004). So, on some occasions, we tailored our approach to Mozambican setting.

Our Participatory Action Research

Since 2007, both the governments of Italy and Mozambique have been carrying out a joint project to reform vocational education in Mozambique. Sponsored by the Italian Cooperation, the PRETEP Program (Programa de Apoio ao Sistema de Educação Técnico Profissional e Vocacional) consisted of seven macro-areas of intervention, one of which was aimed at implementing an efficient methodology for the school inclusion of persons with disability and at improving teachers' competence. A university team composed by scholars from both Italy and Mozambique has undertaken this latter project. Considering the risk of failure in exporting intervention models from a specific context with its own specificities (Italy, with a fully inclusive school), to another one with different specificities (Mozambique, in transition towards a reform in the education system), we considered it necessary to negotiate our involvement with the Mozambican stakeholders and adopt an ecological perspective. Our intervention study followed three main action-research phases. The first action-research phase consisted of the analysis of the teachers' local culture of Maputo as related to disability and educational issues. The second action-research phase consisted of the utilization of best practices with a group of these teachers in order to implement the full school inclusion of their students with disabilities. In the third phase, an early assessment of the impact of the intervention was carried out. Formal conferences were realized after the first phase of the action research and at the end of the intervention in the classes. A final report was finally drawn up.

First action-research phase

Defining the problem. The university scholars take meetings, in Rome and in Maputo. Each missions were aimed at obtaining a deeper knowledge of Italian and Mozambican contexts concerning social and school inclusion of persons with disability, as well as of Mozambican local needs and available resources. During the visit of the Italian academics in Mozambique took place detailed discussions with university teachers, school principals, teachers, representatives of the ministry of education and culture (hereinafter committee) in order to understand

their visions about the issue of school inclusion with children with disabilities. In these occasions it became clear that cultural dimension of the context do not facilitate a more- consensus based model where all stakeholders (even those with less social power) are involved in the reflection and definition process of the issues. As a meeting point, the committee decided to detecting parents', attitude and representation of disability and school inclusion through a questionnaire built in partnership between the different stakeholders. 1500 questionnaires were administered. During the distribution the researches verified that parents were interested in the project but not wanted to be involved in decision making process. Student participation was not allowed. The questionnaires showed disable children represented as fragile and in need for protection and an overall positive attitude towards school inclusion. The research results were presented to the audit committee during the coordination meetings and to parents through short reports. On the basis on these results, the research staff chose to focus primarily on teachers conceived as primary agents of improvement in the school inclusion. So, according to literature (Kuyini & Desai, 2007; Parchomiuk, 2015), the objective was implementing positive teacher attitudes towards and beliefs of inclusion and develop its ability to realize inclusive processes. Analysis of the local context: action planning, taking action and collect information Attitudes towards disability and inclusion are not the product of individual aspects, but rather the expression of cultural models pertaining to specific societal systems. Consistently with this, the first action-research phase developed in Mozambique consisted in the analysis of teachers' local culture of Maputo as connected to disability and educational issues.

In order to explore teachers' visions concerning the representations of children with disabilities and of school inclusion, we used two fundamental instruments: focus groups and classrooms observations. Focus group is a setting where you can explore the representations of the problem, contaminating the ideas and arrive at shared definitions (Zammumer, 2004). The themes proposed to the teachers' focus groups were defined by committee during missions in in Mozambico and in Italia.

A- Focus groups: participants, procedures and result. Ninety-seven teachers coming from six schools in Maputo participated in focus group activities. Schools were two primary; two secondary schools (a vocational school and a senior high school); two primary special schools.

Focus groups were organized in sessions of four encounters, an hour and half-long each, for 40 encounters. Focus groups were aimed at discussing some fundamental topics concerning disability and inclusion and supporting teachers in elaborating their possible conflicting beliefs, as well as the difficulties of inclusive approach (Caputo & Langher, 2014; Langher, Caputo, & Ricci, 2017). Focus groups were held by two clinical psychologists (a facilitator and an observer). The discussion was focused on three specific topics:

- Conceptions of disability: disability is conceived as an individual problem, namely just a person's deficit, regarded in terms of difference from an ideal normality, or as the result of the interaction between the person and his/her social context;
- Attitudes towards school inclusion: positive or negative attitudes towards inclusion in terms of ideological principles, moral values, and pragmatic feasibility;
- Obstacles to the inclusion process: all the aspects – e.g., organizational, cultural, economic - identified by participants as critical and more or less impeding the implementation of school inclusion.

Encounters were recorded and transcribed; the transcripts were analyzed through content analysis (Losito, 2002). Categories and subcategories were defined based on research questions, as well as of what had emerged from the group discussions. Regarding the conceptions of disability, most teachers perceived disability as an individual problem, considering it as a bio-medical condition, a deficit, or a deviance from norm. Physical disabilities were considered, at least partially, recoverable, while intellectual disability was considered a condition with no possibility of substantial improvement. The chance of getting an improvement was a fundamental criterion for teachers to discriminate between

students with a disability to be included, and students with a disability not to be. When asked to think about the role that institutions (e.g., school, government, family, church) should play in relation to children/youth with disability, teachers used terms like “taking care”, “helping”, “supporting”, and “protecting” that do not involve a representation of the person with disability as autonomous and socially active in the society. For what concerns the attitudes towards school inclusion, we found two basic attitudes. We called the first rejection of school inclusion. The teachers pertaining to this subcategory considered the children/youth with a disability as unable to develop, to grow, to achieve an autonomous condition, and hence to become integrated and socially productive. For them, inclusion means only a waste of resources. Acceptance of inclusion but only on some conditions was the second basic attitude that we have identified. In this position, teachers assumed the general validity of the inclusive vision, but they thought it could be implemented only under certain conditions, as type of disability, their flexibility to the learning process, teachers’ training and school organizational aspects (e.g., overcrowded classes, infrastructures, and economic resources).

With respect to the obstacles to the inclusion process, teachers reported difficulties at various levels. The first concerned the features of the school system: architectonic barriers, overcrowded classes, shortness of lectures’ length (45 minutes), lack of supporting tools (e.g., Braille tools), and limited availability of schools in view of a high demand. Another difficulty concerned teachers’ lack of training on disability issues. A third type of difficulty had to do with school curricula and assessment methods. Teachers observed that general curricula did not apply to special needs, and that evaluation tests were undifferentiated and based on general knowledge rather than on practical skills. Moreover, being career advancement connected to their ability to achieve curricula goals, as well as to the percentage of successful students in their classes, teachers complained to be discouraged in investing in inclusive goals. Major difficulties have also been reported as regards the cultural dimension. In this sense, teachers complained about the presence of prejudice and resistance from the families, who fear harassment and discrimination towards their children with disability in regular

schools, preferring to keep them at home or in special schools. Finally, a last group of critical issues concerned the lack of a networking model. Teachers considered family's involvement in children's education as inappropriate; furthermore, the complaint for the lack of exchange and communication among different schools (primary and secondary, as well as special and regular), as well as various services (health, educational, and social).

Participants' representation of disability showed an improvement in the course of the focus groups sessions. From a deficit-focused perspective, they gradually moved towards a psychosocial perspective, framing disability in terms of person-environment interdependences, and focusing on resources rather than on deficits. In spite of this, consistent with previous studies (Oswald & Swart, 2011), the accomplishment of school inclusion continued to be considered a very tough, if not impossible, goal to be achieved in the current state. This position of worry and powerlessness with respect to the proposed change, as well as the belief that hands-on experience with children with disabilities positively influences teachers' attitudes (Donohue & Bornman, 2015) motivated the teachers and the research staff to carry out a subsequent phase of observation and experimentation of best practices in the classes.

Sharing of results

This first PAR phase ended with a meeting having the purpose of promoting an open discussion among Mozambican and Italian scholars, officials of the Department of Education, school managers, and teachers. The aim was to confront views about school inclusion, existing constraints and possibilities, as well as to create a network among public authorities, academic institutions, and regular and special schools. The results of the debate were very encouraging, considering the general satisfaction and agreement about the importance of the topics raised. This was the first time institutional representatives met together to address the issue of school inclusion.

B- Observations in class: participants and procedure. The observations was carried out by four different clinical psychologists in classes of four teachers who took part in the first phase. These were regular classes in which students with disability were present: two classes of a secondary school (cases 1 and 2), and two classes of a primary school (cases 3 and 4).

Classroom observations were realized using a qualitative observational scale, built ad hoc with the purpose of evaluating the processes of teaching and learning from a clinical psychological point of view aimed at understanding the quality of the relationships within the specific classes (Langher et al. 2016). Teachers' and students' behaviours could be assessed as individualistic or as relational. An individualistic behaviour indicated a teacher who scarcely interacted with the students, preferred dual relationships, and discouraged peer relationships, as well as to students who did not interact with each other. On the opposite, a relational behaviour referred to a teacher who favoured group interactions, explored the learning needs of the class members, modified her/his behaviour and teaching style according to the communicative exchanges with the students, as well as to intense peer relationships in the class, so increasing the quality of communicative interactions and possibly diminishing children's sense of loneliness (Langher, Ricci, Reversi, Citarelli 2010; Langher, Ricci, Reversi, Krstikj. 2009).

The observational scale consisted of six dimensions: three pertaining to the individualistic model and three related to the relational model. Each dimension consisted of about 10 items. Although they describe contrasting behaviours, the dimensions are not mutually exclusive, as opposite behaviours can occur in different moments. Namely, they are:

- Control: teacher's actions aimed at discouraging students' active participation as well as interactions among students (hushing up, blaming, punishing the students, or overtly ignoring their contributions);
- Exchange: teacher's actions aimed at encouraging students' active participation, and interactions among students, stimulating personal opinions and favouring exchange;

- Segregation: students with disability are ignored by the teacher or by the students when they calls for attention; they are excluded from activities in which other students are participating; they makes exercises separately from the rest of the class, interacting solely with the teacher or with a tutor, in separate moments of the lesson;
- Integration: the teacher and the classmates respond to the requests of students with disability; they work with the rest of the class, and interact with other students;
- Non differentiation: the teacher acts as if the class were formed of undifferentiated persons, disregarding students' different needs and the information provided by them;
- Exploration: the teacher takes care of students' individual needs, and values their contributions by enriching the lesson with the information received.

Each class was observed for ten lessons; each lesson was of 45 minutes. At the end of the lesson, each class received a score for each item, and a final average score for each dimension. Scores could vary from 1 (absent) to 4 (occurred more than 6 times).

Teaching styles with similar characteristics were highlighted in the four classes observed. Follows their description:

Secondary School - Class 1 (French module): The class was composed of 45 students (aged 17 - 20 years old), of which 6 were with disability (4 students with hearing impairment, 2 with mild mental retardation). The teacher exclusively adopted the unilateral teaching style, with the aid of the blackboard, while students repeated the words suggested in chorus. Interactions were few and quite discouraged. Students with disability were requested to interact only after the lesson. Students with a disability had scarce communicative exchanges with other students and they sat close together in the back row. No student with disability reached the objectives of the module. Most of the students showed very little motivation, they were often absent and did not do their homework.

Class 2 (Portuguese module): The class was composed of 25 students (aged 17 - 20 years old), of which 3 were with a disability (2 with hearing impairment, 1 with physical disability). The teacher alternated the unilateral teaching style with participative techniques implying that the students - except those with hearing impairment - were requested to individually explain contents to their peers. Despite the presence of student-tutors acquainted with a rudimentary Sign Language (SL), a vast part of the lesson was not available to students with hearing impairment.

Elementary school - Class 3: The class was composed of 55 students (aged 7 - 8 years old), of which 2 with a disability (1 with mild mental retardation, 1 with speech disorder). The teacher mainly adopted the unilateral teaching style, with the aid of the blackboard; students repeated the words suggested by the teacher in chorus. Students in the front rows were the more efficient ones; students with a disability were in the back rows, alongside those with low grades. The teacher walked through the entire classroom and sometimes stimulated the pupils.

Class 4: The class was formed of 60 students (aged 9 - 11 years old), of which 1 with speech disorders. The teacher exclusively adopted the unilateral teaching style, with the aid of the blackboard; students are requested to repeat the words suggested by the teacher in chorus. Students not acquainted with the Portuguese language and student with a disability sat in the back rows. The teacher was very authoritative, and any students' attempt at communicative exchange was repressed verbally and with punishments. Only 10 pupils could write correctly and count.

Sharing of the results

In this second intervention phase, the moments of sharing and discussion between teachers and observer-psychologists were numerous. Actually, they occurred at the end of each observation session. The observation phase ended with a meeting attended by all the actors involved (4 psychologists and 4 teachers). In this meeting, the participants collectively reflected on the experience and the results of the observations, concluding that the principal resource in the class context were students themselves. Therefore, it was decided that, during the experimentation of

best practices, they could be invested of a more active role in order to include their peers with disability.

Second action-research phase: application of the best practices to implement school inclusion of students with disabilities Strategies identified for promoting the school inclusion of children with disabilities are essentially based on the use of interactions. Among these, cooperative learning is one of the most frequently recommended ones (Jenkins, Antil, Wayne, & Vadasy, 2003; Johnson, Johnson, & Holubec, 1993; Murphy, Grey & Honan 2005).

Following what was observed in the classes and discussed in the final meeting, we proposed to teachers to introduce methods of peer education and collaborative learning. The intervention involved the same four classes that participated in the observational procedure. The application of the best practices was aimed at training the teachers in the use of the best practices of cooperative learning and participative lessons; promoting the idea of student with a disability as active persons with many resources that need to be stimulated; dealing with the crowdedness of the classes, using cooperative learning and hence the peer relationship as the core of the didactic and learning process. Peer work is the occasion for students to deal with and think about complex relational events. Traditional unilateral lessons discourage the reciprocal peer exploration, promote passivity, and disregard towards the learning process. On the contrary, cooperative learning encourages students to hold an active role and to activate elaborate cognitive and emotional processes in order to empathize and understand their classmates, and in particular their needs, opinions, fears, hopes, and reciprocal relational expectations. These processes are even more elaborated when the classmate is a person with a disability since he/she often cannot appropriately use the usual communicative channels.

Cooperative learning involves many emotional aspects, and it requires the development of the ability to think about the emotions experienced by the peers: emotions have to be explored, defined, faced, and used for personal growth, and to work successfully in a group. This is why the support of a trained teacher is so relevant in accomplishing this task.

Procedures

Four clinical psychologists started with the experimentation of best practices in the four classes observed. The intervention consisted of three sessions, carried out during three different lessons, in a two-month period. In the period between one session and the following one, teachers were requested to apply by themselves the practices experimented with psychologists.

Specifically, the researcher's work consisted in sustain the teacher in rearranging the traditional lesson, integrating it with participative didactic strategies based on the Learning Together approach (Johnson et al. 1993) and the Jigsaw Groups approach (Aronson & Patnoe, 1997), both adapted to the local classroom condition.

Taking the lesson topic as the starting point, we set up group activities involving all the students divided in small groups along with the teacher, with one student with a disability per group, and ensuring that students with a disability participated in different groups during different sessions. Group activities were aimed at making all students feel interdependent and personally responsible for the task assigned. At the end, all groups were requested to compare together the obtained results. Besides the group activities, we also activated the work in pairs, especially in elementary school where were overcrowded classes (55 pupils) very young children. In this case, the work in pairs was preferred over the group work, ensuring the switching of partners every day.

During the teacher's unilateral lesson, students with disability were moved from the desks in the back of the room to the ones in the front, where it was easier to follow the teacher's speech, to read the blackboard, to ask questions and to be questioned. All students were also requested to sit beside classmates different from the usual ones, in order to stimulate relationships with unknown peers.

Teachers were trained in talking while emphasizing body language and labial speech. Class exercises, normally assigned individually, were assigned to pairs in order to involve those who did not do them. During the best practices application, the psychologists were constantly available to support teachers, in order to discuss

any doubt and to decide the best activities according to the classes' specific characteristics and needs. The participative model did not meet any particular resistance from the teachers.

Third action-research phase: effectiveness assessment of the implemented intervention

At the end of the second phase, we conducted a second evaluation of the teaching and learning processes, using the same procedures used in the first phase of observation.

Results

For each class, a statistical comparison between the first and the last observation is shown in Table 1.

Wilcoxon Matched Pairs tests was performed using the items of each dimension as subjects. Alpha value was .05.

Table 1. Dimensions' average scores and Wilcoxon Matched Pairs test results.

Dimension	Class	First Observati on	Last observati on	T value	Z value	P level
Control	Class 1	2.4	1.4	2.5	2.17	0.029*
	Class 2	1	1.1	-	-	-
	Class 3	1.1	2.1	0	2.2	0.027*
	Class 4	3.3	1.8	0	2.02	0.043*
Exchange	Class 1	1.33	2.66	0.0	2.36	0.017*
	Class 2	1.7	3.3	0	2.02	0.043*
	Class 3	2.4	2.8	10.5	0.59	0.55
	Class 4	1.3	1.3	-	-	-
Segregation	Class 1	3.4	1.46	5	2.07	0.008**

	Class 2	2.4	1.13	0.00	2.36	0.017*
	Class 3	2.2	1.3	0	2.8	0.000**
	Class 4	3	1.9	15	2.13	0.033*
Integration	Class 1	2.05	3.05	0	3.4	0.000**
	Class 2	1.5	3	6	3.06	0.002**
	Class 3	2.1	3.4	6.5	2.356	0.018*
	Class 4	1.8	2.6	7	2.08	0.036*
Non differentiati on	Class 1	3	1.9	3.5	2.44	0.005**
	Class 2	2.1	1.4	7	1.5	0.12
	Class 3	2.8	1.5	0	2.52	0.011*
	Class 4	3.1	1.9	0	2.36	0.017*
Exploration	Class 1	1.54	2.45	0	2.93	0.005**
	Class 2	1.6	2.5	9	1.26	0.2
	Class 3	2.6	3.2	14	0	1
	Class 4	1.3	1.6	-	-	-

Class 1 - In the class 1, each test dimension showed a statistically significant difference in the second observation. At the end of the second action-research phase, the teacher was able to handle participative methods within the traditional didactic, e.g., asking students to provide individual feedbacks and using them to clarify and enrich the explanations, as well as inviting students to a reciprocal confrontation.

Students with a disability were no longer grouped together in the back rows, their interactions with the rest of the class significantly improved. Spontaneously, students with hearing impairment taught their classmates SL, demonstrating their ability to assume an active position in the relationship. Socialization processes positively affected students' academic performances: every student showed significant improvements grammar and text comprehension final tests. Six months later, five students with a disability had passed the final exam.

Class 2 - In the class 2, the dimension of Exchange, Segregation and Integration showed a statistically significant difference in the second observation.

The teacher of this class already used some participative methods, but this practice was improved. The two students with hearing impairment started familiarizing with each other. Socialization affected academic outputs: all students demonstrated to have better performances in grammar and comprehension while both students with a disability passed the test.

Class 3 - In the class 3, the dimension of Control, Segregation, Integration, and Non Differentiation showed a statistically significant difference in the second observation.

Pupils with difficulties moved from the back rows and spread out through the whole class. Cooperative learning allowed the pupils to get to know each other and especially those with with a disability and the less brilliant students. They also achieved positive academic results.

Class 4 - In the class 4, the dimension of Control, Segregation, Integration and Non differentiation showed a statistically significant difference in the second observation. In this overcrowded class (60 students) only 10 wrote and counted correctly; the teacher's authoritative approach represented the main problem. The tutoring activity reduced the burden of the teacher. Furthermore, children, most of whom did not use to do any exercise in class, started to work and to communicate. For this, all students, including students with a disability, reported better performance when previously could barely write and count.

Discussion

The intervention significantly affected the Segregation and Integration dimensions.

Satisfactory results were achieved also in the Control dimension that significantly lowered in three classes over four, with the exception of the class 1 where it was moderate since the first observation. The Exchange dimension did not significantly improved in the two elementary classes (1 and 2), possibly due to the difficulty of the teacher in activating interactions among very young children. Less effective results were achieved with respect to the Non differentiation dimension (classes 1, 3, 4): although the teachers increased their interest and attention towards students' needs and contributions, a full rearrangement of the didactic in this direction was not accomplished. The results regarding the Exploration showed a change in the expected direction (i.e., improvement), however not a significant one. According to previous studies (Donohue & Bornman, 2015), the teachers who participated in the intervention initially believed that the inclusion would promote learners' social development more than their intellectual development, as highlighted in the focus-groups section. However, the results demonstrated how the intervention affected not only learners' social development but also their academic outcomes. This evidence is consistent with previous studies documenting that children with a disability in inclusive settings achieve better learning outcomes (De Graaf, van Hove, & Haveman, 2013; Dessemontet, Bless, & Morin, 2012) and score higher on achievement tests when compared to children in segregated settings (Vakil, Welton, O'Connor, & Kline, 2009).

Sharing of results

This third action-research phase ended with a meeting having the purpose of promoting a discussion between all the stakeholders involved, at different times, in the intervention process.

Officials of the Department of Education, members of the Faculty of Education, as well as school managers and teachers (both of regular and special schools) were invited to participate. During the meeting the Italian and Mozambican scholars presented the overall results of the intervention, pointing out the resources and main problems identified. Furthermore, a discussion was held in order to collectively identify the priorities of change to fully implement school inclusion in Mozambique. This discussion provided the Department of Education with useful insights for planning changes for the future, e.g., investing more in teachers' training, and rethinking the evaluation systems for students with a disability.

Conclusions

Participation in different contexts, the expansion of social networks, the opportunity to benefit from sources of social support and change for development, are factors that have a significant impact on physical, psychological, and social development and health of young people and adults (Almgen, Magaratti & Mogford 2009; Siedlecki, Salthouse, Oishi, & Jeswani, 2013). The status of persons with disabilities in Mozambique is characterized by many risk factors, concerning their development and health conditions. Therefore, improving the access and inclusion of people with disability in the school community, and guaranteeing their education in regular classes, are important goals in order to promote health of children with disabilities. In order to pursue changes we planned an intervention based on participatory strategies, which could modify cultural dimensions related to disability starting from the exploration of beliefs, knowledge and educational practices of teachers as well as weaken the attitudes of delegation and dependence inherent in traditional models of international cooperation. PAR was particularly suitable in this sense. The development of a collaboration between Italian and Mozambican partners was crucial in order to effectively implement this intervention model. For what concern teachers, the conceptions of disability and attitudes towards school inclusion of Mozambican teachers are consistent with trend of literature both across countries and across time (Cassady, 2011; De Boer, Pijl, & Minnaert, 2011; Oswald & Swart, 2011; Forlin 1995; Ryan, 2009). Firstly, teachers considered full inclusion a very

difficult goal to achieve (Cassady, 2011) and had neutral - or even negative - attitudes toward the inclusion of pupils with disabilities in regular classes (De Boer, Pijl, & Minnaert, 2011; Oswald & Swart, 2011). Moreover, they were more willing to include students with mild disabilities or physical/sensory impairments than students with intellectual disability (Forlin 1995; Ryan, 2009). Disability was considered as an individual problem and the children/youth with disabilities were seen with no, or just few, possibilities of substantial develop. The type of disability was not the only obstacle perceived to the inclusive process: lack of training on disability issues and schools organizational aspects (e.g., overcrowded classes and lack of economic resources) were also mentioned by teachers. Several studies highlighted that working with teachers, and preparing them to school inclusion, reduces their resistance to implement inclusive practices (Rae, McKenzie, & Murray, 2011; Van-Reusen, Shoho, & Barker, 2000). The educational system in Mozambique is heavily centralized and hierarchical, emphasizing, at both the micro and macro level, the dimension of control and the importance of reaching prescribed target goals. This kind of environment, in which socio-relational competences are not valued, rarely promotes the inclusion of “diverse” children/youths, also discouraging horizontal interactions among peers. Our pilot study supported the effectiveness of the use of peer groups and collaborative learning in implementing inclusion. Students with disability enormously benefited from the rearrangement of the didactic style, since they used to be the ones more excluded from all educational and social activities. Teachers reflected on their beliefs and knowledge of inclusion, they became aware that promoting group work, and letting students talk and interact, could turn a limitation, such as the overcrowding of classes, into a resource, making the time spent in class more interesting and engaging for everybody.

The lack of specific training and/or hand experience with students with a disability makes teachers worried (Oswald & Swart, 2011) and limits their expectations on learners' development only to social competencies, neglecting the possible cognitive advances of students with disabilities (Donohue & Bornman 2015).

Although it was not a specific goal of the action-research, our data are in line with previous studies which demonstrated the impact of inclusive education both on the socio-emotional development and cognitive skills of children with disabilities (De Graaf, et al., 2013; Dessementet, et al., 2012; Vakil et al., 2009). This experience has also highlighted the lack of information exchange between different nodes of the network (i.e., Ministry of Education, Department of Special Education, single schools, school staff and managers) as a major weakness of the education system in Mozambique. Teachers in the focus groups also reported this problem. The public meetings to share and discuss the result of each action-research phase, as well as to plan the next ones, enhanced the awareness, in all the participants, of the importance of establishing a network in order to take into account views and needs of the different stakeholders, and to better plan a development strategy. The intervention provided the Department of Education with information and results useful to plan a change in some organizational aspects of the educational system, such as teachers' training and the evaluation systems for students with disability. In future interventions, more time should be dedicated in consulting with high-level executives to promote procedures to select and train teachers, as well as frameworks to reward teachers' inclusion efforts (e.g., through career advancement and salary increase).

Acknowledging the fact that African countries are faced with complex health problems, we argue the need to adopt frameworks and intervention tools that take into account this complexity, as well as the various factors, across multiple ecological levels, that produce and maintain health inequities. As a result, sustainable development and health equality could be achieved.

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