

Connecting Networks through Percussion: Rhythm as an Inclusive Practice in Socio- Educational Projects

Conectando Redes através da Percussão: o Ritmo como Prática Inclusiva em Projetos Sócio-Educativos



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Abstract: This study forms part of the project “Re-Inhabiting the Neighbourhood: Processes of Transformation and Empowerment Among Universities-Schools-Society through Artistic Practices”. Its main objective is to contribute to social transformation and citizen empowerment. It mainly explores the potential of rhythmic percussion to foster a sense of group cohesion among members of the community. Three workshops were held with the participation of 45 subjects, made up of primary school students, family members, school teachers, and university students. As

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in much sociology research, the approach is mixed-methods, allowing to have a broader understanding of the phenomena at study. The results highlight the key role of attentiveness and careful listening in achieving concentration and good cohesion, in addition to the importance of a respect for fellow members and a sense of group belonging.

Keywords: Rhythm. School. Social Inclusion. Society. University.

Resumo: Este estudo faz parte do projeto “Re-Habitando o Bairro: Processos de Transformação e Empoderamento entre Universidades-Escolas-Sociedade através de Práticas Artísticas”. O seu principal objetivo é contribuir para a transformação social e o empoderamento do cidadão. Reflete-se sobre o potencial da percussão o do ritmo para promover coesão de grupo entre os diversos membros da comunidade. Foram realizadas três oficinas com a participação de 45 sujeitos, constituídas por alunos do ensino fundamental, do ensino superior, familiares e professores. Como em muitas pesquisas na área da sociologia, a abordagem foi métodos mistos, permitindo uma compreensão mais ampla dos fenômenos em estudo. Os resultados evidenciam o papel fundamental da atenção e da escuta para a concentração e boa coesão do grupo, para além da importância do respeito pelo próximo e do sentimento de pertença.

Palavras-chave: Ritmo. Escola. Inclusão Social. Sociedade. Universidade.

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Introduction

The research project “Re-Inhabiting the Neighbourhood: Processes of Transformation and Empowerment Among Universities-Schools-Society through Artistic Practices” (2018-2021) is based on the idea that art interventions involving creative processes and active involvement by the participants contribute to the construction of a social network that reinforces the educational and cultural fabric. It has three main aims: to design a cross-disciplinary socio-educational art intervention programme; to put this programme into practice in a disadvantaged, outlying neighbourhood; and to assess the programme and its impact at an educational, artistic, social and cultural level. The activities that integrate the research project were designed as a result of different meetings by teaching staff, artists, researchers, and neighbourhood associations. In turn, these activities have given rise to the “My Neighbourhood, My School” interdisciplinary programme, with a total of twenty-nine educational art interventions (Appendix 1), involving both the team from the project, undergraduates studying for a degree in infant or primary education at the University of the Balearic Islands (UIB) and primary school students from Pintor Joan Miró School.

Connecting networks

This paper describes one of the activities of the programme entitled *Connecting networks through percussion*. It explores the rhythmic behaviour of a heterogeneous group of participants through an approach based on collaboration and group cohesion. The Organisation for Economic Co-operation and Development (OECD) has launched The Future of Education and Skills 2030 project. According to this organization, “we are facing unprecedented challenges – social, economic and environmental – driven by accelerating globalisation and a faster rate of technological developments. At the same time, those forces are providing us

with myriad new opportunities for human advancement.” (OECD, 2018:3). Hence, education is a basic factor in understanding people’s behaviour and, at the same time, it is a necessary guide in human development and in fostering harmonious social relations (CABEDO and DÍAZ, 2013, 2015a). Formal education provides an optimum framework for learning to live in harmony with others. In teaching practices in the classroom, it is important for teachers to take into account the historical, socio-cultural and musical characteristics of the local setting. Likewise, they must be aware of possible contradictions brought about by migratory flows (LUM, 2017). Positive music experiences, where interconnections are set among the participants, foster the creation of new links, and these, in turn, contribute to more harmonious relations (BERGH and SLOBODA, 2010; DÍAZ-GÓMEZ, 2011; GREEN, 2011; RODRIGUEZ-SÁNCHEZ, ODENA and CABEDO, 2018).

Numerous professionals from the education sector are becoming increasingly aware of the need to work toward a community focused on improving its relations (CABEDO and DÍAZ, 2015b), and they regard artistic experiences and, by extension, musical ones as a means of sharing and fostering learning, open communication and social cohesion.

Numerous authors believe that rhythm in music has a transformative capacity and so it should be acknowledged as a transformative means of bringing about affective, intellectual and social change (BRICE, 2003, 2012; CAMPBELL, 1991; DEL BIANCO and RODRIGUES, 2014). At the same time, in accordance with WESTERLUND, KARLSEN and PARTTI (2019), in teacher training, it is important to reflect on the links among music, education and society and to use our discipline as a vehicle for dealing with the important social changes that are needed to respond to 21st century demands. Similarly, according to LIMA BRANDÃO and GUDIN PAIVA (2019), one of the strategies of the educational, musical and social environment is to highlight how musical, technical and aesthetic values seem to circulate within music.

Rhythm is often considered to be the most fundamental, cognitively privileged musical parameter since it is deeply rooted in our physiology and cognitive system. In all musical cultures, regardless of their specific cultural structures, rhythm is by far the most important musical parameter in intercultural communication.

Multiple studies have demonstrated that, from an early age, children relate perceptively to rhythmic structures by trying to imitate them (BISPHAM, 2006; HENNIG *et al.*, 2011; LOPES, 2011, 2017; PÉREZ-HERRERA, 2012). For Jaques Dalcroze (HABRON and VAN DER MERWE, 2017, p.183), rhythm helps to connect different facets of an individual: "Only rhythm can assure the unity of human faculties and constitute that ethical individuality." Rhythmic movement triggers perceptive interaction in individuals. This, in turn, fosters a more sensitive ear, and it can spark off an emotional effect and also impact on social functioning. On the other hand, according to LEMOS LINO and NASCIMENTO DORNELLES (2019) rhythmic improvisation teaches the body to learn by ear and to invent forms of group playing. It also prepares and practices the unexpected: inspiring teaching and learning processes.

Objectives of the Action 'Connecting Networks through Percussion'

- To explore the potential of rhythmic percussion in fostering group cohesion among the members of a community.
- To foster positive forms of interaction, such as group awareness, respect, collaboration and mutual exchanges.
- To highlight the potential of rhythmic education in a student's expressive, cognitive, creative, emotional and psychomotor development.

Method

Research Design

The research study took a mixed approach as it included both quantitative and qualitative methods (CRESWELL, 2014). Through their joint inclusion and discussion, a better insight could be gained into the subject under study (HERNÁNDEZ-SAMPIERI and MENDOZA, 2018). This approach involved two levels of analysis:

a) Quantitatively, it had a quasi-experimental multi-group design, since three experimental groups were used, with pre- and post-test measures. The instrument was applied at two data-collection points—the beginning and end of the workshop—, using the same procedure and including all the participants. The experimental conditions for the intervention were held constant through direct supervision by the members of the research team (the same programme was applied with rigorous fidelity, the length of the sessions was controlled, the room's environmental conditions were held constant etc.), which meant that the different experimental groups from different applications of the programme could be treated as one single group.

b) Qualitatively, in order to explore the participants' opinions in greater depth, they were asked to write an evaluation, reflecting on the experience.

Participants and Sample

Three workshops were held, with the participation of a total of 45 subjects, 15 per workshop. The participants were made up of 24 students from the 4th year of primary school, 4 parents and members of the community, 6 teachers and music teachers, and 11 undergraduates studying for a degree in primary education. The different types of participants were divided proportionally among

each of the three experimental groups. The workshops were given by a research lecturer who was also an expert percussionist.

Out of the total population (N=45), analytical data is available for 38 individuals (n=38), representing 84.45% of the total. In terms of gender, the sample was made up of 42.1% (16) men and 57.9% (22) women, and so there were slightly more women than men.

Analytical Procedure

The information from the pre- and post-tests that were given to the three experimental groups was processed altogether in an SPSS file, using SPSS v25 for all the statistical analyses. Statistically, a non-parametric analysis was used, taking into account the characteristics of the non-probabilistic sample. Given the sample's limited size (n = 38), non-parametric techniques were chosen (the Pearson chi-squared test and contingency coefficient) to test the hypothesis of different patterns between the types of participants: that is, the primary school students (children), on the one hand, who made up 63.2% of the sample; and the university students, teaching staff, parents and members of the neighbourhood community (adults), on the other, who made up 36.8%. A significance level of $p < 0.05$ was taken for the tests.

No significant differences were found between the two above types of participants in terms of their previous level of musical knowledge and experience, and so it was decided not to include this as a variable for analysis ($\chi^2 = 1.255$; $p = 0.740$).

The participants' written reflections, in the qualitative part of the study, were categorized.

Implementation of the Workshop

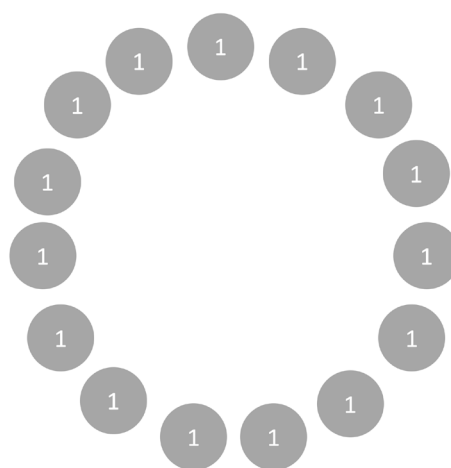
At the beginning of the workshop, each participant was asked to choose a percussion instrument. These included drums, congas,

wood blocks, box drums and tambourines. As described in LOPES (2017), the participants were asked to sit in a circle with their chosen instrument. By sitting in a circle, they could see everyone else in the group, thus encouraging non-hierarchical relations. They were also asked not to sit next to someone they previously knew in order to avoid comfort zones or even the creation of group within a group dynamics. Likewise, according to RAPHAELY DE SOUZA and FINK SCHAMBECK (2017), the importance of the favourable classroom environment created by the teacher both in the relationship between students and their involvement with the group was highlighted.

Exercise 1

In the first exercise, the participants were asked to play a continuous series of sounds on their instruments, playing in unison at a slow pace, similar to a person walking. After a few seconds, it was evident that the group found it hard to keep the right tempo, with some participants being too quick or too slow. Next, suggestions were made to help achieve the goal of the exercise, and each participant was told to pay greater attention to the group tempo, adjusting their natural rhythm to the tempo of the others.

Figure 1: Exercise 1 rhythmic beat.



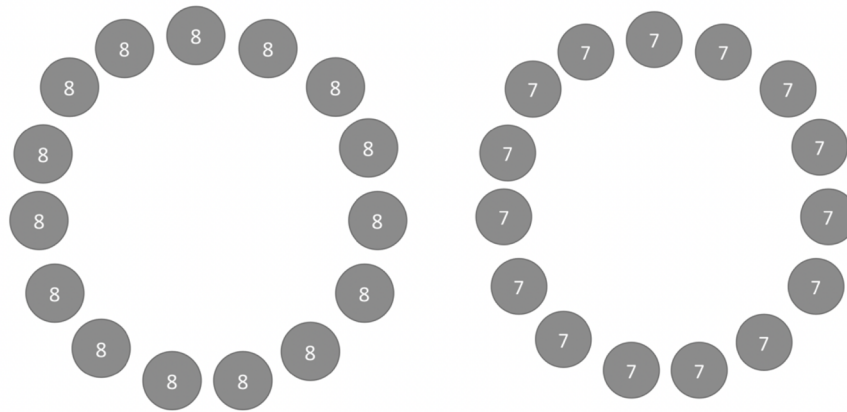
Source: Own development.

Thus, each individual's attention to the whole group was worked on, giving priority to attentiveness and listening to the others. When the exercise was repeated, a considerable improvement was made. By looking and listening, each participant tried to adapt their rhythm to that of the others. The next step, aimed at ensuring even greater success, was to suggest that the group should create a kind of neuronal network, trying to adapt to the rhythm of their closest colleagues—on each person's right and left—, and so on all round the circle in order to achieve a greater overall sense of cohesion. This exercise was repeated several times, with the participants acknowledging the group's improved performance.

Exercise 2

After it had become clear that the participants were all more entrainment and now communicating as a group (that is, a community had been created), another exercise was performed. While exercise 1 was designed not to over-expose any of the participants, letting each one integrate gradually into the group and feel "protected" by it until they gained in confidence and could take part and even actively contribute to the group, the following one (exercise 2) was aimed at encouraging individuality within the established group. For this exercise, each participant was asked to play eight sounds individually on their instrument. When this person finished the last of their eight sounds, the participant on their left (working in a clockwise direction) began their sequence of eight sounds without losing tempo, and so on successively until everyone in the circle had finished. The process was repeated with seven sounds, six sounds, five sounds and so on until each participant played just one sound, completing the exercise when the last participant (the one to the right of the person who had begun it) played their one sound. This exercise involved a higher degree of complexity, since each participant was now also individually responsible for maintaining the unity and constancy of the group by keeping up the previous person's rhythm and sounds.

Figure 2: Exercise 2. Decreasing sequence 1.



Source: Own development.

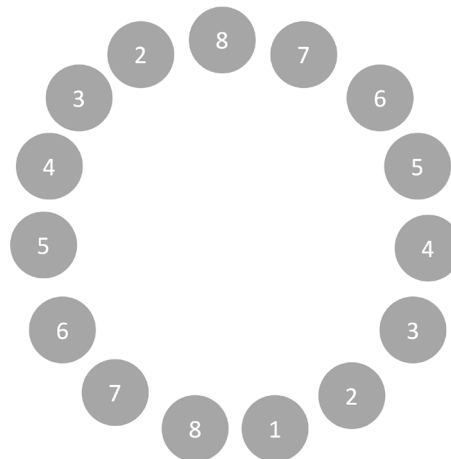
It was interesting to observe that each participant was able to play individually without being hindered from doing so, showing security and a desire to fulfil their function. This was largely due to the fact that the whole group allowed for some variations in the performance (in particular, fluctuations in tempo), with the following participant trying to regain the rhythm. Hence, not only did each individual lead the group when it was their turn, but their performance was also accepted, with the subsequent adjustment or correction of any mistake. In this exercise, there was increased communication among the participants in order to achieve the intended goal. The participants' individual identities also became apparent. As the exercise was performed at an individual level, each performance reflected the characteristics of the person in question and the group began to get to know and integrate them. When the participants felt comfortable with this exercise, they moved on to a more complex, challenging one.

Exercise 3

This exercise is similar to the former one, except the first participant plays eight sounds and the following person seven, the

third six and so on down to just one sound. On completion of all this, the next person starts with the eight sounds again and so on. The biggest challenge was for each one to play a different number of sounds from the previous person.

Figure 3: Exercise 3. Decreasing sequence 2.



Source: Own development.

As a result, the group's concentration intensified, together with their level of integration. Not only did they have to play individually, maintaining the same initial tempo, but they also had to play a different number of sounds. This exercise required the highest level of individuality within the group. By concentrating and listening hard, each member could play a different role within the group, in a superb practical metaphor for the importance of individual and group roles and their interactions. As for the entertainment value of the exercises, due to this one's higher complexity, closer links among all the participants could be observed, with none of them refraining from voicing their opinion or refusing to help others who found the exercise more challenging.

Results

The analysis of the data focused on two types of results. Firstly, the results of the pre- and post-test questionnaires by

the experimental group were obtained. These necessarily must be presented in summarized style, with an outline of the main factors that were identified. Secondly, the written evaluations of the experience at the end of the intervention were gathered and classified, as presented further below.

a) A Comparison of the Pre- and Post-Test

The results are presented according to the origin of the participants (adults versus children) in order to show whether there was a change in: 1. the participants' personal sensations (how they felt); and 2. the level of interrelations/confidence with the other participants in the group before and after the workshop; that is whether closer links among the participants were forged once they had taken part in the workshop through better group cohesion.

Wellbeing before and after the Activity

As for how the participants felt before and after the activity, if we examine the data by the participants' origin (adults versus children), both groups stated that they felt better after the activity. Prior to the activity, 71.4% of the adult participants said that they felt "well disposed" toward doing it, 14.3% said they felt "normal" and 14.3% said they felt "nervous". In the case of the children, 37.5% stated that they felt "well disposed", 41.7% said they felt "normal" and 20.8% described themselves as feeling "nervous". No different pattern between the two groups could be observed ($\chi^2 = 4.341$; $p = 0.114$). After taking part in the activity, neither was a different pattern observable ($\chi^2 = 4.020$; $p = 0.134$). 85.7% of the adult participants said that they felt "well disposed", 14.3% "normal", and none felt "nervous". In the case of the children, 54.2% said they felt "well disposed", 41.7% felt "normal", and just 4.2% opted for "nervous". Hence, following the activity, an improvement in their attitudes could be observed.

If we compare the global pre- and post-tests for their feelings before and after the activity, significant differences can be observed in their level of wellbeing ($\chi^2 = 16.880$; $p = 0.002$). 20% of the participants who described themselves as feeling “normal” before the activity switched to feeling “well disposed” on its completion. Similarly, 16.7% of the participants who felt “nervous” prior to the activity referred to themselves as feeling “well disposed” afterwards, and 14.3% who had described themselves as being “nervous” later said that they felt “normal” (see Table 1).

Well disposed		After the activity				Total
		Nervous				
Before the activity	Well disposed	No. of individuals	19	0	0	19
		%	63.3%	0.0%	0.0%	50.0%
	Normal	No. of individuals	6	6	0	12
		%	20.0%	85.7%	0.0%	31.6%
	Nervous	No. of individuals	5	1	1	7
		%	16.7%	14.3%	100.0%	18.4%
Total		No. of individuals	30	7	1	38
		%	100.0%	100.0%	100.0%	

Source: Own development.

Interrelations/Sense of Confidence with the other Group Participants

When these results are analysed by the participants’ origin (adults versus children), a different pattern can be observed in the declared type of relationship prior to the activity ($\chi^2 = 29.916$; $p = 0.000$). 92.9 % of the adults stated that they had an “acquaintance” in the group, 7.1% said that they had a “friend”, and none cited a “family member”. However, in the case of the children, 4.2% said that they had an “acquaintance”, 83.3% a “friend”, and 12.5% a “family member”.

After they had taken part in the activity, there was an increase in the declared level of familiarity with the other members of the group. All the adults and 91.7% of the children claimed that they knew the people in the group better. No different pattern could be observed between the two groups of participants ($\chi^2 = 1.231$; $p = 0.267$). Likewise, all the adult participants and 95.8% of the children stated that, on completion of the activity, the participants seemed more accessible or friendlier. In this case, too, no different pattern between the groups was observed ($\chi^2 = 0.599$; $p = 0.439$).

When the global data was analysed, the participants described a significant increase in their level of confidence with the other participants ($\chi^2 = 11.982$; $p = 0.003$). Only one participant, who had declared a “family” relationship prior to the activity, said that their level of confidence remained the same at the end of the activity (see Table 2).

			Do the participants seem more accessible or friendlier in some way? (after the activity)		Total
			Yes	No	
Level of confidence with the other participants (prior to the activity)	Acquaintance	No. of participants	14	0	14
		%	37.8%	0.0%	36.8%
	Friend	No. of participants	21	0	21
		%	56.8%	0.0%	55.3%
	Family member	No. of participants	2	1	3
		%	5.4%	100.0%	7.9%
Total		No. of participants	37	1	38
		%	100.0%	100.0%	

Source: Own development.

b) Written Evaluation

The participants were asked to write a brief workshop report. Classified below are some of the evaluations. They reveal an interest in this kind of experience for personal growth reasons. Likewise, they also highlight the potential that these activities offer in boosting people's attention and listening capacity and in fostering inclusiveness and creativity. The expressed ideas have been grouped into four subject areas or categories shown below.

Table 3. Subject areas/categories

Personal development and self-confidence
Attention and listening capacity
Inclusiveness
Creativity

Source: Own development

Personal Development and Self-Confidence

University student: *It helped me to appreciate the importance of a group, because without a good sense of cohesion, connection and concentration, I realize that good outcomes cannot be achieved.*

University student: *The group members were always attentive to all the rest. At no point, did we recriminate one another. Just the opposite. When someone didn't want to take part, we encouraged them to have a go.*

University student: *A workshop of this kind can be very useful because it fosters a series of values that were not only experienced by me first-hand, but which were evident in all my companions. They're values like motivation, a cathartic function, integration and, above all, group cohesion.*

Teacher: *I think I've found another way of working with my boys and girls to get across the importance of group cohesion to them.*

Mother: *Appreciating the importance of your own responsibilities in achieving a common goal. (If you fail, it can be detrimental to your colleagues).*

Teacher: *It's an activity that I could use at many times. When they come in from the playground and they're a bit excited, it can help them to concentrate, or also at times when they're a bit tired. Likewise, it can help them to disconnect when it's time to tackle another class subject.*

Primary school student: *I've never played an instrument and I was afraid of making a mistake, but I felt very much at ease and, in reality, it wasn't very hard.*

Mother: *I'd never done a workshop of these dimensions. I thought it was interesting, and it's encouraged me to do other workshops.*

University students: *It can help us with memory, because the participants must remember everything they have to do during the activity. I'd also say that it teaches us to pay attention and to be attentive, because often if someone's attention wandered, the circle broke.*

Attention and Listening Capacity

Teacher: *I think they understood that we all have to listen to one another, and that it's also important to realize that if you don't listen to what's going on around you, you can make a mistake.*

Teacher: *Boosting the students' attention and listening capacity, both in musical and non-musical terms.*

University student: *Learning the importance of paying attention, and a group feeling of unity in order to ensure harmony and enjoyment of music.*

University student: *It's important to be able to help your companions, to keep calm and, above all, to listen. If we listen, we can keep up the rhythm that has been set, rather than going too fast or too slow, because that only confuses all the others and the rhythm gets lost.*

University student: *The whole group had to concentrate and act as one. When the rhythm's complexity increased, the group were all the more engaged.*

Primary school student: *The hardest thing for me was to pay attention to the exercise. Sometimes, when I realized, it was over. That was the worst part.*

Mother: *The improvised game was a very good idea, but I think it should've been done at the beginning, when the children were more active.*

Inclusiveness

University student: *What impressed me a lot was the fact that, in that room, we were all equal; parents, teachers and students. We were a group, where the only thing that mattered was to work together to create one sound.*

University student: *I want to give one example: a girl (I won't say her name) didn't want to join in because she was embarrassed. As well as being embarrassed, she was also afraid of doing it badly because she's deaf, and she wasn't wearing hearing aids to avoid hearing disturbances all the time. She must've felt a huge mix of emotions. When she finally took part, we all applauded. It was a remarkable experience.*

Teacher: *Seeing the whole group's happy faces and what they all achieved, whether they did it better or worse, show that music moves the world and people.*

Primary school student: *I liked playing with older students and with teachers; it was fun.* University student: *I think the workshop improved the participants' state of mind and their personal potential. That's my opinion, as well as gaining a better understanding of the meaning of inclusion.*

University student: *Art education fosters a sense of empathy, which is very necessary in this world. Art education is inclusive; that is, there's no art movement or type of music you can't feel identified with.*

Mother: *We're all important. The person in charge of the workshop knew how to demonstrate this through their example and their idea for a workshop.*

Creativity

University student: *We learnt that children and adults are both able to create sequences of sounds. It just needs a sense of engagement and knowing how to listen to others.*

University student: *I want to highlight the creative moments during the workshop, the motivation to do something different, and a respect for our companions' ideas.*

University student: *The person in charge of the workshop acted as a guide, accompanying and guiding the group, correcting mistakes, and motivating us. Then we began to improvise, to create... It was fantastic.*

Primary school student: *I liked it when the teacher told me to play whatever I wanted with the drum. It was like a game.*

Primary school student: *We didn't spend very long playing our own things. I would've liked to do it more times.*

Teacher: *This activity can be extrapolated outside schools, because it helps with psychomotor coordination and active listening, the children have fun, it fosters creativity, and they can enjoy the music (for instance, with batucadas).*

Mother: *I think it's an activity that can be done in class with either young children or adults. It can also be done at home, with a group of friends, because it encourages you to imagine, to be creative...*

University student: *I think these activities can also be done vocally, instead of using percussion instruments, by inventing and creating vocal sounds. Improvising and coming up with different ideas that help us to work on our voices so as to be more confident in verbal presentations in class at university.*

Discussion

From the analysis of the data obtained, we present a series of final conclusions in relation to the objectives set out in the workshop. Regarding the first objective: *To investigate the potential of rhythmic percussion to favour group cohesion among the members of a community.* These findings demonstrate how a group of individuals of differing ages who do not know each other can communicate and create a sense of group spirit in a relatively short period of time through rhythm exercises. As the workshop participants acknowledged, these music activities can be extrapolated to situations outside school or university, bringing together different agents from the education sector for transformative purposes by seeking to boost the members of a community's sense of group cohesion.

The second objective: *To promote positive forms of interaction such as getting to know the group, respect, collaboration and mutual exchange.* The results of the workshop point to increased satisfaction on the part of the participants, an improvement in communication and greater security in the tasks they performed. In creative, relaxed, friendly style, each person's integration in the group and respect for all the other members was rigorously ensured, with one common goal: for the music to flow as smoothly as possible. Based on this idea, JORGENSEN (2015) advocates that music teachers should not only think about themselves or about each of the class members, but also about the wellbeing of the whole class or group as a community. This is why socio-educational art projects should form part of activities in schools. In this way, not only can their influence be demonstrated to the groups that take part in them, but also to the different communities where they are held, to the benefit of society in general.

As for the third objective: *To assess the potential of rhythmic education in the expressive, cognitive, creative, emotional and psychomotor development of pupils.* The data show that throughout

the session, the participants improved communication and greater confidence in their performance. This seems to coincide with the concept of participatory music making. For CAMPBELL (2018), music is a powerful tool in educating citizens in a multicultural society and in tackling many challenges shared by educators and members of a community. Music activities can serve as a link among different ethnic, racial, cultural and linguistic groups, both in formal and non-formal education. This kind of intervention also boosts inclusiveness and empathy by offering opportunities for horizontal participation, where all the participants are on a par and each one is a fundamental part of the whole group.

Finally, in this workshop, we were also able to observe how parents actively participate in more practical school activities. The mothers who participated showed a willingness to collaborate at all times and a desire to offer full support to the students in order to achieve the best possible outcomes in the group tasks. The testimonials that we collected show that the described activities triggered shared emotions among the children, undergraduates, family members and teachers. An improvement could be observed in the participants' personal wellbeing. The children and the adults both acknowledged that they felt better after taking part. Likewise, the participants said that their level of security and familiarity with the other participants underwent a significant improvement. They claimed to have forged closer ties with the other people in the group after the workshop because the latter seemed friendlier or more accessible. As for the university students, they highlighted an interest in or need to carry out educational art activities related to the curriculum or syllabus of their respective field of study. According to AYUSTE *et al.* (2016), through practices that foster collaboration among university lecturers, working professionals and undergraduate students of primary education degrees, contextualized integrative educational activities can be designed that offer a response to the problems and challenges of education today. By way of a conclusion, the outcomes demonstrate the importance of art projects based on joint participation among

schools, universities and society as a means of contributing to the social and cultural integration of a community, neighbourhood or school.

In its first chapter entitled 'Sustainable development: A Central Concern', the UNESCO report *Rethinking Education Towards a Global Common Good?* (2015) features a quote by the famous Spanish cellist, Pau Casals. "We ought to think that we are one of the leaves of a tree, and the tree is all of humanity. We cannot live without others, without the tree." The report highlights the fact that: "The world is changing, education must change too."⁴ Fostering new ways of thinking and investing in and using art and music education as a vehicle for social change is a challenge that the education sector must face up to.

References

AYUSTE, Anna; ESCOFET, Anna; OBIOLS Núria; MASGRAU, Mariona. Aprendizaje-Servicio y codiseño en la formación de maestros: vías de integración de las experiencias y perspectivas de los estudiantes. **Bordón**, V. 68, n. 2, p. 169-183. Doi: <http://doi.org/10.13042/Bordon.2016.68211>, 2016.

BERGH, Arild; SLOBODA, John. Music and Art in Conflict Transformation: A Review. **Music and Arts in Action**, V. 2, n.2, p. 2-17, 2010.

BISPHAM, John. Rhythm in music: What is it? Who has it? And why? **Music perception**, V. 24, n. 2, p. 125-134. Doi: <https://doi.org/10.1525/mp.2006.24.2.125>, 2006.

BRICE, Mary. **Pédagogie de tous les possibles. La rythmique Jaques-Dalcroze**. Ginebra: Papillon, 1993.

⁴ Through its different chapters, the recent publication *Humane Music Education for the Common Good*, published by Iris Yob and Estelle Jorgensen (2020), extends the UNESCO report, revealing new ways of thinking and investing in and using music education as a focal point for social change, both now and in the future.

BRICE, Mary. **Pédagogie de tous les possibles. La rythmique Jaques-Dalcroze à la lumière de la théorie des intelligences Multiples du professeur Howard Gardner.** Ginebra: Papillon, 2012.

CABEDO, Alberto; DÍAZ, Maravillas. Positive musical experiences in education: Music as a social praxis". **Music Education Research**, n.15 p. 455-470, Doi: <https://doi.org/10.1080/14613808.2013.763780>, 2013.

CABEDO, Alberto; DÍAZ, Maravillas. Music education for the improvement of coexistence in and beyond the classroom: a study based on the consultation of experts. **Teachers and Teaching**, n. 22, p. 368-386. Doi: <https://doi.org/10.1080/13540602.2015.1058593>, 2015a.

CABEDO, Alberto; DÍAZ, Maravillas. "Arte y música en la educación obligatoria, algo más que un detalle curricular de buen tono". **Multidisciplinary Journal of Educational Research**, V.5, n. 3, p. 268-294. Doi: <https://doi.org/10.17583/remie.2015.1555>, 2015b.

CAMPBELL, Patricia Shehan. Rhythmic Movement and Public School Music Education: Conservative and Progressive Views of the Formative Years. **Journal of Research in Music Education**, V. 39, n.1, p. 12-22. Doi: <https://doi.org/10.2307/3344605>, 1991.

CAMPBELL, Patricia Shehan. **Music, Education, and Diversity: Bridging Cultures and Communities Teachers.** College Press, 2018.

CRESWELL, John W. **Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed.)**. Thousand Oaks: Sage, 2014.

DEL BIANCO, Silvia; RODRIGUES, Iramar. El aporte de la rítmica Jaques Dalcroze en la edad preescolar. **Revista Famus**, V. 3 n. 9, p. 17-22, 2014.

DÍAZ-GÓMEZ, Maravillas. Una educación musical por la diversidad y para la integración cultural. In: J. VALLES-VILLANUEVA, Joan; ÁLVAREZ-RODRÍGUEZ, Dolores; RICKENMANN DEL CASTILLO, René (Eds.). **L'activitat docent: intervenció, innovació, investigació.** Documenta Universitaria, p. 297-305, 2011.

GREEN, Lucy. Introduction: The globalization and localization of learning, teaching, and musical identity. In: GREEN, Lucy (Ed.). **Learning**,

teaching, and musical identity. Voices across cultures, Bloomington: Indiana University Press, p. 1–19, 2011.

HABRON, John; LIESL VAN DER, Merwe. A conceptual study of spirituality in selected writings of Émile Jaques-Dalcroze. **International Journal of Music Education**, V. 35 n.2, p. 175 –188. Doi: <https://doi.org/10.1177/0255761415620532>, 2017.

HENNIG, Holger; FLEISCHMANN, Ragnar; FREDEBOHM, Anneke; HAGMAYER, York; NAGLER, Jan; WITT, Annette; THEIS, Fabian J.; GEISEL, Theo. The Nature and Perception of Fluctuations in Human Musical Rhythms. **Plos One**, V. 6 n.10 e26457. Doi: <https://doi.org/10.1371/journal.pone.0026457>, 2011.

HERNANDEZ-SAMPIERI, Roberto; MENDOZA, Christian P. **Metodología de la investigación. Las rutas cuantitativa, cualitativa y mixta**. México: Mc Graw Hill Education, 2018.

JORGENSEN, Estelle R. Intersecting Social Justices and Music Education Social. En: Cathy Benedict, Patrick Schmidt, Gary Spruce y Paul Woodford (Ed.) **The Oxford Handbook of Justices and Music Education**, p. 7-28. New York: Oxford University Press. Doi: <https://doi.org/10.1093/oxfordhb/9780199356157.001.0001>, 2015.

LEMOES LINO, Dulcimarta; NASCIMENTO DORNELLES, Gabriel do Eu Sabo. Porque Sabo: A Poética da Improvisação na Educação Musical. **Revista da ABEM**, V. 27 n.42, p. 163-180. Doi: <https://doi.org/10.33054/ABEM2019a4209>, 2019.

LIMA BRANDÃO, Ricardo Augusto de; GUDIN PAIVA, Rodrigo. Toicinho Batera: reflexões sobre o desenvolvimento musical de Lourival Galliani. **Anais II congresso brasileiro de percussão. “Desafios Da Percussão Na Academia Brasileira: Entre A Tradição E A Contemporaneidade”**, p. 90-98, 2019.

LOPES, Eduardo. The individual and the group: a practical lesson from musical rhythm. **DEDiCA. Revista de Educação e Humanidades**, V.1, p. 497-510. <https://doi.org/10.30827/dreh.v0i1.7183>, 2011.

LOPES, Eduardo. O ritmo e a improvisação musical como veículo para a extensão universitária. **Revista UFG**, V.15 n.16, p.8-22. <https://www.revistas.ufg.br/revistaufg/article/view/48530>, 2017.

LUM, Chee-Hoo. My country, my music: Imagined nostalgia and the crisis of identity in a time of globalization. **International Journal of Music Education**, V.35 n.1, p. 47-59. Doi: <https://doi.org/10.1177/0255761415619425>, 2017.

OECD. The Future of Education and Skills 2030 project. **OECD Education 2030**, París: Francia, 2018.

PÉREZ-HERRERA, Manuel A. Rhythm and musical orientation. **El Artista**, n. 9, p.78-100, 2012.

RAPHAELY DE SOUZA, Henry; FINK SCHAMBECK, Regina. Processos de ensino coletivo de bateria e percussão: reflexões sobre uma prática docente. **Anais I congresso brasileiro de percussão. "A pesquisa sobre percussão no Brasil: trajetória e novos desafios"**, p.167-175, 2017.

RODRÍGUEZ-SÁNCHEZ, Andrea; ODENA, Oscar; CABEDO-MAS, Alberto. Using life histories with sound postcards to investigate a music programme for social reconstruction in Colombia. **British Journal of Music Education**, n. 35, p.177-190. Doi: <https://doi.org/10.1017/S0265051717000298>, 2018.

YOB, Irish M.; JORGENSEN. Estelle R. **Humane music education for the common good**. Bloomington: Indiana University Press, 2020.

UNESCO. **Rethinking Education. Towards a global common good?** Paris: UNESCO, 2015.

WESTERLUND, Heidi M.; KARLSEN, Sidsel; PARTTI, Heidi (Eds.). **Visions for Intercultural Music Teacher Education**. New York: Springer, 2019.

Appendix 1

Table 4. Educational art activities from the 'My Neighbourhood, My School' Programme

Activity	Title of activity	Given by	Date
1	'Neighbourhood Tales'	Juanjo Bermúdez de Castro, UIB	May_2018
2	'Connecting Networks through Percussion'	Eduardo Lopes, University of Évora	October_2018
3	'An Insight into Nou Llevant through 3 perspectives: the Past, the present and future Desires'	Pere Salvá, UIB	October-December_2018
4	'Urban Spaces and Art Research'	Magdalena Jaume, UIB	September-November_2018
5	'The Design of Art Installation methods'	Magdalena Jaume, UIB	October-December_2018
6	'Looks'	María Elena Riaño, UC; Adolf Murillo, UV; Noemy Berbel, UIB	October-November_2018
7	'A Soundtrack for the Neighbourhood: The Aural Heartbeat': Listening to the Neighbourhood (Sound Capture and Spatial intervention)	María Elena Riaño, UC; Adolf Murillo, UV; Noemy Berbel, UIB	October_2018
8	'A soundtrack for the Neighbourhood: The aural Heartbeat': Creative Capsules (Sketches-Human Mosaics)	María Elena Riaño, UC; Adolf Murillo, UV; Noemy Berbel, UIB	November_2018
9	'A Soundtrack for the Neighbourhood: Sound Maps': Sound Maps: Geolocation of Neighbourhood Sounds	Adolfina Pérez, UIB; Antonia Darder, UIB; Sofía Villatoro, UIB	October-December_2018
10	'A Soundtrack for the Neighbourhood: Sound Maps': 10.a. Sound Maps: The Creation of QR Codes for the Neighbourhood's Sounds and Musical/Visual Compositions	Adolfina Pérez, UIB; Antonia Darder, UIB; Sofía Villatoro, UIB	October-December_2018
	10.b. Sound Maps: The Creation and Exhibition of Aural Posters with QR Codes		

11	'Dissemination of the Project's Activities in a Blog by a 4th Year Primary School Class'	Antonia Darder, UIB	September-December_2018
	'Dissemination of the Project's Activities in a Blog by a 5th Year Primary School Class'		September-December_2019
12	'Neighbourhood Videos'	María del Pilar Rovira, EASDIB	October_2018-January_2019
13	'West Mallorca Story'	Juanjo Bermúdez de Castro, UIB	May-June_2019
14	'My Life in the Neighbourhood'	Carlota Tomás & Aina Orcera CEIP & ESO Pintor Joan Miró School; Juanjo Bermúdez de Castro, UIB	May_2019
15	'The Rudiments for Working on Gentrification from Childhood'	Marc Morell, UIB	May-June_2019
16	'Visual Map'	Daniel Raposo & José Silva, Instituto Politécnico de Castelo Branco, Portugal; Coordinator: Maravillas Díaz, UPV	May_2019
17	'Haiku Poetry - An Innovative Proposal for Working with Children and Youths'	Graça Mota, CIPEM/INET-md	October_2019
18	'Music Production and Creation: Sound for an Exhibition Space'	Kiko Navarro, 'Afroterreano Music'	November-December_2019
19	'The Design and Implementation of a Teaching Proposal Based on Robotics, Using Makey-Makey for 5th Year Primary School Children'	Antonia Darder, UIB	September-December_2019
20	'The Design and Implementation of a Teaching Proposal Based on Robotics, with Bee-Bot Challenges, for 5th Year Primary School Children'	Antonia Darder, UIB	September-December_2019
21	'YouTube Reporter'	Adolfina Pérez, UIB	September-December_2019
22	'Art Project: a Life Experience and Micro-Discovery (of the Neighbourhood)'	Magdalena Jaume, UIB	October-December_2019
23	'Neighbourhood Voices'	Pere Dávila, CEIP & ESO Pintor Joan Miró School; Noemy Berbel, UIB	December_2019

24	'The Evaluation of an Educational Art Programme. A Key Instrument in its Assessment'	Maravillas Díaz, UPV; Noemy Berbel, UIB	February_2020
25	'Rebuilding the City. A Sculptural Look at the Place we Inhabit'	Joan Pere Català, Centro de Cerámica Marratxí; Francisco Cifuentes, 'Aulets-Architects'; Magdalena Jaume, UIB; Noemy Berbel, UIB	September_2019-September_2021
26	'Listen to the Neighbourhood'	Mar Barceló Suau & Rosa M ^a García Moreno, 'Sa Galania'	November-December_2020
27	'Krekovic Museum. An Emblematic Part of the Neighbourhood's History'	María del Mar Gaita, Krekovic Museum; Irene Amengual, Es Baluard Museum; Magdalena Jaume, UIB; Noemy Berbel, UIB	February-March_2021
28	'An Audio-Visual Image of the Neighbourhood'	Javi Cadavieco, Mitos Colom, 'Dalumen'; Kiko Navarro 'Afroterreano Music'	September_2021
29	'Re-inhabiting the Neighbourhood: a Meeting Space'	Noemy Berbel, UIB; Magdalena Jaume, UIB	June-September_2021

Source: Own development.

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