

## THE INDIVIDUAL AND THE GROUP: A PRACTICAL LESSON FROM MUSICAL RHYTHM<sup>1</sup>

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**Abstract:** It is a well-accepted fact that music is present in all cultures and serves many functions. This unique position makes anthropologists consider music as a Human Universal. Therefore, the study of music is nothing less than the study of the Human Race. This is one of the reasons which support the inclusion of music education from the beginnings of the overall educational process. Rhythm is considered by many as the most fundamental music parameter, deeply rooted in our physiology and cognitive system. Many studies have shown that from an early age children perceptually relate to rhythmic structures by attempting to imitate them. This article will present some easy rhythm games that can be used in the classroom by many different age groups. By playing in rhythmic and metrical synchrony, students will develop group awareness and will be able to respond and adjust to other students within the context of a group situation. By fostering and practicing rhythm improvisation, students will also be able to find their own individuality and creativity without losing their awareness of group integration. The proposed rhythm games are a universal language tool that can be used through many educational stages, which promote individuality and social integration at the same time.

**Keywords:** education; music; rhythm; percussion

**Resumo:** É geralmente aceito que a música tem muitas funções e está presente em todas as culturas. Esta característica quase única faz como que a antropologia considere a música um “Universal Humano”. Assim sendo, o estudo da música será o próprio estudo da raça Humana. Esta é então uma das razões para a defesa do ensino de música desde o mais cedo possível no processo educacional. Por outro lado, o ritmo é considerado por muitos como o parâmetro fundamental da música, profundamente enraizado na nossa fisiologia e sistema cognitivo. Muitos estudos apontam para que desde tenra idade as crianças se relacionam perceptualmente muito bem com o ritmo, facilmente imitando estruturas rítmicas. Este artigo apresentará alguns jogos rítmicos que poderão ser utilizados em aulas de diferentes grupos etários. Ao tocar em sintonia rítmica e métrica, os alunos desenvolverão facilmente consciência de grupo, sendo capazes de responder e de se ajustar a outros colegas num contexto de grupo. Através da motivação para a improvisação e sua prática, os alunos serão também capazes de desenvolver a sua individualidade e criatividade sem perderem a noção da sua integração no grupo. Os jogos rítmicos propostos neste artigo são uma ferramenta de linguagem universal

que poderá ser utilizada em vários estádios educacionais, que promove ao mesmo tempo a individualidade e a integração social.

**Palavras-chave:** educação; música; ritmo; percussão

## Introduction

Throughout the ages music has been mainly addressed in the context of a particular culture, or through basic scientific knowledge. The recent revival in anthropology of neo-Darwinian concepts and theories, together with the Genome Project and the advances of Human DNA mapping, has been of some influence in the study of music as a science. This lead, from an epistemological point of view, to some resurgence of writings on music theory that were less concerned with cultural issues, in a move towards the universality of the language of music.

The psychologist and Harvard professor Howard Gardner (Gardner, 1985) proposed the concept of Multiple Intelligences. For him, Humans are equipped with a set of eight capacities which define all our existence: Linguistic, Logical-Mathematical, Spatial, Bodily-Kinesthetic, Musical, Interpersonal, Intrapersonal, and Naturalist. Later, Pinker (Pinker, 2003) sub-categorizes Gardner's Intelligences as realities and basic activities of humans, under the name of Human Universals. In the case of the Musical Intelligence, Pinker also identifies among others: music/dance, musical repetition, and musical variation. It is then with no surprise that one may conclude that in fact music is part of the identity of the human race.

According to George Rochberg (Rochberg, 1972), music – of all the arts of mankind – enjoys the peculiar position of being an intermediary link between the physical universe and ourselves. This is mainly because music relates physical vibrations (i. e., measurable properties of sound) with some kind of human form. The special feature of that human form is the creation of a temporal order without which sound could not be raised to the level of music. In this respect, music is a unique aesthetic form which is able to arise spontaneously in every culture from the action of an autonomous sense of time – deeply implanted in the human mental makeup - on a fundamental reality of the physical universe. Humans' rhythmic energies, rooted in their physiological and neural constitution, are inextricably bound up with their ability to create time in music.

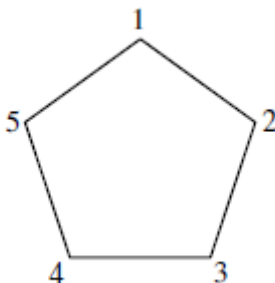
It is probably due to the above that for many people (whether musicians or non-musicians) musical rhythm is considered one of the most, if not the most, important parameter of music (Drake et al., 1991). Bearing in mind the natural connection between rhythm and

humans, I will now propose a set of games that can easily be used in the classroom, which in a fun and musical way will foster the important educational concepts of individuality, group integration, and creativity.

### The Games

Although I use the terminology 'games', what we will in fact do are sets of rhythm exercises. Due to the above-mentioned cognitive sympathy between humans and rhythm, playful aspects of the proposed exercises will be immediately apparent. These games should then be played in a group setting. While the games can be played by only two students, due to attention limitations, it is not advisable that they be played by a group of more than nine students. To perform these exercises no special instruments or musical knowledge are needed. They can also be performed by students of any age group.

In order to explain the exercises let us assume that my group consists of 5 students. The students should be positioned in a circle (Fig. 1). This is important so that they can see each other easily, as well as giving an early sense of group association.



*Fig. 1: Circular positioning of the group*

The group can be sit on the floor or around a table. As said previously, there is no special need to use musical instruments. Although the use of small percussion instruments creates a more realistic musical experience, the rhythmic qualities which come into play in these exercises will arise with the simple use of any percussive sound, such as clapping hands, tapping hands on lap, or tapping a pencil on a table top. Therefore today, my group of 5

students is sitting around a table, and will be using the percussive sound of the tip of a pencil on the table top.

### **Exercise 1**

The group should start with a simple exercise of playing in unison, thus creating a common context. The group leader (e.g., student 1, who can be the teacher) should then set up a regular rhythm - such as that of a relaxed walk - with the pencil on the table top. The rest of the group should join in, making an effort so that the sound of five pencils playing the same regular rhythm should sound as much as possible like one pencil. As shown by the music notation in sequence 1 in Fig. 2, the ostinato sequence being played should be perceived as a regularity of 4 notes by accentuating (playing louder) one note out of every four. In this manner, we are not only perceptually creating a group universe by the synchronicity of events, but also starting to cognitively induce a hierarchy of periodicities (Povel; Essens, 1985). By playing sequence 1 in unison, the students are actively making an effort to succeed in integrating an already complex group context. While listening to the other players and adjusting their playing at the level of the single event, students also have to synchronize at a higher hierarchical level: stressing out one of every four beats.



*Fig. 2: Multiplicative Rhythms*

Once the group is able to perform sequence 1, student 1 should now start to play sequence 2, keeping the same pace/tempo. This sequence comprises twice as many notes as sequence 1, which

implies a faster speed. In this manner, two notes should now be played in the space of one. As in sequence 1, the first of the eight notes should be played louder. The group should join in with student 1 by repeatedly playing the sequence in unison. The difficulty in performing notes in unison at a higher speed increases the level of attention that is needed for each student to integrate her/his playing within the group. It is then the attention (and group awareness) through listening to oneself and others, that will raise awareness of group dynamics. This awareness will then lead to individual adjustments in the playing of students in order to contribute to the group's success.

Again, once the group is able to perform sequence 2, student 1 should now introduce sequence 3. Multiplying the speed of sequence 2 by two, we will have now a sequence consisting of sixteen notes. Performed at the same tempo as in the previous sequences, sequence 3 doubles the rate of notes of sequence 2, and quadruples the rate of notes of sequence 1. This means that compared to sequence 1, sequence 3 has four notes in the space of one. As before, the first note of the sixteen should be played louder. As before, the difficulty of the individuals in the group in consistently performing in unison this even higher rate of notes demands for an even higher attention and coordination among the students. On the other hand, the physical-psychological processes that each student developed in order to comply with the dynamics of the group in the previous sequences, will now be used as tools for continued successful playing. This means that at this stage students become familiar with each other and the overall group 'voices', and are able to adjust more easily to a higher level of group integration. Although it is extremely simple, this exercise is a good first step for students towards creating group awareness, through the obvious need to listen to others in order to make any adjustments needed to successfully integrate their playing within the group.

## **Exercise 2**

The following exercise also uses the above rhythm sequences but is a step forward in group awareness and integration. This time the students will not play in unison but take turns by themselves. Student 1 will play sequence 1 four times (do not forget the accents at the beginning of each beat). Once student 1 finishes the fourth beat, student 2 should immediately start the same sequence at the same tempo playing it four times as well. This

procedure should continue in the same way with the remaining students. The idea here is that each student will have a clear sense of what s/he is playing (since there will be no one else playing at the same time), but will still have to conform to what the previous student played. In this exercise some individuality of expression will become perceptible. Nonetheless a wish to make the transition between students as smoothly as possible will be seen. All these adjustments will be inferred collectively, helping to build the group's identity. When student 5 finishes the fourth sequence 1, student 1 should start sequence 2, also playing it four times. As mentioned before, it is important that the beat should be kept the same throughout this exercise. When a new player starts the sequences, s/he should start on the beat following the last beat of the previous player. With this new sequence, and although the pace/beat stays the same, there is a perception of acceleration due to the higher rate of notes being played. This will then require a higher level of attention from the players in order to control any acceleration or slowing due to the different number of notes being played. Each student should then play sequence 2 four times in her/his turn. In the same manner as before, once student 5 finishes the fourth sequence 2, student 1 should start sequence 3. The same procedure should be carried out with sequence 3, with each student taking turns to play it four times. When student 5 finishes sequence 3, student 1 can start again with sequence 1, and the whole exercise can continue as long as teacher wishes.

While in exercise 1, students started to get familiar with the rhythm sequences and with the dynamics of playing in group through playing in unison, exercise 2 starts to introduce individuality within the group. In exercise 2, students not only have to conform to the group's ongoing motion of the sequences from one student to another, but also each student's individual efforts to keep the chain going becomes perceptible. Each student will have a clear sense of her/his role in the group's dynamics, but also the other members will observe this in the individual playing. One basic difficulty in this exercise is keeping the tempo/pace of the group (Epstein, 1995). Since each student will be playing alone, there is a tendency for each individual tempo to become dominant, resulting in an awkward transition from player to player. Students should try to find a compromise between their own tempos and the overall pace of the group. For this they will have to listen and internally play with the

previous player so that when it is her/his turn to play they know how to follow accordingly.

### **Exercise 3**

Although Exercise 3 is similar to Exercise 2, it raises the level of students' individuality within the group. This time students do not repeat the sequence that was played before. In this way, when student 1 finishes playing sequence 1 four times, student 2 should start sequence 2, playing it four times. Student 3 will then play sequence 3, and student 4 will start sequence 1 again. Following the four times of sequence 2 played by student 5, student 1 will now play sequence 3. This exercise gets especially interesting when it is played by an odd number of players. Since we have three sequences, it will take three complete laps in our group to get back to the starting order of sequences. This means that each student will have to play a different sequence in each turn.

While in the previous exercises it was always up to player 1 to start a different sequence, in exercise 3 every player has the responsibility to move up the order of the sequence. In this manner students will be assigned a higher level of responsibility within the group. Not only does each student get to play by her/himself, but s/he also has the task of starting a new sequence. The individual now has the duty to move the group forward, without losing sight of what has been played before and after. This is especially important because s/he will not be able to successfully complete her/his task if s/he does not pay attention to what has been played before and to what will be played after his/her intervention.

### **Exercise 4**

In the previous exercises we have stressed the increasing importance of the action and role of the individual within the group dynamics. In this manner, each player will sense the group entity as well as her/his own role for and within the group dynamics. This exercise will address an even higher status of individuality for each member of the group by using the musical concept of rhythmic improvisation (Lopes, 2008b). Students will develop two types of improvisation: controlled improvisation; and free improvisation.

Let us start with controlled improvisation. The present exercise is based on exercise 1. Since students are now thoroughly familiar with the rhythmic sequences and overall processes (Lopes, 2008a), at the count of four called out by player 1, the group should

start playing sequence 1 in unison. The exercise should proceed with the group playing this sequence four times, followed by sequence 2, and sequence 3, each of them also four times before starting again with sequence 1.

Immediately after the group starts to play the exercise, player 1 should start to improvise over of what is being played by the group. This improvisation is called controlled since the improviser can only improvise using the rhythmic material of the three sequences. If the improviser is comfortable with the rhythms of the sequences, s/he can also incorporate silences (rests), as well as mixing up rhythms from each sequence: for instance, playing two beats from sequence 1 followed by two beats from sequence 3.

Once the improvisation starts, the group should play more softly so that the voice of the improviser stands out. The group should also stress the notes at the beginning of each sequence so that they can keep track of the number of sequences, as well as their order – therefore making the process easier for the group as well as for the improviser. When the group finishes the whole sequence (the three sequences four times = twelve measures), hence returning to sequence 1, player 1 should stop improvising and join the group at sequence 1. At this point it is player 2's turn to improvise. The process should carry on as before until all group members have had their chance to improvise.

As we have said before, this exercise takes the individual/group interaction to a higher level. The group is responsible for keeping track of the sequences, as well as for the momentum and pace of the exercise, hence providing a context for the improviser. It is also very important that the group does not get distracted with the improviser's discourse. It is up to the group to be solid in order to create a chronometric (Lopes, 2003) basis in order to fit and support the improviser's rhythms. The improviser should be playing within the grid that the group provides. Although s/he is free to play whatever sequences or rhythms s/he feels are appropriate, it is important that the discourse does not fall outside the context. Even though there is an improvisation going on, both improviser and group should be paying attention to what is happening.

The free improvisation exercise is exactly the same as the controlled improvisation, except that the improviser is now allowed to play whatever rhythms s/he chooses to. In this manner, the improviser is able to expand the vocabulary of her/his discourse, therefore taking the individual experience to an even higher level.



Nevertheless, the group and individual should continue to work together. If on the one hand the group still provides the context in which the improviser exists, on the other the improviser is able to take the experience of the group to another level of musical satisfaction.

At this point in the exercises, and considering that the group has had the chance to practice them all, the students may have started to realize some issues regarding the roles of the individual and the group in order to make a project work – in this case a musical one. Although each group has its own dynamics depending on its members, issues of group integration and individuality are at the crux of the successful existence of a group. Once these exercises are put into practice, students will be able to perceive the group dynamics, and which efforts are needed (and result) towards the success of a group identity. It will also become apparent that each student's own uniqueness (once revealed, understood and received by the group), will greatly benefit the identity and dynamics of the group, as well as each member's individual fulfillment.

We will now proceed to the last two exercises which use different rhythmic sequences. The sequences used in the previous exercises (Fig. 2) comprised a multiplicative stance – that is to say, the sequences were related in a multiplicative/divisive way (i.e.,  $\times 2$  or  $\times 4$ ). In this manner, each sequence kept the same beat/pace which was then subdivided in accordance to the multiplicative number of notes in each of the sequences.

Fig. 3 shows the rhythmic sequences which will be used in the next exercises. Each one of the 10 sequences has one less beat than the previous one. Starting then at sequence 1 with 10 beats, we reach sequence 10 which has only one beat. These rhythm sequences are then related in an additive/subtractive way. Let us now move to the exercises.



**Fig. 3:** Additive Rhythms

### **Exercise 5**

It is again student 1 who should start this exercise. The tempo/pace should, as in the previous exercises, be slow and like a relaxed walk. Immediately after student 1 finishes sequence 1, student 2 should play the same sequence without losing the beat – that is to say, student 2 should play her/his first beat as if it were beat eleven of student 1's ten beats sequence. In the same manner as before, once student 2 finishes sequence 1, the sequence should be played by student 3. This procedure should follow accordingly until all players have performed it. When student 5 finishes sequence 1, student 1 immediately starts sequence 2. Student 1 should be very aware of her/his playing and role since s/he has to play a sequence that is now nine beats long. Since student 2 will be the one who will have to play the nine-beat sequence next, s/he should also be very alert. In the same way as in sequence 1, sequence 2 should advance through all the players. Again, once player 5 finishes sequence 2, player 1 should start sequence 3 in time. This procedure should be followed through all the sequences until sequence 1 (the one note sequence) passes through all the players.

The main difficulty with this exercise is that as it progresses through the sequences, the players have to respond faster due to the smaller amount of notes in each sequence. In order for the group to succeed, every player should be very aware of what the others are playing. In a certain way they have to anticipate what they will play by listening to the previous player and even playing silently with her/him. Although each student plays solo, it is advisable that each student should be playing silently in unison until it is their individual turn to play.

### **Exercise 6**

Exercise 6 is similar to exercise 5, only this time the sequences progress according to the players' cycle of progression. This means that after student 1 plays the ten-note sequence 1, student 2 will play the nine-note sequence 2. This process should be carried on until one student plays the one-note sequence 10. While in exercise 5 it was always player 1 that started a new sequence - therefore having the responsibility to successfully remove one beat from the previous sequence - in exercise 6 all players have to do it. This exercise tends to be harder than the previous one since it demands the same amount of attention and effort from all players. Here, the individuality of each player will have a direct bearing on the accomplishment of the group. Since the music (rhythms) is changing from player to player, it is essential in this exercise that each player is in close association to what everyone else is playing. Also, depending on the number of players in the group, from cycle to cycle one player must perform a different sequence (as it is the present example of a group consisting of five students). In this manner, each player must actively and internally be playing the sequences performed by the other members. Once the group is comfortable with this exercise, the next step is to increase the tempo of the sequences, and therefore increase the level of group proficiency in playing.

For really good groups, or groups that have practiced these exercises for some time, another way to raise the level of group proficiency is by playing exercise 6 in a mirror fashion. Once the first player reaches sequence 10, the next player, instead of playing sequence 1, plays sequence 9. In this way each player will then perform the number of the sequence immediately before (going from 10 to 9). Conversely, once a player reaches sequence 1 again, the whole process starts once more, where each player performs the

following numbered sequence (going from 1 to 10). In order for this exercise to succeed, the group attention and individual involvement from the players has to reach really high levels. As in the previous exercise, the players do not necessarily know beforehand which sequence they will have to play – this is even more true in the mirror fashion since the order of sequences reverses from time to time.

## Conclusion

The above games are in many ways an excellent educational tool for the awareness of role of the individual within a group, without neglecting each player's own individuality. By using as a context for the games an art form (i.e. rhythm and music), which easily relates to most people, a prompt and willing reception from the students is assured. From a technical point of view these games do not necessarily demand a highly developed musical knowledge or even musical instruments at all, hence they can be carried out in any classroom... Also, the level of proficiency at which these games can be played may vary depending on each group. A less proficient group may well derive useful knowledge from the early exercises, while the most proficient groups will greatly benefit from the highest level exercises.

In these games, the educator will be able to perceive and address with her/his group of students' issues such as integration, attention, control of individuality within the group, as well as group work for the development of individuality. In the context of the present games, previous social and educational concepts were easily addressed in a musical context through the development of proficiency in group time and tempo control, solo playing within a pre-defined sequence, and controlled and free improvisation. The educator will be able easily to identify and tackle in a fun and easy way any of the above issues with students that may show some difficulties. Also, s/he will be able to easily develop other games based on these ones that may more be suitable to each group's own difficulties or achievements - and this may be the best lesson art can give education: the possibility to look for new ways.

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