

EARLY YOUNG CHILDREN'S BEHAVIOR DURING MUSIC AND MOVEMENT PROGRAM

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SUMMARY

The parameters which represent the basic elements for organizing a music and movement program are: understanding the concept of steady beat, synchronized movement, time awareness, quick reactions, space awareness and creative movement. The present study examined the effect of a three-month music and movement program on early young children's behavior, during these kinds of activities. The study of this effect was based on fundamental abilities stressed in the 'education through movement' model, developed by Weikart and Carlton (1995). Subjects in the current study were 60 pre-school children (32 girls and 28 boys), of 4-6 years of age. All children participated in a three-month music and movement program, based on the Orff (Keetman, 1974) and Dalcroze (Bachmann, 1991) approach. Before and after the completion of the program, a qualitative assessment of the children's participation in music and movement activities was used. The parameters studied were: space awareness, readiness, rhythmic co-ordination, rhythmic synchronization and motor creativity. Tests were videotaped and data were collected using the participant observation method. The results showed that the program developed the parameters cited above. This means that early young children improve their space awareness and their readiness through motor responses to auditory stimuli. Their rhythmic co-ordination and rhythmic synchronization were better after the experimental procedure. Finally, children gave more movement solutions as responses to motor problems which were presented by the teacher.

INTRODUCTION

To preserve and develop the unity of music, movement and speech for children is one of the main tasks of the Orff-Schulwerk method for music and movement education (Keetman, 1974). This approach requires an elementary movement training that is able to provide, through the strong emphasis on rhythmical elements, a reciprocal benefit to motor development (Andress, 1991). Walking, skipping, running, hopping and jumping can all be expressed through specific rhythmic patterns. The abstract concept of steady beat underlies any rhythmic pattern. Steady beat is the consistent, repetitive pulse that lies within every musical selection and has even durations, occurs at equal intervals and can be either fast or slow. Steady beat is involved in sport and game skills and has connections with language, mathematics and many fine-motor activities, such as handwriting, typing and so on (Grieshaber, 1987). Children's ability to feel steady beat makes synchronization possible - allowing children to perform music, dance or other movement routines together.

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Description and assessment of children's movement skills with respect to music have received some attention in research literature. Groves (1969) studied the relationship between rhythmic training and the ability of children in grades 1-3 to synchronize body movements with rhythmic stimuli. Significant differences were found between those children who had received and those who had not received this training. Grade and motor ability were significant factors in the synchronization task performance. Evans (1972) came to the same conclusion, examining the synchronization of movements to rhythm, as well as auditory motor rhythm and spontaneous rhythmic movement abilities.

The element of time relates to how slowly or quickly a movement is performed and also includes the range of speed in between movements (Ellis, 1992). Rhythm, although often associated with the element of time, is mentioned separately because of its many facets and benefits to students (Wolf, 1992). This element not only relates to music but also encompasses the many rhythms of life. Words, for instance, have rhythm, as do the various locomotor activities (e.g. the rhythm of a run differs from that of a hop).

Many children entering elementary school lack time awareness (van Scoy and Fairchild, 1993). Sometimes the way a child moves indicates that the child does not even feel a steady beat. When asked to move to a steady beat, the child uses erratic movements or walks in an unbalanced, unco-ordinated way. Weikart (1998) stated that teenagers who were unable to walk to the beat demonstrated only a 15 per cent success rate in ability to follow movement sequences which were presented visually. These children demonstrated the same low success rate when acting upon verbal information. It is not surprising therefore that these children have difficulties with activities and tasks requiring timing throughout their school careers.

Children develop time awareness in two stages (Weikart and Carlton, 1995). The first stage is beat awareness. This involves being able to move to their own internal steady beat, to match a steady beat that is spoken verbally or modelled visually by others and to perform locomotor and non-locomotor movements to that steady beat. This includes being able to copy a teacher's movement. The second stage in developing time awareness is beat competence. This means being able to independently identify, express and keep rhythms with hands as well as feet, using both non-locomotor and locomotor movements.

Clapping is the easiest way to express a rhythm and it is always a good plan to accustom children to feel any rhythm. Clapping exercises are most useful for showing height and depth of sound, and for marking accents. Children can clap while moving, standing or sitting. Accompanying walking with clapping at different rhythms and later with percussion movements and instruments, the children will be able to achieve independence in terms of walking and percussion rhythms. Weikart's rhythmic training technique (1998) emphasizes the use of a hierarchy of movements when training younger children, beginning with non-locomotor tasks and progressing to integrated movement that includes locomotor tasks. The activities consist of saying the beat without movement and tapping (non-locomotor skills), and walking (a gross locomotor skill) according to the beat. The elements of movement can be used to vary the way skills are performed. The children can walk or run on the spot, forward or backward, quickly or slowly, with short or long steps, on the toes, on the heels or on the outsides of the feet, with bent or straight knees, heavily accented or lightly creeping, and in many other ways. One can also walk in different time structures, the simplest being two-four and three-four time, followed later by other possibilities (Pica, 2000).

Dalcroze (Bachmann, 1991) developed a music-movement education approach called 'eurhythmics' which is based on the premises that the source of rhythm is found in the human body and that the child is able to organize rhythmic stimuli and translate them into an existing movement repertoire. This approach incorporates the child's natural repertoire of movements, e.g. walking, skipping and running, and expands this repertoire through rhythmic and improvisational exercises. According to Dalcroze's method, rhythm includes the factors of time, space and energy (Findlay, 1971). Movement is a unique rhythmic experience because it is an organization of events in time and space. Each body movement consists of moving one body part from one point in space to another, and this movement is conducted in a specific amount of time. Energy refers to the manner in which the movements are executed (lightly or weightily, supplely or stiffly, slowly or briskly). Dalcroze's teachers improvise rhythmic elements and children are instructed to use natural body movements to respond to musical suggestions (follow) or make independent decisions (lead).

Other exercises termed 'quick reaction games' are incorporated to encourage children to demonstrate a physical response to a

predetermined musical stimulus. Reaction to auditory stimuli is among the tasks that can be undertaken in the first lesson without the prerequisite of any movement skills. This training of the senses in direct connection with physical reaction should have a large share in the early stages of teaching and should appear in every lesson in some kind of play situation. The child is asked to react to an auditory stimulus by changing the kind of movement, the direction of his travelling or the forms or groupings in which he is moving.

Another element which is used in music and movement programs is space awareness. Space awareness means the use of personal or general space, different directions and different pathways (Somerville and Bryant, 1985). Both general and personal space consists of three levels. When standing upright, a person is at the middle level. Anything lower to the ground is considered to be the low level. Positions or movements performed on tiptoe or in the air occur at the high level. Finally, movement performed through general space also involves pathways, which will be straight, curving or zigzag (Herman et al, 1985).

Once children have developed comfort and awareness moving in personal and general space, once they have ownership of the concepts embodied in their movement and can extend those concepts, then they have established the self-confidence and support to try something different. The early elementary years are the ideal time to establish what creativity means and how each person can be creative throughout life (Cleland and Gallahue, 1993). Producing creative movement means that the child takes something familiar and changes it in some way (Young, 1985). As we look at ways the children can be creative with movement, we will consider four categories: problem solving, representing, creativity with hand-held objects and choreography (Isaksen and Parnes, 1985). The first two of these categories are the easiest and therefore the most appropriate for early young children. The first category consists of situations in which children are given some of the 'pieces' of a movement 'puzzle' and asked to solve the puzzle. A movement problem can be made simpler or more complex merely by varying the number of missing pieces. The possible pieces to leave out are: the body part to be moved, the type of movement to be carried out, the where of the movement, the how of the movement and the body position for the movement. The representing form of creative movement which is a favourite for early young children

involves re-enacting familiar actions or happenings or imitating the movements of various living things and creatures. It is important that the event, thing or creature to be represented is derived from the child's concrete experience.

All the above parameters, that is understanding the concept of steady beat, synchronized movement, time awareness, quick reactions, space awareness and creative movement, comprise the basic elements for organizing a music and movement program in early young children. The present study examined the effect of a three-month music and movement program in early young children's behavior, during these kinds of activities. More specifically, the study explored how children of that age learn to react to external stimuli, use rhythm and movement elements and also learn how to express their creativity.

METHOD

Subjects

Sixty pre-school children (32 girls and 28 boys) participated in the current study and they came from four typical pre-school classes, from two pre-school centers. Their ages ranged from 4-6 years ($M=5.43$, $SD=0.55$). Participation of all children depended upon informed consent from a parent or legal guardian. The present investigation was conducted during the academic school year.

Measurements

The evaluation procedure of the study concerned the qualitative assessment of children's participation in music and movement activities. Four kinds of activities were organized, in proportion to the four examined parameters. More specifically, the following parameters were studied: a) space awareness: general and personal space identification, b) readiness: children's reaction to the word 'stop', c) rhythmic coordination: walking in crotchet's tempo, accompanied by percussion movements, also running in quaver's tempo and d) motor creativity: number of possible solutions - activities, as responses to movement problems.

The investigator and the schoolteacher were present during all testing. Each class was tested separately. Tests were videotaped and data were collected using the participant observation method.

Experimental Procedure

The pre-test lasted 30min for each group and was conducted in a multi-purpose room at school. After the initial assessment, children from each pre-school center were randomly assigned to two groups, for the application of the program. Thus, four groups were formed and all of them followed the three-month music and movement program. A physical education specialist, who also had experience in applying the methods of Orff and Dalcroze in rhythmic instruction, applied the program twice per week for 35-40min. After the program's completion, each subject's behavior in test activities was re-evaluated.

Music and Movement Program

The program's organization was based on rhythmic education principles of the Orff (Keetman, 1974) and Dalcroze (Bachmann, 1991) approaches. Thus, readiness and reaction movements, spatial orientation, concentration and initiative were included (Paynter and Aston, 1970). Improvisation skills, creative and percussion movements (e.g. clapping, patting knees with both hands, tapping floor with foot) covered a big part of the program. These movements were combined with others demanding spatial awareness and execution of simple rhythmic motives and difficult rhythmic patterns (Keetman, 1974).

Children's familiarity with temporal rhythmic symbols and elements of rhythm (e.g. tempo, accent and intensity) was achieved in three phases: a) individually or in pairs, they used percussion movements to reproduce the bars and the rhythmic motives which were initially produced by the teacher, b) they experimented with percussion instruments and created their own rhythmic patterns and c) they gave motor responses to the teacher's auditory stimuli.

The percussion instruments used were tambourines, woodblocks, maracas and triangles. The temporal rhythmic symbols which were taught were quavers, crotchets and semibreves. Children's familiarity with the crotchet's symbol was achieved during the first five lessons. On the sixth lesson, the quaver's symbol was introduced, and on the eleventh lesson, children learned the temporal symbol of the semibreve. The three rhythm elements mentioned above were expressed by respective changes in movement execution. Children practised the above symbols, performing fundamental locomotor skills simultaneously. For example, running and skipping were performed with the rhythm of quavers and jumps were performed with the rhythm

of semibreves. All fundamental locomotor skills were executed in different rhythm tempos. In addition, skills were performed in combination, relying on the rhythmic motive provided by the teacher, e.g. running-skipping-running or jumping-running-jumping. Lessons were pre-scheduled and videotaped. Both groups practised during the school period in a multi-purpose area.

The researcher's role was participial during activities but leading and exhibitory during execution of games. The apparatus used in the program consisted of both percussion instruments, such as taambourines, woodblocks and maracas, as well as exercise equipment, such as hoops, ropes and textiles.

RESULTS

The research data showed as concerns space awareness and readiness, the subjects did not cover the entire general space and some collisions between children were observed during the initial assessment. Also, children moved in groups and not individually. The children's reaction to the word 'stop' was belated and the majority of the children continued to walk after the verbal signal, whereas they stopped when they were shown other children who had stopped. During the final assessment, the children presented significant improvement, that is only eleven of them were not able to react immediately to the word 'stop'. The rest of them not only stopped moving without touching others but also remained in the motor figure that they had been in when they heard the signal.

As far as rhythmic co-ordination was concerned, the children's ability for simultaneous execution walking and percussion movements in the rhythm of crotchets was studied. Fifty-two children walked without being able to accompany their movement with percussion movements or performed percussion movements without rhythm during the pre-test session. Their performance was different during post-test activities: forty-six of them performed these kinds of activities successfully.

During the activity which required running in the rhythm of quavers, the children ran to the same direction and their movement tempo was faster or slower than the quaver's tempo initially. Their improvement in performance was obvious after implementation of the program. Almost all subjects were able to choose their movement direction and their movement was synchronized with the given tempo.

The last activity included in the evaluation procedure required the children to give as many movement solutions as possible as responses to a problem which was presented by the teacher. The score was the total number of different responses given by the children. During initial assessment, the children only gave eight different responses, whereas they gave a total of twenty-two responses during the final assessment.

DISCUSSION

In movement and music education developed by Weikart and Carlton (1995), the movement key experience feeling and expressing steady beat is fundamental to both movement and music. Being able to feel, express and then keep to a steady beat - the ability that we call basic timing - is one of the important prerequisites for early success in education. A learner with basic timing is able to independently identify and feel a steady beat, express the beat with non-locomotor and locomotor movement and keep the beat throughout any rhyme, song or recorded or live musical selection. Basic timing prepares the student to function throughout the curriculum; it affects motor skills, sports skills, musical performance, speech-flow and reading comprehension. It involves responding both cognitively and kinesthetically to auditory and visual stimuli to bring refinement and synthesis to tasks (Weikart et al, 1987).

The study of children's behavior during the present music and movement activities showed interesting results. This study was based on fundamental abilities stressed in the 'education through movement' model developed by Weikart and Carlton (1995). These abilities may be thought of as underlying a student's performance in all curriculum areas and include: response to auditory information, space awareness, time awareness or basic timing, co-ordination, problem solving and creativity.

More specifically, children presented better space awareness and improvement in movement reactions to verbal signals. Sims (1985) found interesting results for pre-school children's reactions to different selections of musical stimuli. The children's use of rhythmic movements seemed to depend upon the music's tempo or the prominence of the beat and indicated that music for use in early young children's movement activities should be purposefully and carefully

selected. The children in the present study showed improvements in their rhythmic co-ordination and synchronization in the post-test activities. They achieved the ability to synchronize their movements with the rhythmic pattern given by the teacher and managed to perform basic motor skills or percussion movements. To develop time awareness, children need the guidance of competent teachers and parents (or caregivers) who can provide many varied experiences within a safe environment. These adults need to appreciate the value of children becoming secure and proficient in feeling and expressing steady beat and various rhythmic motives.

Guidance leading to beat competence can begin very early indeed (Kessler, 1991). During the pre-school years and kindergarten, children need opportunities to experience a variety of repetitive single movements that lend themselves to beat-keeping. The child who has an abundance of these kinds of experiences will be secure with steady beat before entering school. While children are learning to feel and express steady beat, the movements that are used for expressing beat should be single rather than sequenced movements (Andress, 1991). A single movement takes one beat to complete before it is repeated: one movement coincides with one beat. A single movement can be executed with two sides of the body (both hands patting knees); with one side of the body moving repetitively followed by a corresponding repetitive action on the other side of the body (the right hand pushing in front of the body several times, then the left hand doing the same); or with alternating movements (walking feet or alternately patting knees).

There is also some music that evokes a spontaneous movement response (Sims, 1985). It is mostly an unconscious motivation that is thus appealed to that is, particularly in a child, as yet untrained. This unconscious motivation should be fostered and encouraged. Teachers must try to preserve that which is intuitive and original, but at the same time help to bring about that which may at first be a formless and haphazard conscious form. For this purpose music that gives an impulse to movement is a suitable medium. So, children move as they like and as they feel to a melody or rhythm played by the teacher. The melody should have a clear, uncomplicated form that the children can understand, and on the rhythmic side it should give a stimulus to certain kinds of movement (music for walking, running, skipping, etc.).

Motor creativity in representing forms of creative movement was also studied. It was expressed in this study through the number of movement solutions which the children gave as responses to the problem presented by the teacher. The number of movement solutions was significantly greater after the three-month music and movement program than before the program. The teacher can be very helpful in these activities by giving encouraging comments, indeed all criticism of improvisation should be positive. We cannot expect children to suddenly express creativity if there has been no lead-up to this by means of many opportunities to express individual ideas and make choices. Movement improvisation should always start at an early age. There will always be children who, in their carefree way, particularly enjoy moving freely and who as such have an enlivening effect on other children. Especially when working with small groups, teachers should dare to encourage more and more children to give free expression to their melodic and movement imagination in this way. There are also children who lack the courage and self-confidence to move freely.

The results of the present study show that music and movement activities affect parameters which are significant and play an important role in children's development and children's performance in various areas, such as their academic performance and their oncoming involvement in sport games.

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