Supporting Cognitive Development of Five to Six Year Olds Using Music

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Laurea University of Applied Sciences   **Abstract**
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This functional final thesis was done in co-operation with the working life partner which in this case was the International Childcare and Education Centre (I.C.E.C.). The purpose of this thesis is to support the cognitive development of five to six years old using music and rhythmic movements. The theoretical framework consists of the Early Childhood Education, National Curriculum Guidelines on ECEC in Finland, cognitive development and musical development.

Four different sessions were planned and executed with the pre-schoolers group aged 5-6 from the International Childcare and education centre. During the sessions children´s learning progress was observed and recorded. According to the outcome the sessions were carried out in an interesting manner for the children and were able to support their cognitive development. This was evident in the end of the project as children were able to sing and repeat the movements without any supervision.

The implementation was inspired by the musical ways through which 5-6 year olds develop and learn. Musical activities and movement, support children´s cognitive development in a safe atmosphere. Each session focused on a specific topic, which were supported by the implemented methods.

The used working methods were found to support the aims and goals of this project. Each participant managed to take part in each activity which in turn enhanced their cognitive skills.

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1 Introduction

Children represent the future of our society and healthy childhood environments are building a stem for successful human growth and development. Music in early childhood and in general has a very significant influence on human nature. It awakens different feelings and emotions, and even enriches social and cultural life of human society. Usually, people will dispute the idea that music can lead to enhancement of higher brain functioning. However, it has been demonstrated through different use of music that children benefit enormously from musical activities primarily because of the changes it causes in brain.

The learning of children mainly depends on cognitive development which determines progresses and weaknesses in education. Therefore, supporting cognitive development deserves high attention from very early stage of life. In this thesis, the authors chose target group of 5 to 6 years old. The choice of this age-group to be the project participants was determined by the fact that children in this age group are old enough to accomplish different exercises and comprehend the instructions given by the supervisors.

The authors are both crucially interested in learning about child cognitive development. The interest is supported by field of study and actual working experience. The authors hope that information obtained during this project will equip them with knowledge and skills necessary for work with children.

In order to achieve the desirable results, music and rhythmic activities will be used. The explanation of musical and rhythmic activities should enable the reader to understand the whole idea of this course. The particular description of methods used will show how the results desired can be achieved. The authors have chosen musical and rhythmic activities for the method as it has a potential capacity to get the expected effects. During the project sessions the authors focus their goal in promoting such an atmosphere that will enable children to relax and use their mental capabilities properly. Consequently, this should help the authors to observe and evaluate target group during the sessions. All the sessions will be planned in cooperation with working life partner.

2 Purpose of the study

The central purpose of this study is to find out how music can be used as a tool to support cognitive development in the chosen target group. With this intention in mind the authors focus their main objectives in constructive intervention and identification of the most successful ways of interaction with kids while the musical activities are conducted.

Moreover, the authors hope that their work will contribute into this field and will enable better understanding of how musical activities could be used to support child cognitive development.

3 Background of the Thesis

The International Childcare and Education Centre (ICEC) was founded in 1989 by Sharon Auri who herself has a great experience in childcare work. At the moment, there are 8 centers in I.C.E.C. and it has groups for children under age of seven. Therefore, there are groups of Toddlers (1 – 2 years old), Toddles (2-3 years old), Preschool (3-4 years old), High scope (4-5 years old), as well as Schoolroom that is divided into two sub-groups: Reception (5-6 years old), and Year 1 (6-7 years old). All these centers are located in different places in Espoo and Helsinki, in such areas as Töölö, Herttoniemi, Niittykumpu, Meilahti, Mäntytie, Westend, and Degerby. The curriculum which Center follows is British but it takes into account requirements of Finnish curriculum. For example, it includes age requirements that correspond to Finnish curriculum. In Britain children go to school at the age of five, but in Finland children start the school age at seven or eight. Therefore, I.C.E.C. provides daycare services until children are 6-7 years old.

The day care where thesis project will be taken is located in Meilahti. There are two units in I.C.E.C., Meilahti: Nursery and Schoolroom. For the project group of Reception from Schoolroom was chosen as its age group corresponds to the target group of the thesis. The attitude of I.C.E.C. concerning activities in day care is expressed in following extract taken from their website: "Many activities in the Nursery and Schoolroom sections are provided to enable a child's skills to develop: art and craft area, language and literacy area, design and technology area, science and math area, small world play, house shop, P.E area, book corner, nature area etc. All of these areas are designed to foster concentration, imagination, conceptual ability, hand eye co-ordination, social and emotional development, and physical development. Reading, writing and mathematics like all subjects are taught through whole class teaching, topics/themes and the environment the teachers provides". (Philosophy of I.C.E.C. 2016)

British curriculum which lies in the basis of I.C.E.C. curriculum comprises elements of theoretical approaches of Erikson, Vygotsky, Piaget, Reggio, Montessory and Stainer. Not the last place in daily routine is taken by High scope approach. This approach is visible everywhere in routine of I.C.E.C., and first of all, it is about children`s choice of activities. However, at different age group it serves different purposes. Thus, at the age of three children only asked what they want to play, while at the Reception level High scope is used in order to reach the school curriculum for the next year. For Year 1 High scope means responsibility for what they choose to do.

3.1 Working Life Partner`s Role

During the project, the working life partner will play a significant role in implementation of authors` ideas. First of all, manager of the daycare kindly agreed to help with letters of permission which should be signed by the parents for authorizing their children to participate in the sessions. Moreover, choice of children for the sessions also will be done under the guidance of the manager. There is no doubt that each child is unique and demands individual approach. Therefore, the joy for one child can bring stress for another. As well it is quite possible that authors will improvise or even change approaches during the process. The authors expect that proper and constructive feedback will be given during the implementation of the sessions that could help the authors to correct their own actions if necessary.

4 Theoretical framework

4.1 Early Childhood Education

The work of the pioneer educators with young children and their families reveals a set of common principles that have endured and still have a useful future. The agreements and the disagreements between them have been fundamental in creating our early childhood traditions. The early childhood traditions embrace diversity, rather than fragmentation, standardization and uniformity. The early pioneers used language that is difficult to understand today, and this means that their common principles and important differences have become obscured. It is important to identify when differences of value become irreconcilable, or when values are shared but their practical interpretation is different (Bruce 2011).

The first principle states that, the best way to prepare children for their adult life is to give them what they need as children. Froebel, Montessori and Steiner agree that early childhood is not merely a period when children are prepared and trained for adult life. It is a phase of life that is important in its own right although, as a by-product, the more richly that childhood is experienced the more strongly the adult phase can be entered. Giving children what they need during childhood is the best preparation for adulthood. Froebel saw the family as the most important first educator in the child´s life. Montessori also recognized the different nature of childhood. Again, she did not see the role of the adult as preparing children for adulthood. But she did not emphasize the parents as part of the prepared environment. Instead she saw childhood as a state to be protected and allowing children to develop without damage in a specially prepared environment. She argued that the child is a personality separate from the adult (Bruce 2011).

Children need different treatment but not, for Montessori in the Froebelian sense of community where adults `live with their children`. Montessori argued instead for a favourable environment where adults do not enter the child´s world except for the trained directress who `liberates` the child. Childhood is seen as a state with needs quite separate from those of adult life, existing in its own right. The emphasis is more on the individual child, whereas for Froebel the child is respected as an individual, but relationships with other children and with adults are the heart of the learning community (Bruce 2011).

For Steiner also there was no question of childhood simply preparing children for adulthood. According to him, childhood exists as a period of life in its own right. In this philosophy, life after death is seen as another aspect of life before birth. There is therefore no question of childhood being `preparation for life´ but rather the idea of helping the child to find his or her way in this life (Bruce 2011).

The second principle states that, children are whole people who have feelings, ideas, a sense of embodied self and relationships with others, and who need to be physically, mentally, morally and spiritually healthy. Froebel, Montessori and Steiner all considered the development of the whole child to be of enormous importance (Bruce 2011).

Froebel saw the whole child as including the physical, spiritual, feeling and intellectual aspects of the person. Like Montessori and Steiner, he gave a great deal of thought to how the whole child could be developed through an appropriate curriculum. Froebel addressed himself to the physical needs of the child through the ´forms of life´, which involved the senses and first-hand experiences, to the feelings, creativity, expressiveness and imagination of the child through the ´forms of beauty´-music, arts and crafts, nature and mathematics. He addressed himself to the thinking, ideas and problem-solving abilities of the child through the ´forms of knowledge´. Later, Froebel moved increasingly away from a set curriculum and became more interested in the process of play in the child, which he began to see as the mediator between opposing forces: the natural and spiritual, emotion and intellect. Play is a unifying mechanism and, for this reason, it was for Froebel the highest level of learning. It was the most spiritual activity of the child in that it gave meaning to relationship with self, others and the universe (Bruce 2011).

Montessori approached the concept quite differently. She created a simple to complex hierarchical model. Each sense is developed separately and in isolation (visual, aural, weight learning and so on) through a sequence of carefully graded, simple to complex, separated out, sensorial exercises. She considered that, as children master each step and arrive at the

end of a sequence, they are then in a position to use, in a general way, the skills acquired (Bruce 2011).

Steiner was also concerned with the whole child. He believed that we bring various qualities with us into life. Like Montessori, Steiner believed that children learn mainly through imitation. Steiner saw the child as a visible entity, possessing an invisible, inner soul life and an eternal spiritual nature. Steiner was like both Froebel and Montessori in that he placed great emphasis on processes in the child (Bruce 2011).

The third principle states that, areas of learning involving the humanities, arts and sciences cannot be separated; young children learn in an integrated way and not in neat, tidy compartments. Both Froebel and Steiner saw links between subjects and between different aspects of the child´s development as beginning with the home. Montessori reached the whole through the parts in a separate ´prepared´ environment. Montessori and Steiner helped the child towards links within knowledge and unity within themselves through an interactionist approach, with a clearly set-down curriculum that has tended to lead to a more formally structured approach. Froebel moved away from a set curriculum, as he was shocked by the rigidity that accompanied this way of thinking (Bruce 2011).

The fourth principle states that, children learn best when they are given appropriate responsibility, allowed to experiment, make errors, decisions and choices, and are respected as autonomous learners. Froebel, Montessori and Steiner agreed that children are self-motivating. There is no need for adults to find ways of motivating them. They do not use stars or any kind of reward sys-tem that is of the extrinsic sort. This is because extrinsic rewards cut across the child´s self-motivation. The reward is intrinsic. It lies in being able to do something that could not be done before, or in knowing someone is comforted because of an act of kindness (Bruce 2011).

Froebel stressed that the skill of the adult educator is in encouraging or in cooperating in the child´s play, led by the initiative of the child, as a partner who shares the process. Montessori also stressed intrinsic motivation and the self-directed child initiative that results. Steiner on the other hand dealt with self-directed activity differently. He describes how during the early years, the child lives mainly in the ´will´ element, where the child learns through doing, through movement and activity (Bruce 2011).

The fifth principle states that, self-discipline is emphasized as the only kind of discipline worth having. Reward systems are very short term and do not work in the long term in developing moral and spiritual aspects of living. Children need their efforts to be valued and appreciated. Froebel, Montessori and Steiner all believed that self-discipline emerged from

keeping intrinsic motivation intact. The development of self-discipline is closely linked with intrinsic motivation, and with the need to promote it by allowing children to initiate and self-regulate tasks, activities and ideas. Self-discipline is probably one of the most important elements in life (Bruce 2011).

The early childhood practitioner must not destroy this, but a dialogue with and respect for the child will help self-discipline emerge- a discipline that is an inner influence rather than an external force. Froebel and Steiner emphasized the importance of the community of adults and children in the development of self-discipline while Montessori required a tranquil setting, free from over-dominant adults or children who cut across the self-disciplined work of another child (Bruce 2011).

The sixth principle states that, there are times when children are especially able to learn particular things. Froebel, Montessori and Steiner all believed that there are definite stages in development that require appropriate and sensitive handling. They all asserted that each stage is important in its own right and should not be accelerated, but enriched at that level instead (Bruce 2011).

The seventh principle states, that what children can do (rather than what they cannot do) is the starting point for a child´s learning. The idea of focusing or starting with what children can do, rather than with what they cannot do, is common to Froebel, Montessori and Steiner. All the three asserted the importance of building on strength and what the child can do, because this does not damage the intrinsic motivation or developing self-discipline of the child (Bruce 2011).

The eighth principle states that, diverse kinds of symbolic behaviour develop and emerge when learning environments conducive to this are created at home, in early childhood settings, indoors and outdoors. Froebel, Montessori and Steiner all stressed the inner life of the child. Steiner and Montessori are alike in their approach to the early years of education in that they stressed children´s ability to absorb into themselves their experiences of their surroundings. In the later years, Steiner and Froebel throughout the child´s development emphasized the child´s ability to trans-form experiences as they are taken in so that they fit with previous learning, or cause modification in what has previously been learned. For all three, the inner life is one of the most important aspects of the child´s development, but there are deep differences in the way this is carried out in practice (Bruce 2011).

The ninth principle states, that relationships with other people (both adults and children) are of central importance in a child´s life, influencing emotional and social well-being. Froebel, Steiner and Montessori felt mixed age groups of children encourage social development.

Froebel saw the mother as the first educator in the child´s life. The adult is a partner in the child´s learning, not a threat to it. First the adults in the family, then the teacher, help and guide the child into the wider community. Steiner and Montessori in different ways, like Froebel, emphasized the adult, peers and family. Montessori saw the child as guiding not simply him or herself, but also the practitioner, towards self-mastery in life. For Steiner the emphasis on the adult, other children and family was especially important initially, when the child absorbs the moral atmosphere projected by the family and school (Bruce 2011).

Last but not least is the tenth principle that states that, quality education is about three things: the child, the context in which learning takes place, and the knowledge and understanding that the child develops and learns. Froebel, Montessori and Steiner all emphasized the interaction between maturing structures in the child and the experiences and environment he or she encounters. Froebel also stressed that education must be based on the natural stages of development. Montessori´s view stressed the interaction between maturational processes in the child, the experiences the child has, and the environment he or she is in. Steiner stressed the way in which the spirit takes hold of the body of the child, first through the limbs, then the rhythmic breathing system, then the head. During the first seven years, the period of the ´will,´ the child is involved through his or her limbs (action) and senses in absorbing the environment through imitation and activity (Bruce 2011).

4.2 The National Curriculum Guidelines on ECEC in Finland

Early childhood education in Finland has own features and particularities. In this part the most significant aspects will be described. First of all, children gain their basic artistic experiences in a developmental environment that fosters a wide range of artistic activities, such as music, drawing, dance, drama, handicrafts and children´s literature. The intensity and enchantment of artistic experiences activates children and grips their attention. Artistic activities and experiences introduce the child to an aesthetic world: the joy of learning, artistic drama, forms, sounds, colours, scents, sentiments and combinations of experiences based on the different senses. Art gives the child an opportunity to experience an imaginary world where everything is possible and true in a make-believe way. (National curriculum guidelines on ECEC in Finland 2004)

Secondly, art also involves regularity in terms of the child´s learning and practicing. Children enjoy artistic activity, skills and self-expression both when working alone and when working together with other children in various productions. Through artistic experiences and activities, children develop as individuals and as group members. Basic artistic experiences gained

in early childhood form a basis for children´s later art preferences and choices, as well as their cultural values (National curriculum guidelines on ECEC in Finland 2004).

Thirdly, the educator community enables children´s artistic experience and expression, showing respect for their own personal choices and observations. Children´s own imagination and creativity are given room, time and peace. The implementation and scheduling of activities are led by creative ideas and the joy of working together. Children should be provided with opportunities for a wide range of activities in different art forms, including, painting, drawing, playing an instrument, singing, building, acting, dancing, woodwork, bricolage, sewing and listening and telling stories and poems (National curriculum guidelines on ECEC in Finland 2004).

Fourthly, the educator guides children in tasks that require technical skills and also helps them practice their skills, where the focus is on the invaluable targets set by the children themselves. The educator documents children´s artistic activities and organizes events for presenting their results of these activities. Among themselves, the educator community should support their varied professional skills, creativity, spontaneity and courage to improvise. Art provides educators with means to develop as a human being and to help develop humanity in children (National curriculum guidelines on ECEC in Finland 2004).

Fifthly, playing, movement, exploration and self-expression through different forms of art are ways of acting and thinking peculiar to children. Such activities enhance their well-being and perception of themselves and increase their opportunities for participation. An activity that children find meaningful also gives expressions to their thoughts and feelings. As educators interact and discuss with children and observe their activities, they also get insights in to their world and thinking (National curriculum guidelines on ECEC in Finland 2004).

Ways of acting that are peculiar to children are taken in to account in planning and implementing activities, and used as a guiding principle in the educator community´s interactions with children. They embody the significance of language, content orientations and children´s learning process. ECEC is developed holistically through observing children´s and the educator community´s activities and the ECEC environment (National curriculum guidelines on ECEC in Finland 2004).

Daily physical activities are fundamental to children´s well-being and healthy growth. When engaging in physical activities, children think, experience joy, express their feelings and learn new things. Physical activity also means experiencing, moving swiftly, perspiring and getting breathless. Physical activity lifestyles start to develop in early childhood (National curriculum guidelines on ECEC in Finland 2004).

It is important that the actions and everyday choices of the educator community provide children with an opportunity to have daily physical activity. Educators should create an environment that encourages physical activities among children, remove obstacles to physical activity and teach related safety skills to children. Children who are less active physically should be encouraged to move (National curriculum guidelines on ECEC in Finland 2004).

Regular physical education activities are of core importance to the child´s development and motor learning. It is important that the educators be able to make use of different styles of teaching and that each child´s motor development is observed regularly. Linking motor activity to other activities and teaching increases children´s opportunities to learn (National curriculum guidelines on ECEC in Finland 2004).

4.3 Cognitive development

The term `cognitive`, which is derived from the latin ´cognosco´(to know), refers to all those psychological activities involved in the acquisition, processing, organization and use of knowledge- in other words, all those abilities associated with thinking and knowing (Birch 1997).

Cognitive abilities include also a child´s measured intelligence, levels of thinking and even, to some extent, creativity and the way interpersonal relationships are conducted. Since language is the medium through which thinking usually takes place, and since much intelligent and creative activity is expressed through language, this, too, is usually regarded as a cognitive activity (Birch 1997).

4.3.1 Piaget´s cognitive development

Piaget proposed that the basic unit of understanding was a scheme. A scheme can be defined as a cognitive structure that forms the basis of organizing actions and mental representations so that we can understand and act upon the environment. According to Piaget, schemes make up our frames of reference through which we filter new information. This implies that, everything we know starts with the schemes we are born with. There are three basic schemes that we are born with which are reflective actions that can be performed on objects: sucking, looking and grasping. As children grow older they begin to use schemes based on internal

mental representations rather than using schemes based on physical activity. Piaget called these mental schemes operations (Slater & Bremner 2011).

According to Piaget, children are active agents in shaping their own development; they are not simply blank slates who passively and unthinkingly respond to whatever the environment offers them. That is, children´s behavior and development is motivated largely intrinsically (internally) rather than extrinsically (Slater & Bremner 2011).

For Piaget, children learn to adapt to their environments and as a result of their cognitive adaptations they become better able to understand their world. Adaptation is something that all living organisms have evolved to do and as children adapt they gradually construct more advanced understandings of their worlds (Slater & Bremner 2011).

Piaget identified the building blocks of thinking as mental units he called schemes. At birth, we are equipped with a set of action schemes, which develop and multiply. The descendants of those early schemes come to form intelligent thought processes (Mitchell & Ziegler 2013).

A clue to Piaget´s view of this development is provided by the fact that young babies grasp at things other than a finger. The infant generalizes the scope of application of the scheme in this way. Piaget called the application of a scheme to novel context assimilation. It gets its name from the idea that the new application is taken into the overall scope of the scheme. However, the scheme, which may be thought of as a set of mental instructions to the hand on how to grasp the object, inevitably will not be suited to every item the baby holds. Infor-mation about these adjustments is fed back to the scheme, and in consequence the scheme is modified. Now the scheme is activated in one way if it is a finger that is being grasped, but in a slightly different way if it is a rattle that is being grasped. Piaget called the modification to the scheme accommodation. Assimilation and accommodation work in combination as a scheme is activated (Mitchell & Ziegler 2013).

According to Piaget, we are intrinsically motivated to exercise our schemes, particularly when they are newly acquired, and this process is not dependent on external reward. Therefore there is plenty of opportunity for assimilation and accommodation to occur, and plenty of opportunity for schemes to develop. In other words, there is plenty of opportunity for the growth of intelligence, given the way in which development supposedly takes place (Mitchell & Ziegler 2013).

According to Piaget everything that we know and understand is filtered through our current frame of reference. In other words, we construct new understandings of the world based on

what we already know. Hence, Piaget´s approach is often labeled as a constructivist approach as it depicts children as constructing their own knowledge (Slater & Bremner 2011). In order to explain how children modify their schemes Piaget proposed two innate processes: organization and adaptation. Organization is the predisposition to the group particular observations into coherent knowledge, and it occurs both within and across stages of development. For example, initially young infants have separate looking, grasping and sucking schemes. Over time these schemes become organized into a more complex multisensory cognitive system that allows the infant to look at an object, pick it up and suck it. This organization enables the child to learn about the nature of these objects for example, their shape, and texture and taste (Slater & Bremner 2011).

Children move through four broad stages of development, each of which is characterized by qualitatively different ways of thinking. These stages are the sensorimotor stage of infancy, the preoperational stage of early childhood, the concrete operations stage of middle childhood, and the formal operations stage of adolescence and beyond (Slater & Bremner 2011).

The sensorimotor stage (birth to 2 years), is one of the most impressive and dramatic areas of development. The child changes from the helpless new-born to the thinking and knowing toddler, that is, to the cognitive individual with a `mind`. These changes take place as a result of the infant´ s actions on the objects and people in its environments, and this stage is the development of thought in action. As a result, infants learn to solve problems, such as pulling a cloth to obtain an out-of-reach toy, and they learn that objects continue to exist even though they cannot be seen or heard. As the stage draws to a close the infant, now a toddler whose language is developing rapidly, is able to reason through thought as well as through sensorimotor activities (Slater & Bremner 2011).

In this stage (sensorimotor stage), babies explore and recognize people and objects through their senses and through their own activity and movements. Toddlers still see things mainly from their own point of view, and cannot decenter to look at things from somebody else´s point of view. Furthermore, they tend, at any one time, to focus on only one aspect of an event (centration) which Piaget refers to as intellectually egocentric (Bruce & Meggitt 2006).

The second stage is the preoperational stage (2 to 7 years). In this stage, we find that for example preschool children can solve a number of practical, concrete problems by the intelligent use of means-end problem solving, the use of tools, requesting objects, asking for things to happen, and other means. They can communicate well and represent information and ideas by means of symbols-in drawing, symbolic play, gesture, drawing, and particularly speech. These abilities continue to develop considerably during this stage, but there are some striking

limitations to children´s thinking during this period. Children tend to be egocentric. They display animism in their thinking (Slater & Bremner 2011).

By `operation`, Piaget was referring to the process of following mental rules in solving a problem: in other words, a logical operation that is done mentally. According to Piaget, operational intelligence is necessary to rid the child of egocentrism, to rid the child of his highly subjective and overly intuitive view of the world. Hence the preoperational child is egocentric (Mitchell & Ziegler 2013).

Action schemas are internalized by the child, and they become thinking. Thinking backwards and forwards with ideas (concepts) is still heavily linked, however, with perception of immediate experiences. The development of memory by recalling past perceptions and prior experiences is now important in this stage. They imitate things they remember from past experiences (Bruce & Meggit 2006).

The third stage is the concrete operations stage (7 to 11 years). One major characteristic of preoperational thought is called centration- the focusing of attention on one aspect of a situation to the exclusion of others (Slater & Bremner 2011).

Children suddenly seem to appreciate that there is more to things than superficial appearances, and that their view of the world is but one of the many possible. They acquire a first grasp that an underlying more objective reality is accessible by following principles. The difficulties facing preoperational children are not shared by the child in the concrete operational stage. The child gives a correct conserving judgment. Not only do children give the correct answer, they provide the kind of justifications that seem to suggest they are using logical (operational) principles (Mitchell & Ziegler 2013).

The last stage is the formal operational stage (from 11 years). During this stage, the child becomes able to solve many problems involving the physical world, but the major limitation in their thinking is to do with the realm of possibilities. When children enter the final stage of cognitive development (the formal operational stage), this limitation is removed. The adolescent now becomes able to reason in the way that scientists do, to manipulate variables to find out what causes things to happen, and is also introduced to the realm of possibilities and hypothetical thought (Slater & Bremner 2011).

4.3.2.Vygotsky´s Zone of proximal development

The Zone of proximal development expresses the Vygotsky´s belief that children´s cognitive development occurs essentially as a result of interacting with more knowledgeable and competent others, who are willing to provide guidance and support in problem solving situations and will sensitively adjust their help in such a way that the child is challenged to participate in activities just beyond his or her current level of understanding. The ZDP is thus the region between what children already know and what they are capable of learning under guidance (Schaffer 2003).

It is in this region that children are most receptive to new learning; it is there that any new intellectual skill is first of all performed jointly with a competent adult before it is in due course taken over by the child and internalized. It is the region where children are not quite capable of managing on their own but where the adult can stretch their abilities by suitably pacing demands so that the child can gradually assume responsibility for performing the task in a solo capacity (Schaffer 2003).

The ZDP is an expression of the basic proposition that Vygotsky set out to convey, namely that cognitive development is not a process that occurs spontaneously nor can it be merely explained by the child´s interaction with the physical environment. It occurs because children are embedded in a social context, surrounded by people of greater expertise willing to share their knowledge with the child. Cognitive development can thus be seen as a progression from intermental to intramental, from joint regulation to self-regulation. The adult acts as a tutor, the child as apprentice, but the interaction of the two is of a dynamic, mutually adjustive nature, for the child is no mere passive participant but an active partner in the learning process, albeit a junior one. Cognition is socially created, and the ZDP is a means of bringing this about (Schaffer 2003).

Vygotsky argued that children´s learning takes place within a fuzzy range along the course of development; within the zone of proximal development (ZDP). According to Vygotsky the zone covers three developmental levels. The lower level is called the actual level of development and reflects what the learner can do unassisted; while the upper level of the zone is called potential level of development and reflects what the learner cannot yet do. Everything between these levels is called the proximal development (Slater & Bremner 2011).

Vygotsky drew attention to the fact that whether a child can successfully solve a problem or pass a task depends on many environmental factors (e.g. whether the child is helped by another person, whether the problem is worded clearly, and whether any cues are provided). While some tasks are not very challenging and the child can pass these unassisted, other tasks are more challenging and can only be passed with assistance. In the more challenging tasks

adults can provide the child with guidance by breaking down the task into manageable pieces, offering direct instruction. For this guidance to be of benefit to the learner it must fit the child´s current level of performance. This type of teaching is referred to as scaffolding. As the child becomes more competent begins to master the task the adult gradually withdraws assistance. The child internalizes the language and behaviors used in these social interactions and it becomes part of their private speech, which in turn mediates their thinking and planning (Slater & Bremner 2011).

4.4 Musical development in Early Childhood

From the early stage of life music starts to play significant role in child`s life. And it seems that the earlier the child is taught to play musical instrument or introduced to music the better he/she will succeed in this field later on. However, modern studies move beyond evaluation of success and provide valid information about influence of music on child development in different angles. First of all, as Maureen Harris noticed in her book `Music and the Young Minds`, the most important time when music can cause a very significant effect on child development is the first years of life. During this period, it is possible by means of music to stimulate the development of nerve connections among brain cells for optimal cognitive development (2009, 3). Moreover, the whole neurological development is enhanced by power of music as it helps the brain to develop. It also supports integration of two hemispheres of the brain. It is believed that such great effect can be reached because experience of music is always multimodal as it involves different ways of perception – visual, auditory, motor skills, emotional and memory (Harris 2009).

Therefore, integration of music in early child education is obvious and beneficial. It is assumed that it is absolutely essential to introduce children to music between the ages of one and four. At the age of elementary and secondary school this education should be continued (Scott 2004). Introduction to music should start from elementary instructions. Gradually children should be immersed in active music making. They should be led to explore sounds, tunes, beat, rhythm, and movement. However, it is critically important that children would feel comfortable in their experimenting with music. (Scott 2004)

The most effective way for helping young children to gain music knowledge and skills is to provide a proper music environment. Music experience also allows children to gain certain dispositions in terms of how they view the world. Singing experience should include both singing individually and in group. Moreover, there is an assumption that vocal exploration can lead to a literate rich environment where students learn to read and write. (Kenney 2004)

Another element often associated with music education is movement. Children from four to six years old can implement moves and follow the tempo of the music. This includes rhythmic movement of body parts. During the singing process, the child has developed the skills to be able to clap, jump and dance to the rhythm of the song. The children in this age-group continue to develop their skills in making words or tunes (Moog 1976).

Except for lessons of music education music can be used for various purposes in ordinary classroom. For instance, McIntire proposes that by means of music many skills can be trained in the classroom: decoding skills (because music and reading use sounds and symbols), listening skills (they both require imagination), rhythm skills, communication skills (verbal and written responses), vocabulary development (new words and meanings often encountered), expressive ability, memorization, and motor development through playing instruments and creative movement. (McIntire 2007)

4.4.1 Music development in five to six years old

Age group chosen for this thesis is a study subject for many researchers which concur that children between five to seven years of age have a significant progress in musical development. According to Revesz (1954, 175) The authors Pound and Harrison claim that at this age children have a gradual transition from playful music-making to a conscious assimilation and correct reproduction (2003, 31). They also refer to a study by Welch in 1998 who considers singing competence in this age group. Welch claims that children learn to reproduce the words of the songs in a progressive way. Moreover, for children word accuracy provides accuracy of the tunes that is in contrast to adults for whom remembering the tunes is easier (Pound & Harrison 2003). The age group from five to six is also referred to the stage of imitation during which "there is a move `towards socially shared vernacular conventions" (Swanwick 1988 & Tillman 1986, cited in Pound & Harrison 2003, 31). Such changes can be determined by new approaches children undergo in their daycare life. Schooling becomes more compulsory that influences their awareness of the cultural conventions of the music. Therefore, children during this period have an increased ability to distinguish variations in tonal melodies, to sing in tune, to control dynamics, and to per-form and respond rhythmically and in time. (Pound & Harrison 2003)

4.4.2 Music and Cognitive development

Child cognition has high potential from the earliest time of life. It seems to be essential to use any possible way for its proper enhancement. Usage of music can provide beneficial atmosphere for cognitive development as it involves development of memory, attention, recognition, and listening skills. Auditory skills that are trained in music education are different from everyday listening skills as they mainly depend on development of perceptive listening. This kind of listening is a basis for musical listening skills development which consists of the ability "to perceive sounds and to form thoughts about those sounds" (Campbell & Scott-Kassner 2006). Therefore, involving thinking process in sound perception makes it also associated with cognitive development.

Musical activities also enhance such higher brain functions as abstract reasoning, spatial and temporal conceptualization which belong to cognitive functions as well. Moreover, integration of music with activities connected to development of thinking, for example, math, enables the child along with thinking to be engaged into all the areas of social-emotional, creative, and physical development (Church 2000). It becomes possible because music is considered a right-brain activity, while math is a left-brain activity. However, in general, activities with music generate the neural connections necessary for using important math skills (Church 2000).

4.4.3 Music and Movement

Relation of music and movement is very obvious and it goes into ancient times. Traditionally by movement dancing is meant. Principal role of movement commonly believed is to cultivate a sensitive response to music and a feeling for its rhythm and expressive character (Pugh & Pugh 1998). However, when it comes to child development, any conscious response to the environment matters. Moreover, music and movement often are connected to learning. That way, according to Beard (1969) for Piaget learning always demands contact with concrete reality and with physical manipulations of the environment (Pugh & Pugh 1998). Music and movement provide both conditions that should reinforce their connection to cognitive development. Bruner claims that from enactive level of knowing where movement is of key importance, the child produces abstract ways of thinking through `iconic` and `symbolic` levels of knowing (Lawton 1973, cited in Pugh & Pugh 1998). Therefore, movement-related forms of knowledge have a great impact on learning and stimulate psychomotor system and cognition. In this respect authors Aelwyn Pugh and Lesley Pugh in the book `Music in the early years` say that movement plays a fundamental role and there is evidence that humans develop sophisticated thought processes in both the left and right brain only through movement (1998, 77).

And that would mean that movement as a response to music should encourage cognitive development. In such a manner authors mentioned above also claim that music education can be more useful than science for developing cross-lateral thinking.

And finally, Kemp argues that musical `knowing` is based on a whole body experience, involving the interrelationship between muscular, perceptual and cognitive behavior. (Pugh & Pugh 1998) When it comes to performance body-based decision-making becomes central. This body-thinking is determined by the fact that memory of music is not only to the sound but also it includes neuromuscular sensation of producing the sound (Pugh & Pugh 1998). Therefore, music integrated with movement seems to be a proper method for supporting cognitive development.

5 Study Design

5.1 Methodology: Observation as a Method

According to Fielding (1996) participant observation is the method which enables the researchers to comprehend the "symbolic world" of people and to interpret its unseen meanings. Participant observation as a method is appropriate when three conditions are adhered. First of all, when problem of the research is about human meanings and interactions from an insider`s perspective (Jorgenson 1989). Secondly, aim of the research should be limited in size and location to be investigated as a case. Thirdly, observation is intended for development of theories or testing existing ones (Jorgenson 1989).

Success of the method depends on researcher`s ability to evaluate and reflect continuously while the study is carried out. The quality of recorded data also depends on interactions and contacts researcher is able to cultivate. Therefore, the deeper level of human interactions is developed the higher quality of the gathered information (McCall & Simmons 1969).

Even though this thesis describes functional project and it is not a research paper this precise characteristic of what observation means as a method enables the reader and the authors to understand core of the subject. Observation as a method highly depends on collected data. The ways for that can be various. For the present purpose the most interest attracts notebook and video diary as both approaches were chosen by authors for their thesis. Notebook enables to note down personal feelings and important points encountered during the project. Whereas video diary helps to describe physical situation (environment in which interactions take place), as well as to recollect general climate of interpersonal relations (Jorgenson 1989).

In such a manner, observation will lasts for four days when sessions for 30-45 minutes will take place. Sessions will be carried out after morning circle during morning activity with the group of nine children. Children for the project will be selected from the group of Reception. For the data collection self-reflection and video recording will be done (observation sheet can be found in appendix 1).

The current thesis is a functional project thesis; by this reason no data analysis applied to the research can be used. The authors will reflect the findings in dependence with the feedback gotten from the observer as well as the video recording made during the sessions. Moreover, the theory collected during this thesis also promotes some basement for analysis of the findings and the results.

Moreover, the authors are fully responsible for ethics during data collection. According to Zina O`Leary (2004) the observer has responsibility for own assumptions, position of power, and subjectivities. Besides, the authors commit to protect the confidentiality of the participants in compliance to Child Observation and Assessment by Hobart, Frankel & Walker (2009). In order to conduct video recording for data collection the letters of permission will be given to the parents of selected children. Only those children will participate in the sessions whose parents will sign the letter of permission (example of the letter of consent see in appendix 2).

5.2 Preparation and Implementation

5.2.1 Preparation

Preparation for the project included first of all, agreement with working life partner about the dates when sessions had to be conducted. Secondly, letters of permission had to be prepared and given to working life partner for further delivery to the parents. Thirdly, choice of rhythmical melodies for the sessions had to be done, and recorded to the cd. Fourthly, musical instruments appropriate for the age of children and rhythm had to be found. For the last, during mentioned preparations the authors had to discuss and present plan of sessions to the working life partner that would explain the idea and purpose of the project in details.

As a result, it was decided with working life partner to conduct the sessions on week 11 from 14th to 17th of March. The time that working life partner could give the authors for the implementation was during morning activity. However, such restriction fully coincided with authors` purposes as morning activity usually lasts 30-45 minutes that was exactly the time needed for implementation of the session. Moreover, letters of permission reached parents in time, and authors got required amount of signatures for project implementation.

Concerning preparation of melodies for the activities then the authors recorded the cd with, in their opinion, appropriate number and quality of songs. However, as the planned project had quite experimental character it was decided that every following session should be based and/or if necessary modified on the basis of previous session. Therefore, after each session the authors had to reflect outcomes and adjust to children`s needs that emerged during the session. Moreover, it was arranged that every session should be observed by the supervisor from ICEC. The modifications regarding each following session were made on the feedback and discussion with the supervisor as well.

As it was already mentioned, some modifications to the content of the sessions were acceptable from the beginning of planning. However, the core structure of the sessions was kept the same. Therefore, the basic plan of the sessions in presented below.

5.2.2 The Sessions plan

Method: music
Target age-group: 5-6 year olds

Cognitive areas to support: memory, attention, recognition
Skill to train: rhythm of music
Amount of the sessions: 4 sessions

Description of the session:
1) Activate children with funny musical activities to make them feel relaxed, secure and confident (by moving and singing).
2) The actual rhythmical exercises:
a) First, children need to repeat the rhythm we show them by means of instruments;
b) For better memorizing there will be the same melody playing on the background to which rhythm will be played;
c) Children will play to the same rhythm until they start to remember it.
3) Expected results:
a) Children will be able to play the rhythm learnt by them without any help;
b) Children will play with confident self-expression.

5.2.3 Implementation

Session 1: The first session had very experimental character. It was crucially important to see how children react to the activities we planned, and the authors were prepared to the changes if such are required.

Beginning of the session: Session started from the circle the authors made with children by holding hands. Authors explained what should happen during the session. At first, the song "Skidamarink" was presented to their attention. While the song was presented the movements were shown to the song as well. The song was presented without music on background. After children repeated the movement, it was suggested to try to do the same but to the music. Movements to that song involved right and left hand in turns. Therefore, learning the movements included learning about right and left side of the body as well.

Rhythmical activity: Second activity planned was practice with the rhythm. Children were given musical instruments such as shakers, bells, and tambourines. Then, the first melody was played. During that children had to try to respond to the melody they hear. As children showed interest and joy to the activity it was repeated several times and children could exchange instruments between each other in order to try different sounds.

Outcomes: It was obvious that children held interest in activities presented and they enjoyed the process. For the authors this session was the attempt to understand limits of this group and structure further steps.

Feedback from working life partner

Recommendations:
1) After observation of the first session it was advised to the authors to think about structure of the session once again. The proper introduction to the session, like making the circle and introducing oneself, could help children to concentrate better on coming activity. As well as the ending of the session could be connected to the contest of the lesson in more logical way. Moreover, some of the kids from this group could need clear understanding of what should happen next. Otherwise, it was said they could feel a bit stressful.
2) Even that the observer liked how the learning was conducted and it was not seeing as wrong, it was discussed that learning of melodies and movements should be carried out gradually.
3) The last issue for discussion after the first session was discipline. Overexcitement caused some difficulties during the activities, therefore, the observer recommended us to set clear limits at the next session.

Session 2: For the second session the authors took into consideration the outcomes of previous session, as well as the feedback gotten previous time from the observer. Therefore, structure of the session was improved, as well as some mechanisms that could influence discipline were thought out. Moreover, rhythmical activities were advanced with the movement and the structure.

Beginning of the session: The second session started from introduction with clapping each other`s name. After that the authors told about the lesson and order of activities. Then, "Skidamarink" song was remembered by listening to the cd and walking in the circle. After that everyone sat on the floor and learnt the movements again, concentrating on right and left as well. The song was repeated three times with music and movements.

Rhythmical activities: The first rhythmical activity required usage of shakers. Therefore, children got the shakers, and they shook the rhythm 1. After that one of the authors showed them the movements that should be united with the music and the shakers. At first, children repeated new movements without music, and then to the music. This activity was repeated three times. Children were learning new activity very fast. For the second rhythmical activity children got another instruments – the bells. Moreover, some changes to the structure of the activity were made. The group of nine children was divided into three groups by three kids. One by one each group in front of others was doing activity with the rhythm 2. With the bells children followed the rhythm of the melody, while rest of the group was watching and listening. There were two rounds for each group in this activity.

Ending of the session: For the closure of the session the song "Skidamarink" was sung again, after what it was said "bye-bye".

Outcomes: Children showed the progress in remembering the movements for "Skidamarink" song. Moreover, they seemed to be more confident with the rhythm tried yesterday. The new activity with the bells generated interested as children asked to repeat it.

Feedback from working life partner

Recommendations:
1) As some issues with discipline emerged again it was recommended to change the structure of the further sessions slightly again. The reason of misbehavior of some of the kids was fast learning capacity. After learning about idea and structure of the session some children start to feel quite confident of own abilities and loose interest to the ongoing. As the result, attention of such kids had to be caught again. The sugges-

tion was to add something new, just for making these kids more concentrated on tak-ing place event.

2) Idea to divide groups for rhythmical activity with the bells was highly appreciated by the observer.

3) Structure of the session looked much better as well.

Session 3: According to outcome and feedback gotten at the previous session some changes were done. First of all, the authors decided to add new songs with movement to the plan. Secondly, the order of rhythmical activities was changed. In this manner, the authors tried to remain the structure the same but change the content.

Beginning of the session: The third session started from clapping the names of each other. The authors also described the changes to the group. It was important to make them feel interested in new activities. After that the song "Head & shoulders" was intro-duced. Children assumed it with pleasure and repeated all the movements very well.

Rhythmical activities: For the rhythmical part at first activity with bells with the rhythm 2 was done as it seemed that children liked it more. Each group repeated activity twice. As this activity was one of the first ones it helped rest of the group to sit nicely and concentrate on what others were doing. For the second rhythmical activity children got shak-ers and activity with rhythm 1 was repeated. This activity was done twice as well. Children remembered the movements and felt confident during this activity.

Ending of the session: For the closing of the session the new song with the movement was introduced. The song "Big and small" had a very good effect on children as it had many movements to follow, and children had to concentrate very well. However, this activity was also quite relaxing as it was necessary to sit on the floor.

Outcomes: This time children showed progress in remembering rhythmical ac-tivities with the rhythms 1 and 2. The new songs with the movements introduced during this session also produced good impression upon children behavior.

Feedback from working life partner

Recommendations:
1) Observer from working life partner was satisfied with the session this time, however, it was advised to keep making small changes to the content of the session in order to get better concentration from side of the group.

2) It was also discussed that working with children often involves improvisation and quick reaction. According to the age they cannot keep yet the routine very well, which means following the rules strictly not always win.

Session 4: The fourth and the last session dedicated to the thesis topic in this group was planned according to the structure the authors made and feedback gotten during the whole period of the project. At this time the authors decided to introduce only one new song and exclude rhythmical activity with rhythm 1.

Beginning of the session: For the beginning of the session the authors and children clapped their names again. After that the new song with the movements was introduced. The song "If you happy clap your hands" is very well known by children. However, it has many movements to follow and it was thought that it would be a good activity for activation part of the session.

Rhythmical activity: This time practice of the rhythm was only with the rhythm 2 when children had to shake the bells to the melody they heard. The rhythm 1 was excluded as it seemed that children already learned it well and they also lost their interest to this activity. Activity with the rhythm 2 was done twice with each group.

Songs with movements: At this session two activities with the movements were conducted. First of all, the song "Big and small" was repeated as it was new from the last session. Secondly, the song "Skidamarink" was repeated again. It was interesting to observe how well children remember the movements and the words of the song.

Ending of the session: For the ending of the session and the project as a whole the authors asked the children about their impressions of the lessons they had. After that the authors and the group said good-bye to each other.

Feedback from working life partner

Recommendations:
1) In the end, the observer expressed appreciation for our activities. Moreover, it was said that some of the songs with movements were liked so much that they wanted to use them as well in their work with this group.

6 Findings

Music as a tool for supporting cognitive development in 5 to 6 years old children is a central to this thesis. Therefore, arranging quite experimental project the authors sought to identify the most efficient way of influence on cognitive development through music. For that purpose different approaches have been used. The authors used singing, movements and rhythmical activities with instruments in order to observe how these musical methods influence cognitive development of children in target group. The results that have been obtained during thesis project allow the authors to claim that music causes great impact upon child cognitive development and it can be used diversely in work with children.

The most important result obtained during thesis project is that music enables children to concentrate on the subject that has to be learnt. Even if there have been some troubles with discipline as soon as music started children had to focus their minds on what was going on. It helped them to activate their attention and remember activity connected to particular melody. Moreover, children in target group were able to reproduce music quite correctly. It was done by singing or by playing instruments. That means this age group already had certain neurological availability for reproducing the sounds in similar to the original way.

Secondly, memorizing of words, movements, and rhythms was also determined by repetitions made during the project. Since memorizing refers to one of the cognitive functions is possible to conclude that it was trained through repetition of musical actions. Moreover, music itself has many repetitions: parts of melodies used to be repeated several times, as well as child rhymes often have duplicate words; that all stimulates brain activity in easy manner.

Thirdly, the learning progress in group was obviously seen already at the second session. Children started to sing the song "Skidamarink" showing the movements without guidance of adults as soon as this song was mentioned. That means they have been progressing in their zone of proximal development from the stage where they needed help and guidance to the stage of self-regulation. Moreover, similar progressions have been seen in other activities as well. For example, when after repetition of rhythmical activities children confidently followed the rhythm and were able to know their way around.

Fourthly, activities with movement demonstrated great result as children expressed very well themselves during the action. It was seen to the authors how they tried to comprehend the movements, and it seemed that the whole process of body-thinking was engaged into this procedure. Children`s understanding of the movement was a valuable achievement during the project.

According to the results obtained during this project the authors have a possibility to conclude that music similarly used in work with children aged 5 to 6 supports their cognitive development. However, validity of the results is quite limited as these methods have been applied only with one group of children of this age group. However, current study had quite strong theoretical support. But through it all the authors hope that results of their study and project can be used for further application in similar studies and projects.

7 Discussion

The main purpose of this thesis came from the authors` own interest towards child cognitive development as both were interested in working with children. The authors` mission was to engage children from target group in songs and rhythmic movements so that they would enjoy the lessons. With this purpose in mind, the authors created lessons that would get all the children excited. It was desirable to avoid boredom and enable them to participate freely.

Except the attempt to create fascinating activities the authors also made efforts in another direction. Positive interaction with children was one of the main conditions for successful outcome of the project. As a result, the authors did the best work by interacting with children and teaching them the musical activities. Interaction with children surprisingly came very naturally. Besides, feedback from the working life partner and supervisor was very positive.

The authors were satisfied with the structure of the lessons that were carried out. However, at the beginning of the project some challenges were met as the authors first challenged children`s reaction to the activities they prepared. The first session showed the result which served as a basis for building the structure for further sessions. It was decided that for the lesson the authors need proper beginning with greetings, introduction to the lesson, song for activation, rhythmical activities and/or songs with the movements, and closing of the session. By practical consideration the authors came to conclusion that this kind of structure promotes better understanding among children about event they are involved in. The reason for that might be the fact that the same structure they meet every day in day care routine. Moreover, as the supervisor explained good structure made the group feel more safe and confident during the project. The authors noticed that it also reduced challenges with discipline as children became more eager to participate in activities of the project. However, eagerness to participate varied as some children were shy and others were not. It was expressed in their readiness to join the process. There were some participants who played the instruments without being asked, some played the instruments after being invited, while some needed invitation and demonstration to play the instruments at the outside, and encouragement to

continue playing the instruments throughout the task. In general, both eagerness and physical interaction with the musical instruments seemed to vary according to personality rather than cognition. That fact was possible to observe during first exploration of the instruments by each one of the children.

The authors aimed at supporting cognitive development of preschoolers through music and rhythmic movements. The authors believe that they achieved their goal through the use of music, musical instruments and movements to support children`s cognitive skills. Therefore, any developing process in children`s cognition was in focus of attention. Moreover, it was noticed that children express changes in their cognition in various ways. For example, each child´s interest in the task also seemed to reveal cognitive development, as some children were interested in building the target melody while others were at times interested in creating their own melody. Another example of advancement in cognitive skills was evident during the second session when children were singing the songs and trying the musical instruments on their own. It was essential to observe how much they remember and are able to produce without any guidance.

Generally, activities of the sessions can be classified by two features. Some activities involved movements, and some rhythmical exercises. For the activities with movements the participants were taught how to display the basic melodies of ´Skidamarink', 'Head, shoulders, knees and toes' and ´open shut them'. During these activities it was clear that the social angle of learning supported by the zone of proximal development enabled the participants to develop musical skills to a point where they could sing on their own. With the appropriate guidance from the authors and with the help that the participants gave to each other, the zone of proximal development was enlarged as evident by the learning of these new skills.

Besides, influence of movement to music represents great interest in field of cognitive development. Children involved into learning movements with music produce abstract way of thinking while transferring from enactive level of knowing of movement to level when they become "knowing" (Pugh & Pugh 1998). Impact that occurs in cognitive development and stimulated by movement and music can be also explained by the fact that this sort of activity engages both sides of the brain- left and right (Pugh & Pugh 1998). Therefore, advantage of such musical approach for child cognitive development is incontestable.

Rhythmical exercises revealed some progress in cognitive development as well. Children were able to remember and produce exercises quite well. However, it seemed that they had more difficulties with learning the rhythms, even though instruments were of the utmost interest for them. That could be explained by the fact that rhythmical exercising was very new for the target group as they probably never have had that kind of experience before. It seemed that

children did not comprehend the whole idea of task with the rhythms. However, according to the theory collected for this thesis the authors believe that activities with rhythm are very useful for children holistic development and should be included into daily routine of early childhood education. Due to the fact that activities with rhythm presented a challenge to children it was expressed in their behavior. The data shows that some of the children were confused or at best disinterested by the melody bell task. However, the bell as the instrument was the most popular among the group as everyone wanted to try it.

Despite the all challenges there have been some factors that promoted learning process of the sessions. First of all, the musical approach of repetition was very important for cognitive development. The more children repeat, for example a certain word, the more likely that they learn. All of the melodies and songs used during the sessions had repetitions.

Another key factor that influenced learning process of the sessions was the environmental setting. It was mostly coordinated by the working life partner. Environment of the project was beneficial and enabled the authors to complete their project goals. Moreover, it promoted children`s interest as they were enthusiastic to join the sessions. The children were willing to help each other, often collecting musical instruments for each other and were able to take turns during the sessions.

Another area of interest that was found to be a considerable factor was the time of day when the project sessions took place. As both physical and mental alertness is required during the musical sessions, afternoon hours may not have been the best time for the participants and it was perfect that the authors carried out the sessions immediately after the morning circle when the participants were still energetic.

The authors hope that this project may give insight into development of melodic cognitive processing in the field of early childhood education, but how does it translate to the development of cognitive processing in some outside content fields? If we are to understand how children view certain elements in subjects like language, then supporting language specific understanding with tasks that encourage wider cognitive understanding can only double the efforts.

Vygotsky drew attention to the fact that whether a child can successfully solve a problem or pass a task depends on many environmental factors (e.g. whether the child is helped by another person, whether the problem is worded clearly, and whether any cues are provided). While some tasks are not very challenging and the child can pass these unassisted, other tasks are more challenging and can only be passed with assistance. In the more challenging tasks adults can provide the child with guidance by breaking down the task into manageable pieces,

offering direct instruction. For this guidance to be of benefit to the learner it must fit the child´s current level of performance. This type of teaching is referred to as scaffolding. As the child becomes more competent begins to master the task the adult gradually withdraws assistance. The child internalizes the language and behaviors used in these social interactions and it becomes part of their private speech, which in turn mediates their thinking and planning (Slater & Bremner 2011).

In the light of mentioned above the authors tried to provide appropriate assistance during the sessions of the project. Moreover, the idea of supporting cognitive development was to assist children by gradual reduction of the guidance. It was hoped by the authors that in the end of the project children will be able to sing, to move and to play without help of the adults. However, probably because of short term of the project these results could not be reached completely. The authors believed that in the long term project these goals would be achievable as children showed potential for further development. Overall, the authors see the potential in the idea of the project, and its results should be considered for further development.

This project hopefully will bore multiple ideas for future researchers in the field of cognitive development. It would be important to discover if the author´s participation in musical and rhythmic sessions with preschoolers influenced their further learning process (cognition). For such purpose the same or similar activities could be used. Moreover, it would be interesting to explore how similar activities stimulate children`s learning capacities if activities are conducted on regular base.

After implementation of the project the evaluation had to be done. There were two stages of evaluation used: observation and feedback from the supervising teacher. Observations via recorded video was done after each session which allowed the authors to immediately assess the happenings in that session from which further insight was gained and any necessary adjustments to the running of the sessions could be introduced if necessary. A brief feedback was given to the authors by the supervising teacher after each and every session. Formative evaluation through video observation and feedback from the supervising teacher was used during the project to understand if there were necessary changes that could be implemented. Summative evaluation, also via video observation, was used at the end of each session to understand what the findings.

Observations need to have an aim to direct the observer. Quite a number of things are happening at the same time during an observation and it is nearly impossible to be able to perceive and interpret everything that happens at the same time. Therefore having some clear goals as to what is being observed and why will lead the observer towards observing things which meet the aims of the observation (Hobart & Frankel 2009). Observation via video is

very accurate in the context of this thesis. Since leading and guiding the activities of the project and the observation a performed by one author at a time, it was necessary that more accurate observational data could be gathered by having the sessions recorded and reviewing them later.

The video observation was very successful as it enhanced a clear evaluation of what happened during the sessions. Since the authors were guiding the sessions and teaching the music at the same time, it would have been difficult to observe with much objectivity, but being able to review the recorded data clearly later on, it enhanced unobstructed insight into the happenings of each session and the progress and experience of the participants could be assessed and any necessary changes could be made. The participants were happy with the sessions being recorded and did not seem to be distracted by the video camera at all.

The authors believes that the strengths of this project stem from the following areas: the synthesis of knowledge by the authors and an opportunity to divide tasks, the fact that the authors were aiming at spreading awareness on tools that can be used to support cognitive development not only for the children, but also for the early childhood educators; using music and rhythmic movements as means for conducting the project, and also the fact that the authors have experienced in a concrete way that the working-life partner have been inspired to use the authors´ ideas (e.g. they have asked for permission to use our musical activities in their day care).

The authors also noticed some of the areas that require further development of the project. First of all, the topics of the sessions were broad. The authors could have developed their ideas deeper concentrating their attention on details. Secondly, there could have been a follow-up session in the autumn of 2016. That would enable the authors to receive an additional feedback on how the project has influenced children in the long run. Thirdly, as cognitive development is an important milestone in the children´s lifespan, the authors would have wanted to organize a workshop for the early childhood educators on those topics as well. Subject of cognitive development is very popular and there is a high demand for further studies in this area in the early childhood education field.

Even though the authors had prepared enough for the upcoming process: the planning and the implementing part of the functional final project, it came as a surprise that there were so many different stages in the process and that it was challenging to find common time for the authors to discuss and work on the project. The authors believe strongly that they have gained valuable knowledge and understanding on how to carry out a project work. Moreover, communication skills among the authors have improved during the process, which supports the professional growth. The implementation part of the project was successful with only mi-

nor challenges, such as preparation arrangements. It is also feels that the sessions for the children were successful.

The authors feel contented with the way this project went. It is also hoped that this project will act as an inspiration for others to do more research and to conduct projects on this subject area. The topic of child cognitive development is not only fascinating, but also rewarding, because there is always something new that is possible to learn from it. The use of music and rhythmic movements and musical instruments as a method to educate enhanced the children's learning, supported their overall development, and created much more fruitful and meaningful experiences. The authors feel that the experience of conducting this project has been exciting, challenging, rewarding and at some point exhausting, but in the end it was very vital for the authors´ professional growth. The authors have learned so much throughout the process, including theoretical and practical knowledge. The authors feel that their individual and group work competences have developed and all in all the whole experience has been empowering.

Moreover, both authors feel that gathered experience and knowledge about music as a method can be applied to their professional working life. Understanding of child psychology enables to deepen ideas of how music can be used in everyday routine of day care life. The benefits for that could be various. First of all, children would advance from learning about music and by means of music. It is also believed that music could support holistic development of children. Secondly, day care educator who is able to apply musical methods to the practice by that enlarges own opportunities for efficient influence upon child development, and generates better interest in subject of learning among children.

8 Ethical Considerations

The authors take full responsibility for observation of ethical practices while writing the thesis and arranging the thesis project in I.C.E.C. First of all, the authors realize cultural differences and necessity for respect for cultural diversity within the group. The Reception group is multicultural and it requires sensitivity to special aspects of different cultures. Secondly, the authors ensure confidentiality for the participants involved in thesis project. There is no name or personal data mentioned in the thesis. The data gathered by means of video recording will be treated carefully, and it will be used only for project purposes: validation of the fact that project session took place and data collection. Moreover, after expiration of time when data is needed, the authors ensure destruction of data. Thirdly, the authors are conscious of responsibility for emotional and physical safety of participants. Therefore, environment of the project as well as the content is built carefully in cooperation with working life partner.

Working life partner takes active guidance in arrangement of the thesis project in order to provide ethical practices as well. Working life partner organizes and regulates the group of children that participate in the sessions, as well as distribute letters of permission to the parents. What is more, working life partner observes the sessions for ensuring ethical regulations. Moreover, the authors were asked to bring the extracts of criminal records to working life partner before the start of the project.

The authors also realize own assumptions and subjectivities and bear responsibility for them. It is crucial that children would feel comfortable and confident during the project. The authors` desire is to do their very utmost in order to bring positive emotions and experience to the group of participants during the project.

Findings of the project are not possible to analyze by means of any theory suitable for research analysis. The authors are able to base analysis only upon own skills of reflection and interpretation. However, for certain extent theory can support ideas of the authors. In this regard, the authors realize that validity of the results can be quite subjective. However, it enables to make some general conclusions.

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Appendices

Appendix 1: Observation Sheet

Observation number:

Age group:

Number of adults present:

Number of children present:

Time commenced:

Time completed:

Date:

Setting:

Aim:

Objectives:

Record of observation:

Appendix 2: Letter of Consent

Letter of Consent

Dear parents,

We are students from Laurea University of Applies Sciences and we are working on our final thesis at the moment. Our research is about supporting cognitive development of five to six year olds using music. We are planning to hold musical sessions and observe your child. We would like to ask for your permission to observe your child and record the activities via video recording during a period one week. We are under an oath of confidentiality which will also be valid after the thesis is complete. We will ensure that all data collected will not be given to any outside person. We will also take care that the thesis will bring no harm to anyone in-volved.

Please fill in the following:

I .... give / do not give permission for my child to participate in this project for one week in March 2016.
Kind regards,
Victor Otingi & Kristina Goljakov