TRANSVERSAL PROCESSES - LEARNING MORE ABOUT THE TEACHING PROFESSION THROUGH MUSIC

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Abstract

Music and languages formed the basis for the European Music Portfolio project (2009-2012; http://www.emportfolio.eu), aiming to support teachers in their profession, by combining theories, methodology and practices. The focus of this paper is the study procedure on the impact of the international CPD courses for teachers, as one of the EMP -tools. One of the most interesting results reported was a better focus found by the teachers on the learning processes of children due to the experiences of integrating music and languages. How does music work in transversal learning and integrated teaching, as a support for the teachers?

Keywords: Curricula, learning, music, teacher training, teaching

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1. Introduction

Atmosphere can be created and affected musically. Music discusses with emotional, bodily and cognitive factors, with transversal learning processes and with the positive atmosphere of the child's growth environment, starting from the prenatal phase (Marjanen, 2009). Two distinct sound systems surround humans from the very beginning: 1) linguistic - including features of the native tongue; and 2) musical - including characteristics of the musical culture in question. (Patel, 2008.) Musical experiences are understood to support learning when being actively involved in music making processes, especially in the methodologies and understanding of praxial music education (Elliott, 1995). This creates the surface for the present study approach, from the views of 1) The EMP-L project, and 2) the pilot study on international EMP-L based CPD courses for teachers (2012-2017). The current study is still going on, with the methodology development continuously recreated during the performance of the courses, to respond to the things that happen and have already been learned about. The Grounded Theory (Martikainen & Haverinen, 2004; Strauss & Corbin, 1998) principles support us in this.

According to Lai-Yeung (2014), when teacher students were asked of the skills needed in the teaching work, the most important one turned out to be the communication skills (ranking number 1). Interpersonal skills (ranking number 3) and collaboration skills (ranking number 9) were also found important. Evelein (in press) writes about cooperative learning, understood as an educational approach to foster integration by stimulating learners to create learning communities, to reach such as the zones of meaningful and integrated ingagements. The criteria of effective in-service teacher education (Reusser, 2011; Timperly, 2008; Reusser & Tremp, 2008 and Lipowsky, 2004), and on the other hand, the understanding of holistic deep-level learning processes (Hannaford, 2004), create the basic theory on the current study. It is not surprising that the interpersonal skills were ranked for the first stage, as interaction forms the basis for all learning despite of the learner's age or individual qualities.

Teachers do need an attitude towards learning processes (Veenman, Konders, & Burg, van der, 2001). They also require both discipline specialist knowledge and an understanding of how to make that accessible to their students - pedagogical content knowledge. It includes the ways or organizing and communicating based on discipline-specific knowledge as well as taking account of prior experiences of the learners. (Dillon, 2006.) It is a form of practical or 'mission-orientated' knowledge (Short, 2002). Discipline- specific knowledge and pedagogical content knowledge are closely linked in subject-based educational practice. It is a pedagogy of connection, consisting of a framework (the contexts of communication) and

tools (used for making connections, illustrated with imagination) to conceptualize and facilitate integrative work. Connections between creativity, the environment and music can be found. These connections come together through the theme of 'a sense of place' (Dillon, 2006). This theoretical basis and understanding leads us to the questions of integration. In this paper, the emphasis is on the development of the data collection processes, and especially on the background theories.

In The European Music Portfolio, tools were developed to support teachers while teaching languages through music and vice versa, based on the theoretical connections of music and languages, to better understand the practices in teaching and learning. We will now move on to these theories.

2. Theoretical background

2.1. Integrating music and languages

Music supports us in building bridges between the bodily, emotional and cognitive experiences, because of the processes in the limbic system of the brain (Hannaford, 2004). In Steiner-pedagogues, originally based on the understanding of Pestalozzi (1746-1827), this is briefly named as head, heart and hands (Morrison, 2009), to keep in mind. The brain can be musically affected, thus to support the long-term memory (Huotilainen, 2011; Overy, 1998). A holistic idea of language education is presented in the European Language Portfolio (http://www.kielisalkku.edu.fi/fi), reflecting and understanding the human need for communication. In the EMP-L project this was observed in the ways of holistic music education as a basis for learning. The development of curricula and teaching methods discusses with the affects of transversal learning through integrated teaching methodology. See the construction of the shared elements of music and languages, as described in Fig. 1 below.

Language and music both serve as complementary components for the human context of communication (Cross, 2008). Sound is defined as the sensations caused by vibrations of air or other media, whereas music may be taken to be the artistic way of combining vocal or instrumental sounds to produce beauty of form, harmony and expression of emotion. Sound is clinical, music affective (Dillon, 2006). However, sound can be used in a musical and thus emotional way of expression, with respect. According to Blacking (1973), the value of music lies in the value of music itself, living within people and as a part of their cultures through perception and expression. The decision to experience something as music is also individual (i.e. silence, traffic noise, birds' song, language, movement, sequence of numbers), and up to the listener himself. In the traditions of music education, music has been constructed on the

idea of musical learning and the development of musical skills, to learn about composers, music history and theory etc. If the aim is to understand the musical effects on learning, I suggest to have music education performed starting from the musical elements and functions, e.g. the vibration as energy resonating in the body, that are already known from the prenatal phase and clearly effecting one's life because of the human nature (Marjanen, 2005; 2009). This can perhaps support one's ideas regarding the development of teaching methodology.
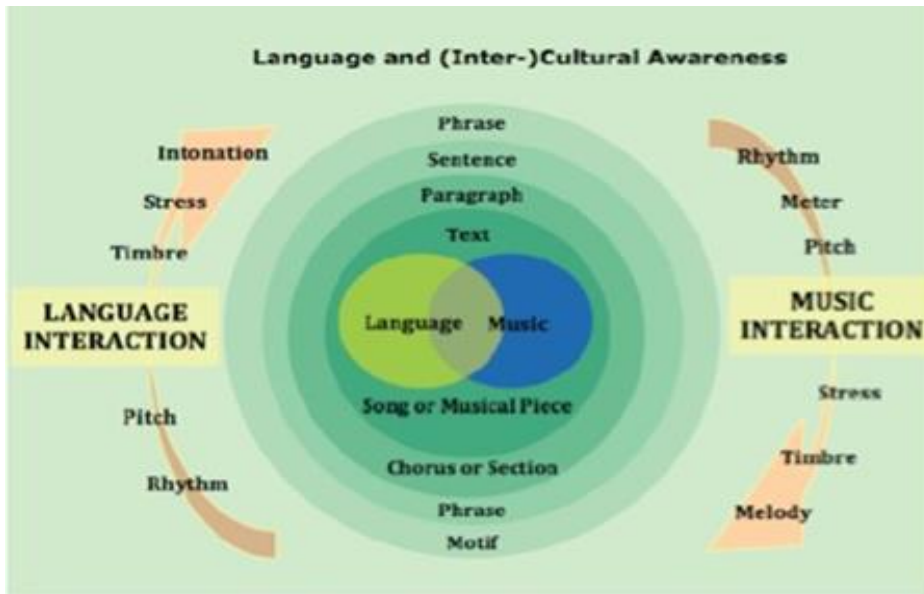

Figure 1. Graphics to show the similar elements and structures of music and languages, as described in the Teacher's Handbook (http://www.emportfolio.eu)

Integrating content from two or more disciplines; moving ideas between disciplines to produce something different are also creative acts. Working in cross-curricular modes and making connections between subjects are recognized as routes to creative teaching and providing opportunities for both learning about creativity and undertaking creative activity (e.g., Leach, 2001; Jeffrey & Craft, 1999). In the four-C model of creativity, it can be seen in the forms of 1) everyday creativity (little-C); 2) creativity for the great artists (big-C); 3) creativity in learning processes (mini-c); and the developmental and effortful progression beyond little-c that represents 4) professional-level expertise in any creative area (pro-C) (Kaufman & Beghetto, 2009).

2.2. Development in the teacher's profession

Reusser (2011), Timperly (2008), Reusser & Tremp (2008) and Lipowsky (2004) describe the criteria of in- service teacher education. According to them, certain qualities and factors are set to be able to reach out the effective factors. These include 1) focusing on teaching in relation to the school context; 2) connecting to the classroom situation and the teaching experience of the CPD-participants; 3) clear aims and defined methodological-pedagogical focus; 4) focusing on the curricular, subject content and the current experience of CPD-participants; 5) focusing on pupils' learning issues, and the understanding of content-specific processes; 6) co-constructive and dialogue-based framework and methods; 7) transfer-orientation in design, ideally a combination of phases of input, training, transfer, realization, reflection and assessment; 8) creating motivation for co-operation, collaboration and dissemination within and beyond the school, offering the option of support services; and 9) creating motivation for deep reflection: teacher's professional habits, pupils' learning processes.

To find answers to the set questions, this framework and information was used for the development of the questionnaire, and as a basis for the semi-structured interviews, complemented with other theories. According to the CoT–project (http://projectzero.gse.harvard.edu/assets/Final_Revised%202_PZ_Brochure(1).pdf), teachers do strive to create a culture of thinking and pondering on various subjects. Through this comprehension, traditional forms of professional development that target specific subject areas or levels are forgotten. A rich professional culture has been seen as a support for the teacher's professional development, which is also the present target. Transversal learning is important for the reconstruction of comprehension. It affects the motivation and interest to consider and learn about integrated teaching methodology. In 2012-2013, a pilot study was performed to understand the professional development and learning processes, as described above, with the present focus on music, languages and integration. Let us now look at the study procedure.

3. Research methods

The aim of this pilot study was to increase our general understanding of the discourse of effective initial teacher training and professional development of teachers, especially concerning the implementation of didactic innovations in the field of music and language education. Would it be possible to learn from the music and languages based CPDs to develop the initial teacher training – and how? Can a connection be found between the

understanding of music/language integration and transversal learning/integrated teaching processes?

In 2012, a group of European teachers (N=108) participated in the pilot study on international EMP CPD courses (Germany; England, UK; Catalonia, Spain, Switzerland and Greece), supported by the basis created in The European Music Portfolio (EMP-L) project (2009-2012, http://www.emportfolio.eu). The aim of this paper is to create a basis for developing, and to describe such study methods. An e-questionnaire was sent to the participant teachers, and their answers are interpreted and explained in semi-structured interviews by the teacher trainers from Finland and Switzerland (N=3), representing the fields of educational sciences, language, and music education.

3.1. The e-questionnaire

The theories to support the construction of the e-questionnaire were presented in Chapter 2. This post-course questionnaire was created as an e-questionnaire by using the tools of the elomake.helsinki.fi, and was sent 22.12.2012 to the participants of the EMP CPD courses in 2012 (Germany; England, UK; Catalonia, Spain and Switzerland N=108). The questionnaire, mostly constructed of Likert-scale questions, included also some open questions to describe certain phenomena given, e.g. defining music, languages and integration. In the Likert-scale questions, besides the background information (gender; year of birth; nationality; participation in international and national CPDs; educational background; working experience; language and music skills), questions on the EMP- CPD deliverables, the effects of the courses apparent in daily teaching practices, general evaluation of the course, and the benefits of the course were presented.

Unfortunately, answers could not be received from participants on the Greek CPD-course (n=29), because of the inconvenient timing of the questionnaire (just before Christmas), which for this group was removed from the data. This brings the final answering percentage to 32,9%, based on the number of the questionnaires (N=79) sent, and answered. An international group of teachers (from Germany, England, Scotland, Romania, Catalonia, France, Switzerland, Finland, Hungary, Bulgaria, Slovenia, Croatia) were able to give their answers. When estimating their working experience in various age groups and subject focuses, most of the teachers defined themselves as being proficient, expert or competent teachers. They defined their educational background mostly through music, languages and generalist teaching.

Despite of the qualitative orientation and the small size of the data, the questionnaire was first analyzed in SPSS 17.0 and Microsoft Office Excel 2007, to get a general overview

of it. The first analysis was used as a basis, to discover the study focus through the results, and secondly, to specify the approach to be used in a more detailed way. The qualitative understanding, however, was underlined during all the phases of the study process.

3.2. The semi-structured interviews

The teacher trainers' interviews were given to open up the CPD participants' answers in the questionnaire. Teacher training experts (N=3) from music (HEP Lausanne CH), languages (UEF Joensuu FI) and educational sciences (PH/FHNW Solothurn, CH) were interviewed (March, 2013). The core of the interview, as a basis for the discussion, included the following main themes to be observed on the basis of the questionnaire answers: 1) The changes with relation to the course: the meaning of memories, experienced activities and self-written notes; vs. 2) The minor importance of the printed materials (Teacher's Handbook, National Booklets, Pupil's Portfolio, printed activities), as described by the respondents; 3) The expertise as a part of the meaning of musical integration in teaching and learning. The information gained is supposed to support the development of the initial teacher training, to learn of this phenomenon when considering the initial teacher education and the methods used within the institutions.

The data was recorded with the HTC sound recording tool (amr-format), to be saved as .mp3, and transcribed for the most important sections and details. Skype was used for one of the interviews, given in Finnish; and then translated into English for the needs of the second researcher. This information was saved on a data collection and analysis template (.xls) to be analyzed and compared to find the similarities and differences in the answers 1, 2 and 3. The teacher trainers agreed on most of the themes, though in some questions their approaches divided. Classifying the reasons, as answers to our questions, was easy.

4. Results

4.1. Step 1: The questionnaire

As a result of the participation on the course, the teachers stated themselves being more available for the children: more accessible and more interactive. After the course, they used their memories of the CPD, their own notes from the course and the experienced activities in their work. On the other hand, the printed materials (Teacher's Handbook, Pupil's Portfolio and printed activities) did not seem to be so important. See the details in Tables 1-6.

Table 1. Memories from the course, which later affected the teacher's work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once	1	3,8	3,8	3,8
	2-5 times	6	23,1	23,1	26,9
	I use them now and then	8	30,8	30,8	57,7
	I use them continuously	11	42,3	42,3	100,0
	Total	26	100,0	100,0	

Table 2. Experiences of the course activities affecting the teaching work after the course

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	3,8	3,8	3,8
	Once	1	3,8	3,8	7,7
	2-5 times	9	34,6	34,6	42,3
	I use them now and then	8	30,8	30,8	73,1
	I use them continuously	7	26,9	26,9	100,0
	Total	26	100,0	100,0	

Table 3. Course activities as a model to create ones own, to follow the idea

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	7,7	7,7	7,7
	Once	4	15,4	15,4	23,1
	2-5 times	3	11,5	11,5	34,6
	I use them now and then	11	42,3	42,3	76,9
	I use them continuously	6	23,1	23,1	100,0
	Total	26	100,0	100,0	

Table 4. Teacher's Handbook as a support for the teaching after the course

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	6	23,1	23,1	23,1
	Once	8	30,8	30,8	53,8
	2-5 times	5	19,2	19,2	73,1
	I use them now and then	7	26,9	26,9	100,0
	Total	26	100,0	100,0	

Table 5. National Booklets as a support for the teaching work after the course

		Frequency	Percent	Valid Percent	Cumulative Percent
	Never	11	42,3	42,3	42,3
	Once	3	11,5	11,5	53,8
Valid	2-5 times	5	19,2	19,2	73,1
	I use them now and then	5	19,2	19,2	92,3
	I use them continuously	2	7,7	7,7	100,0
	Total	26	100,0	100,0	

Table 6. EMP Pupil's portfolio as recourse for the teacher at school after the course

		Frequency	Percent	Valid Percent	Cumulative Percent
	Never	13	50,0	52,0	52,0
	Once	3	11,5	12,0	64,0
Valid	2-5 times	6	23,1	24,0	88,0
	I use them now and then	2	7,7	8,0	96,0
	I use them continuously	1	3,8	4,0	100,0
	Total	25	96,2	100,0	
Missing	System	1	3,8		
Total		26	100,0		

Even though the result cannot be generalized because of the small size of the sample data, see also Appendix A, as an example which points to the very significant*** correlations between the course, and behavior at work after the course. The changes in the work as described by the teachers in the questionnaire, are supported with reference to the understanding of music, languages and integration and are also connected to Hannaford's theory (2004).

Evidence to further investigate the impacts of music as a part of the CPD-course, as well as music in teacher training would be important. The very significant general level and high correlations give us reasons to look at them further. The table in the Appendix makes us to stop and think. What is it about music that makes a teacher more accessible to many things, and why? The answers to this are found in the ongoing and further developing pre- and post-questionnaires, complemented with other ways of data collection.

4.2. Step 2: The interviews

Opening up/expanding the answers given in the questionnaire was the purpose of the interviews. Teacher training experts (N=3), as described in Subchapter 3.2, were interviewed in March 2013. The results of the questionnaire as interpreted by the teacher trainers, were natural: for them it was clear that as a result of the music-language integration, the focus and

connection to learning processes became important. The teacher trainers found it really important to support a trend towards increasing projects and process-based learning rather than teaching in a traditional, subject-oriented way. They found this as an answer to increase the pupils' motivation at school and teacher students' motivation at universities. For them there were no problems in starting the studies almost straightaway with integrative learning methods; they saw a possibility to learn the basics of certain subjects through this integration methodology. Some differences in how the ideas were presented and emphasized were found, however. The transformative power of the space as a result of the integration of the two disciplines, was clearly shown. The emotional and social factors were strongly involved in the processes, due to the musical activities.

--- *"Most important: how can children learn – in music, languages, then by combining them? This is the target: learning. What are the differences and similarities, how can we support them? One has to have an understanding about learning to be able to teach and motivate."… "I'll find a way. If they have to write a thesis, I'll say to them, first you tell me about learning, then about music and languages, then about how you combine them, which strategy do you use for your learning, how can we integrate music and languages to progress…? It's not about discipline or mathematics, it's all about learning as a whole, e.g. projects… what is teaching, what is learning? All the teachers say the same. Pupils are very involved in these projects." (Teacher trainer 1.)*

--- *"The starting point is to understand the child's learning and growth, especially with young children, how can you make it work? Problem: in language training you only focus on the subject, which leads to focusing on one subject at a time, which is not good. It is not what life is. Instead of this isolated subject orientated thinking we should see them all together, as a whole, with connections to real life, a wider context of life. Different views complement each other and teachers are able to find them better after taking part in mutual discussions." (Teacher trainer 2.)*

--- *"I wonder if there are some learning processes that are interdisciplinary, are there differences between learning processes, is there one from music for example, and maybe there are theories about combining? We don't know anything about that and I don't know, that's why I'm looking for theories. What is going on in the heads of children? Is there a difference between learning processes? How do they learn? And it's not education, it's like… growth and development… so we have an idea, another person should have to combine perspectives." (Teacher trainer 3.)*

4.3. Step 3: Summarizing the results of the questionnaire and the interviews

The information gained as a whole can be described as an interesting figure. Teaching music and languages as an integrated unity might have a chance to serve the purposes of learning, in general, and situate in the discussions on the development and methods of the initial teacher training, in-service teacher training and in the field of school learning and teaching. What if we constructed our learning on the basis of the learning processes instead of the subject orientation traditions? Further information on these questions will be processed, based on the connections between the descriptions on music, language and integration, and experiences of them as a part of the teaching tasks at school.

The results gained are supported by the theories presented at the onset of the study. The impacts of music in regard to its spirit and qualities with the methods used, should be payed more attention to, to be directed as a basis for understanding the learning processes. The next steps of the investigation will point out some further details. Specific data that relates to initial teacher education is needed, when integrating subjects. In Figure 2 below, a description of the ongoing process and the internal connections is given. It is suggested here that the teachers' orientation towards the way children learn was found to be more important than earlier, and this affected their teaching as a result of the integration of music and languages in the CPD. Through a better integration, would there be a change in teaching because of a better understanding about the transversal learning processes? This must be further clarified, which in turn, may help us in developing the initial teacher education.

The processes of professional development, based on the previous information, can be used as a framework for the specified information gained, giving guidelines for the mutual development of the initial teacher training and the in-service teacher training, in interaction. How to support the teaching profession in music, and through music? With the support of musical integration, are we able to somehow help the child to learn and develop? How to support the teacher in understanding these processes, as well as the idea of learning together, based on the importance of shared experiences in all learning? These questions are to be further solved in the further ongoing study, continuously developed on the basis of the sub-studies or part-studies, their procedure and results.
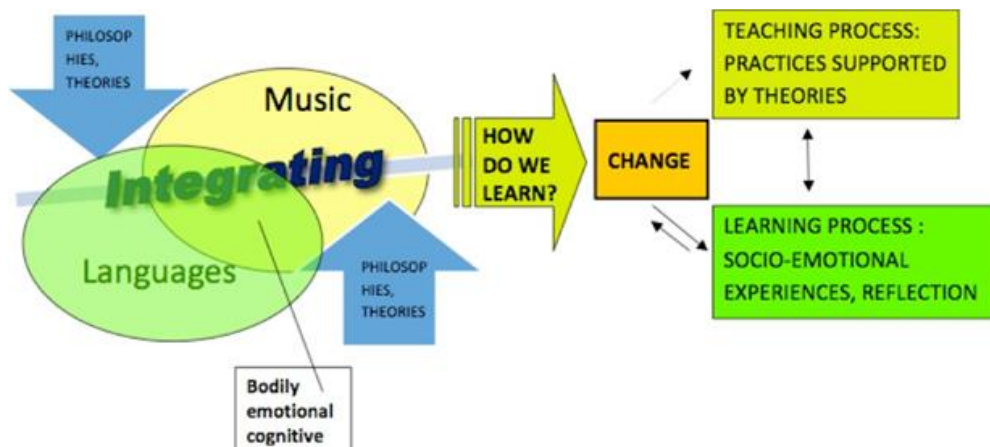
Figure 2. Interpreting the results with the teacher trainers (N=3)

5. Discussion

In this pilot study, the quantitative tools were not used to give exact evidence for the results described, but to point out and to grip onto some factors, following the lead already gained. It is very important to understand the data correctly, not to misinterpret. What kind of information will be gained, and how to use it? In the 1st Chapter, it was pointed out according to Veenman, Konders, and Burg, van der (2001), that teachers do need an attitude towards learning processes. They also require both discipline specialist knowledge and an understanding of how to make that accessible to their students - pedagogical content knowledge. Shared experiences may sometimes prevent the teacher as well as the researcher from seeing things openly, but they also support him/her in understanding and interpreting the information given by the object of the study.

A strong qualitatively based understanding of the research through triangulation will carry this study onwards; tacit knowledge, the features of repeated and intertwined information, admitting the existence of gift-like knowledge created out of a trustworthy relationship between the researcher and the participant (see Marjanen et al. 2012), are to be taken into account. Music and learning are a challenge to confront also in the discourse of integrated teaching. Strong evidence has been found in many studies on the impact of music on human behavior, growth and development, which is also supported by the pilot study information.

Evidence for the impact of music is discussed in The Ethological Theory and the Relationship Approaches (Hinde 1997) along with the Musilanguage Theory (Brown, 2000). They support the ideas of the findings in the current study to be directed to serve the development of teacher education. The data gaining procedure will be further developed for

these purposes, to be able to repeat the study in several CPD participating groups and complement it with other study methods, to be performed both individually and in groups. Further information will also be gathered on the contents of the courses.

Acknowledgements

References

Blacking, J. (1973). *How Musical is Man?* Seattle, WA: University of Washington Press. https://doi.org/10.7551/mitpress/5190.001.0001

Brown, S. (2000) The "Musilanguage" model of music. In N. L. Wallin, B. Merker, & S. Brown (Eds.), *The origins of music* (pp. 271-300). London: The MIT Press.

Dillon, P. (2006). Creativity, integrativism and a pedagogy of connection, International *Journal of Thinking Skills and Creativity*, *1*(2), 69-83. https://doi.org/10.1016/j.tsc.2006.08.002

Elliott, D. (1995). *Music matters: A new philosophy of music education*. New York: Oxford University Press.

Evelein, F. G. (in press). Cooperative learning in Music: Music Education and the Psychology of Integration. In M. Cslovjecsek & M. Zulauf (Eds.) *Integrated Music Education. Challenges for Teaching and Teacher Training.* Bern: Peter Lang Editors

Hannaford, C. (2004). *Viisaat liikkeet – aivojumpalla apua oppimiseen* Originally 1995: Smart moves, why learning is not all in your head. A Finnish edition (5th. ed.). Helsinki: Hakapaino Oy.

Hinde, R. A. (1997). Hinde, R.A. (1997). Etologinen teoria ja suhdeteoria. (The ethological theory and the relationships approaches.) In Ross Vasta (ed.) *Kuusi teoriaa lapsen kehityksestä* (Six theories of a child's development) (pp. 289 – 320). Kuopio: Kuopion yliopiston painatuskeskus.

Huotilainen, M. (2011). Greetings from brain research – music education is important for brain development. *Proceedings of the 5th Conference of the European Network of Music Educators and Researchers of Young Children*. Helsinki, Finland.

Jeffrey, B., & Craft, A. (1999). Teaching creatively and teaching for creativity: distinctions and relationships. *Educational Studies*, *30*(1), 77– 87. https://doi.org/10.1080/0305569032000159750

Kaufman, J. C., & Beghetto, R. A. (2009). Beyond Big and Little: The Four C Model of Creativity. *Review of General Psychology, 13*(1), 1-12. https://doi.org/10.1037/a0013688

Lai-Yeung, S. W. C. (2014). The need for guidance and counselling training for teachers. *Procedia – Social and Behavioral Sciences, 113*(2014), 36-43. 2013 International Congress on Clinical and Counselling Psychology (CPSYC) https://doi.org/10.1016/j.sbspro.2014.01.008

Leach, J. (2001). A hundred possibilities: Creativity, community and ICT. In A. Craft, B. Jeffrey, & M. Leibling (Eds.), *Creativity in education* (pp. 175–194). London: Continuum.

Lipowsky, F. (2004). Was macht Fortbildungen für Lehrkräfte erfolgreich? Befunde der Forschung und mögliche Konsequenzen für die Praxis. *Die Deutsche Schule, 96*(4), 462–479

Marjanen, K., & Poikolainen, J. (2012). *Lasten Ikihyvä - hyvinvoiva lapsi kuntapalveluissa*: *Loppuraportti 20.12.2012.* /The positive equilibrium of Children – child wellbeing and communal services. The Final Report 20.12.2012). University of Helsinki & TEKES. Helsinki.

Marjanen, K. (2005). *Musiikkileikkikoulunopettaja, varhaismusiikkikasvatuksen ekspertti. Työelämä haasteena koulutukselle. Esimerkkitapauksena Jyväskylän ammattikorkeakoulu*. (Music playschool teacher, the expert in early childhood music education. Working life as a challenge to education. Jyväskylä University of Applied Sciences as an exemple.) Music education licentiate thesis. University of Jyväskylä. Retrieved from https://jyx.jyu.fi/dspace/bitstream/handle/123456789/22602/978951 3937690.pdf

Marjanen, K. (2009). The Belly-Button Chord. Connections of Pre- and Postnatal Music Education with early Mother-Child Interaction. University of Jyväskylä, Finland. Jyväskylä Studies in Humanities, 130. Dissertation. Retrieved from http://urn.fi/URN:ISBN:978-951-39- 3769-0

Martikainen, M., & Haverinen, L. (2004): Grounded theory -menetelmä kasvatustieteellisessä tutkimuksessa. (Grounded Methods as a tool in educational research). In P. Kansanen & K. Uusikylä (Eds.), *Opetuksen tutkimuksen monet menetelmät*. (The multiple methods in the study of teaching) (pp. 133-157). Jyväskylä: PS-kustannus.

Morrison, G. S. (2009). *Early Childhood Education Today* (11th Edition). Upper Saddle River, NJ: Pearson.

Overy, K. (1998). Can music really 'improve' the mind? *Psychology of Music*, *26*(1), 97–99. https://doi.org/10.1177/0305735698261009

Patel, A. (2008). *Music, language and the brain*. Oxford University Press: New York

Reusser, K., & Tremp, P. (2008). Diskussionsfeld "Berufliche Weiterbildung von Lehrpersonen". *Beiträge zur Lehrerbildung*, *26*(1), 5–10. Reusser, K. (2011). Von der Unterrichtsforschung zur Unterrichtsentwicklung – Probleme, Strategien, Werkzeuge. In W. Einsiedler (Ed.), *Unterrichtsentwicklung und didaktische Entwicklungsforschung* (pp.11-40). Bad Heilbrunn, Germany: Klinkhardt.

Timperley, H. (2008). *Teacher professional learning and development*. Brussels & Geneva: International Academy of Education & International Bureau of Education.

Short, E. C. (2002). Knowledge and the educative functions of a university: Designing the curriculum of higher education. *Journal of Curriculum Studies*, *34*(2), 139–148. https://doi.org/10.1080/00220270110069181

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research. Techniques and procedures of developing grounded theory*. Thousand Oaks: SAGE.

Veenman, S., Konders, L., & Burg, M. van der. (2001). Coöperatief leren in het voortgezetonderwijs: Evaluatie van een scholingsprogramma. *Pedagogiek, 21*(3), 228-241.

Appendix A: Correlations: CPD course participation vs. changes at work

Correlations

		: International CPD course country	Because of the participation in the EMP-L course, there was a change in my: attitudes and motivation to teach in general	Because of the participation in the EMP-L course, there was a change in my: listening to children's reactions, being ope	Because of the participation in the EMP-L course, there was a change in my: way of linking sounds and games	Because of the participation in the EMP-L course, there was a change in my: being open to music	Because of the participation in the EMP-L course, there was a change in my: being open to languages
: International CPD course country	Pearson Correlation	1	.146	.130	.123	.221	.157
	Sig. (2-tailed)		.651	.887	.702	.489	.626
	N	12	12	12	12	12	12
Because of the participation in the EMP-L course, there was a change in my: attitudes and motivation to teach in general	Pearson Correlation	.146	1	.834**	.620*	.623*	.882**
	Sig. (2-tailed)	.651		.000	.014	.013	.000
	N	12	15	15	15	15	15
Because of the participation in the EMP-L course, there was a change in my: listening to children's reactions, being ope	Pearson Correlation	.130	.834**	1	.762**	.670**	.934**
	Sig. (2-tailed)	.887	.000		.001	.006	.000
	N	12	15	15	15	15	15
Because of the participation in the EMP-L course, there was a change in my: way of linking sounds and games	Pearson Correlation	.123	.620*	.762**	1	.588*	.766**
	Sig. (2-tailed)	.702	.014	.001		.021	.001
	N	12	15	15	15	15	15
Because of the participation in the EMP-L course, there was a change in my: being open to music	Pearson Correlation	.221	.623*	.670**	.588*	1	.844**
	Sig. (2-tailed)	.489	.013	.006	.021		.000
	N	12	15	15	15	15	15
Because of the participation in the EMP-L course, there was a change in my: being open to languages	Pearson Correlation	.157	.882**	.934**	.766**	.844**	1
	Sig. (2-tailed)	.626	.000	.000	.001	.000	
	N	12	15	15	15	15	15

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).