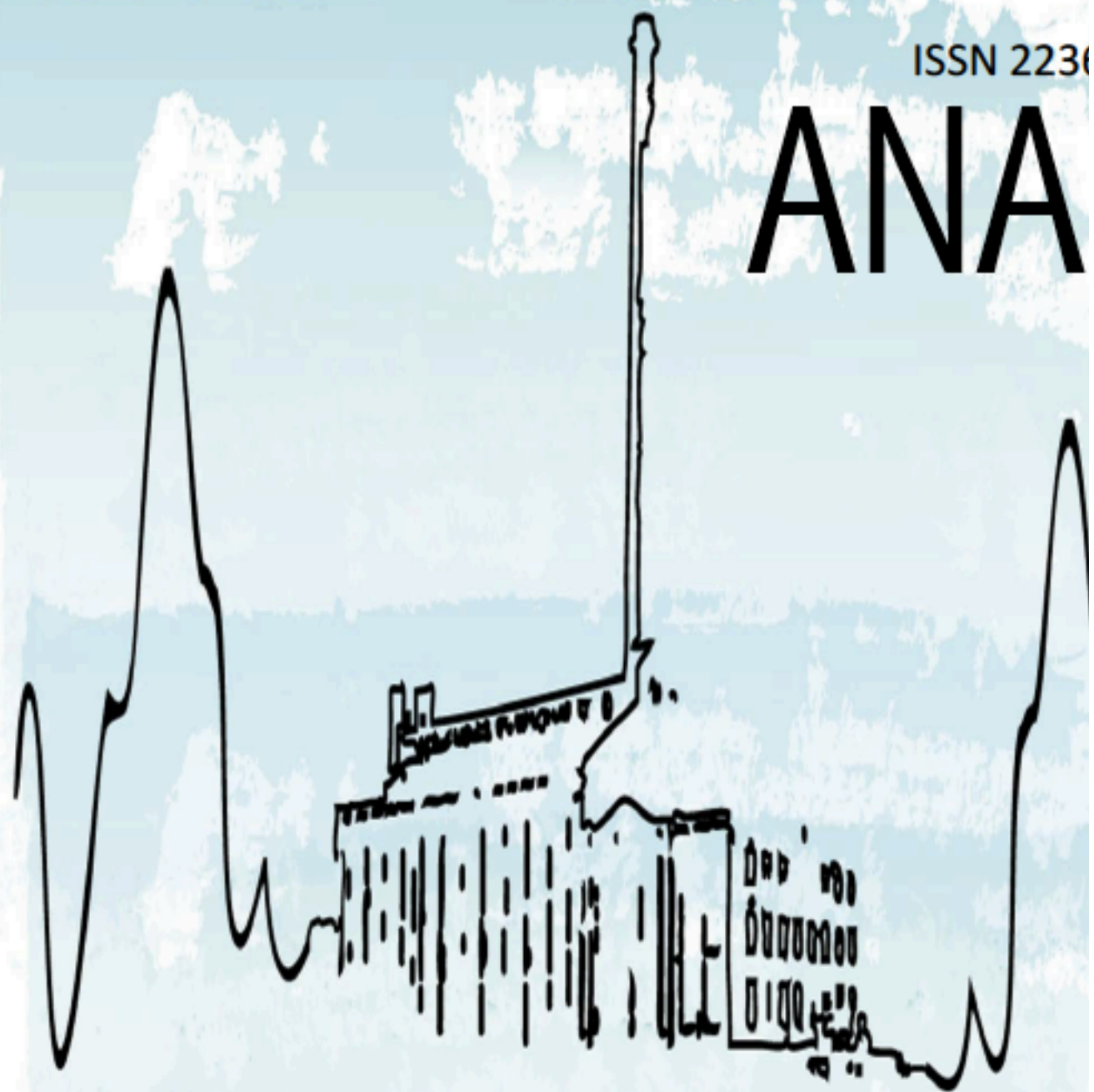


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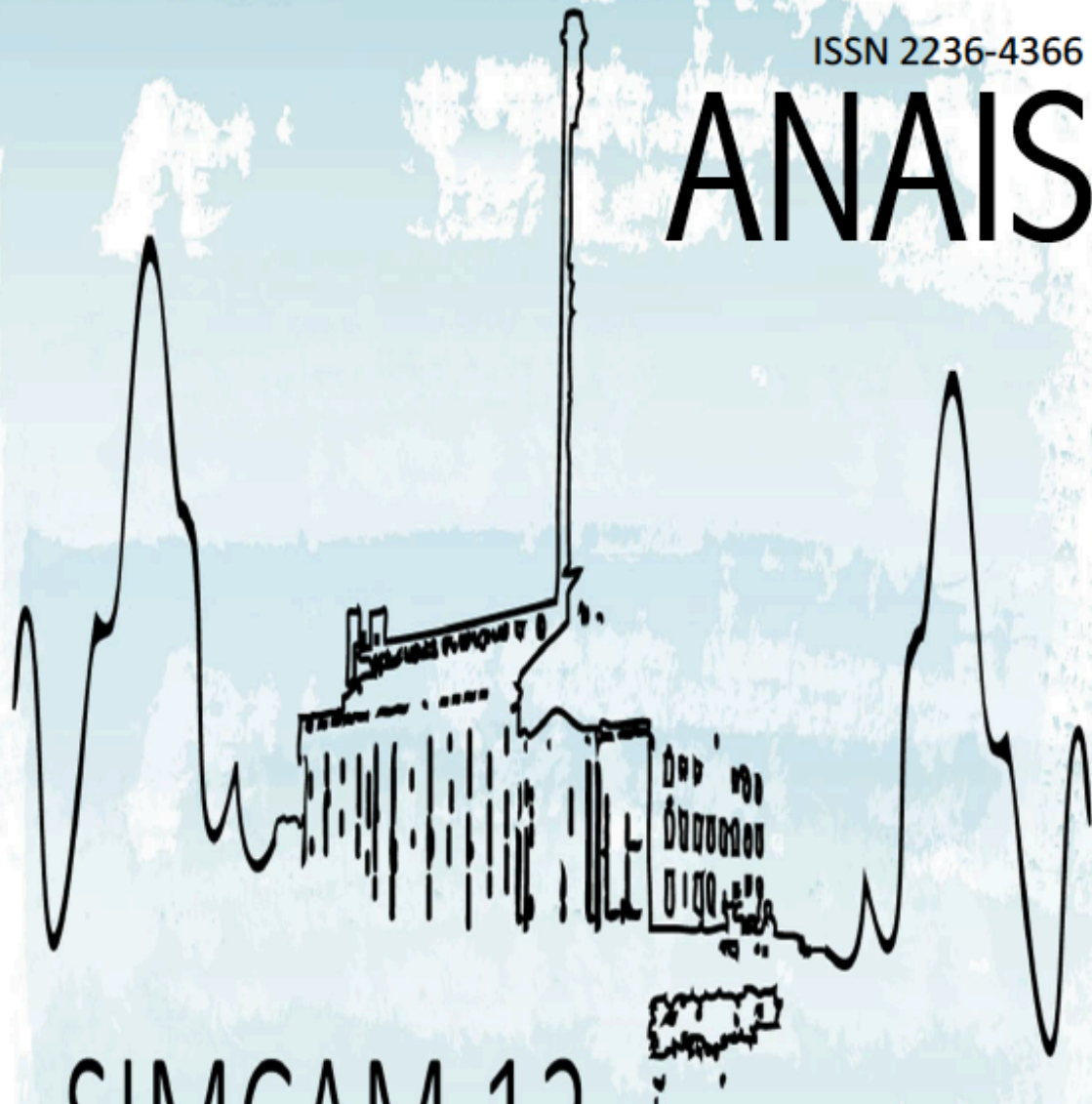
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The impact of teachers' music training on flow experience and emotion regulation of students and teachers in the framework of LINK project

Anna Rita Addressi

annarita.addressi@unibo.it

University of Bologna - Italy

Luisa Bonfiglioli

luisa.bonfiglioli@unibo.it

University of Bologna - Italy

Nich Clough

nick.clough@novalis-trust.org.uk

Novalis Trust - UK

Resumo: This paper introduces the Impact study 2 being undertaken in the framework of the European project LINK-Learning in A New Key. The project aims at exploiting theoretical understandings and practical know how developed by expert in music therapy and music education through applications with teachers and educationalists in challenging classroom contexts. The impact on the students and the teachers of the specific music training offered to teachers involved in the project will be investigate through the following constructs: 1) flow; 2) emotion regulation; 3) communication in music experience; 4) inclusion. A pre and post-test design has been proposed, together with case-studies, focus groups, video recordings observation and questionnaires (mixed-method), in the framework of participatory action research. The results will contribute to evaluate the effectiveness of the teachers' training and implement the Training Manual and the ToolKit for teachers. In this paper, we will first introduce the theoretical background, then the method, the expected results, and some conclusions.

Keywords: LINK, Music education, Music-therapy, Flow, Music emotion regulation

O impacto do treinamento musical dos professores na experiência de fluxo e na regulação da emoção de estudantes e professores na estrutura do projeto LINK

Abstract: Este artigo apresenta um estudo de impacto em curso no âmbito do projeto europeu LINK-Aprendizagem em uma nova chave. O projeto visa explorar entendimento teórico e prático desenvolvido pela especialista em musicoterapia e educação musical através de aplicações com os professores e educadores em contextos de aula desafiadoras. Os efeitos sobre os alunos e os professores da formação musical específica oferecida aos professores envolvidos no projeto serão estudados através das seguintes construções: 1) fluxo; 2) regulação da emoção; 3)

comunicação; 4) inclusão. Um design de pré e pós-teste foi proposto, juntamente com estudos de caso, grupos de foco, vídeo observação e questionários (*mixed-method*), no âmbito da pesquisa-ação participativa. Os resultados contribuem para avaliar a eficácia da formação dos professores e implementar o Manual de Formação e o *Toolkit* para os professores. Vamos primeiro introduzir a base teórica do estudo de impacto, então o método, os resultados esperados, e algumas conclusões.

Palavras-chave: LINK, Educação musical, Musicoterapia, Fluxo, Regulação da emoção musical

Introduction

This paper introduces an impact study implemented in the framework of the European project LINK-Learning in A New Key.¹ The project addresses the risks to the continuing learning and school attendance of young people in Europe who are currently disadvantaged in formal education because they are challenged by their emotional and mental states and consequent poor social interactions. The Consortium plans to exploit theoretical understandings and practical know how that has been developed at a trans-European level by expert in music therapy and music education through applications with teachers and educationalists in challenging classroom contexts. In this paper we will introduce the LINK impact study 2 aiming to evaluate the effectiveness of specific training offered to teachers involved in the project. The teachers' training and the classroom activities will be elaborated and implemented by the specialists in music therapy and the teachers involved in the LINK project. The LINK impact study 2 will be lead by the researchers of the University of Bologna in the framework of participatory action research and will involve the researchers, the teachers, and the trainers of the 4 countries involved in the LINK project. In this paper, we will first introduce the theoretical background, then the method, the expected results, and some conclusions.

Background

Recently (cfr. MacDonald, 2013) it was pointed out how the current research on the beneficial effects of music possesses a remarkable role in all areas of health and social care. The literature on music therapy and music education (cfr.

¹ LINK-Learning In a New Key, EU-Erasmus+ KA2 Programme, 2015-2017. Consortium: Novalis Trust (coordinator) and University of the West of England, Bristol (UK); Gimnazjum nr 1 in Jana Pawła II and Polskie Stowarzyszenie Terapii Przez Sztukę (Poland); Associação para a Educação de Segunda Oportunidade and Universidade do Porto (Portugal); MusicSpace-Italy, Istituto Comprensivo Granarolo dell'Emilia, and Alma Mater Studiorum-Università di Bologna (Italy).

114 Miell, MacDonald, & Hargreaves 2005; Hargreaves, Miell, & MacDonald, 2012), music community-based activities (Ansdell, 2004; Bowman, 2009; Higgins, 2012), and music medicine (Spintge, 2012) invites to adopt a multidisciplinary approach to facilitate a pluralistic approach to research and practice by incorporating each discipline theoretical contribution. The close relationship between musical experience, well-being and development has been recently highlighted by the cognitive sciences and neuroscience: the studies on the origin of music (Cross, 2008; Wallin, Merker, & Brown, 2001), and the development of infant musicality (cfr. Imberty, 2005; Trehub, 2015), revealed a series of phenomenological and neurobiological data observations that allowed to assume, in an ontological vision of the development of human musicality, the existence of a "communicative musicality" which, according to Malloch and Trevarthen (2009), expresses the presence of musical elements in the neurobiological bases of human communication, particularly those related to the structuring of time (cfr. also Imberty, 2005). A theme particularly relevant is the relationship between music and health and, in this respect, even qualitative and mixed methods can greatly contribute to the analysis of this relationship because they facilitate the exploration of subjective and phenomenological aspects of the musical experience. Exemplary are the studies conducted at the University of Jyväskylä about the analysis of the musical improvisations realised by the therapist with the patient in the music therapy contexts (Luck, Toiviainen, Erkkilä, Lartillot, & Rikkilä 2008). The discipline of music therapy has a long history of research dating back to the early 20th century (Bunt, 1994; Wheeler, 2015). This work had a significant impact and there are a number of international scientific journals devoted to research in the field of music therapy (Bonde & Trondalen, 2012). In the international scene, there are different models currently approved (Wheeler, 2015) but the core of the discipline is certainly represented by the use of music in a relational sense. A recent definition of the World Federation of Music Therapy (2011) shows how music and its elements are used in a professional perspective to promote interventions in various fields (medical, educational and everyday life) and with different subjects (individuals, groups, families or communities). The goal of the interventions is to improve their quality of life, health and wellbeing and consider different aspects (physical, social, communicative, emotional, cognitive and spiritual).

The functions of music in emotion regulation processes

A special factor in this field of study and practices is the relationship between emotions and music. The literature on this subject is very wide and has acquired

different connotations throughout history of Western civilization: from the “affective” qualities of the Greek modes, to the study of *affetti in musica* by Vincenzo Galilei (1581), to the recent studies in semiology, psychology, cognitive sciences, computer science, and neurobiology (cfr. Friberg, 2008; Imberty, 2005; Juslin & Sloboda, 2010; Juslin, 2013; Juslin, Barradas, & Eerola, 2015). As emphasized Frijda (1986), adjusting the emotional response means to act by monitoring both the action and the outcome of that action, bearing in mind that these factors interact constantly with individual dispositional factors and with social factors, (cfr. the studies on “social sharing of emotions”: Rimé, 2005). It follows that the emotional regulation processes affect both the dynamic of the emotional process and the outcome of social interaction. Van Goethem and Sloboda (2011) conducted two studies, based on one-week diary study with interviews (“event-contingent” method: participants indicated how they feel before and after the listening episode), and a three-week diary study (designed to investigate general affect regulation in every day life), that suggest that music promotes emotion regulation strategies such as distraction, introspection and active coping. Results also lead to assert that music can evoke positive emotional responses such as happiness, relaxation and that, overall, is a “means” of effective control through a series of basic mechanisms that drive the use of different and specific control strategies. The functional neuroimaging technique and the studies with patients with brain injuries show that the emotions evoked by the music are able to modulate the neuronal activity in almost all the limbic and paralimbic structures (cfr. Koelsch, 2010). The regulation of emotions is one of the possible targets by which to calibrate and define the intervention itself (Caterina & Bunt, 2002). In particular, it needs to take into account that in the setting of music therapy the analysis of emerged emotions must be integrated in a perspective that considers music as an element co-created by the music therapist-patient relationship (Bunt & Pavlicevic, 2001). Following the distinction proposed by Bruscia (1998), you could specify that the music therapist can use the sound-music channel as the preferred channel for development of the therapeutic relationship (music “as” therapy) and also choose to use the musicoterapy technics, improvisation, music listening or songs composition, integrating them within a verbal therapy (music “in” therapy).

115

Music and flow emotional state

A theory that found interesting spaces in the field of music, emotions and well-being is the *Theory of Flow* by Mihaly Csikszentmihalyi (1996). This theory offers new criteria that help to detect quantitatively and qualitatively observable

indices related to creative processes and well-being. The state of flow is defined as the "optimal experience" perceived by the subject as a balance between the goals he wants to achieve and the skills that the subject possess to achieve these objectives. The flow is characterized by the presence of high levels of a number of variables, which are: focused attention, clear and immediate feedback, clear objectives, pleasure, control of the situation, no worry of failure, self-consciousness disappeared, changing of the perception of time. According to Csikszentmihalyi's theory, other emotional states can be observed in addition to the state of flow: arousal, control, boredom, anxiety, worry, relaxation and apathy. Several studies have applied the flow theory in the field of music education, improvisation and composition (cfr. O'Neill & McPherson, 2002; Byrne et al, 2003; McDonald et al, 2006; Nijs et al, 2012). Most of them are based on interviews or written questionnaires (cfr. Jackson, Eklund, & Martin, 2010). Custodero (2005) introduced the so-called "Flow indicators", which allow observing the state of well-being in everyday musical experience of young children. In the study presented in Addressi, Ferrari and Carugati (2015), it is introduced an original Flow grid which allows both a qualitative and quantitative approach (mixed methods) to the study of the state of flow in children during improvisation sessions with interactive reflexive musical system.

Method

The effects on the students and the teachers of the specific training offered to teachers involved in the project will be indagate through the measurement of certain indicators related to the following constructs: 1) flow; 2) regulation of emotions; 3) communication process in music experience; 4) inclusion. A pre and post-test design has been proposed, together with case-studies, focus groups, observation of video recordings and questionnaires (mixed-methods). The mixed-methods will be implemented in the framework of participatory action research and adapted to each context and national needs.

116

Participants: As from the LINK project, the participants are 2 target groups: *Target Group 1:* children and young people who have emotional and social distress. *Experimental Group:* students attending classes in which teachers have done the training course provided by the Project LINK. *Control group:* students attending classes in which teachers do not attend the LINK teachers' training; *Target Group 2:* teachers who followed the music training implemented in the LINK project.

Procedure. For *Target Group 1* (students), four phases: 1) Selection of the experimental group and control group; 2) PRE-TEST (baseline): data collection

through the administration of questionnaires to students and validated scales; 3) Classroom activities: duration 3-7 months. The Experimental Group carries out activities based on music and art-therapy practices, learned by the teachers during the training implemented in the LINK Project. The Control Group carries out different activities not based on music and arts. The classroom activities will be video recorded; 4) POST-TEST. Data collection through the administration of the same questionnaires. *Experimental hypothesis*: it is assumed that the children experimental group shows a higher score in flow and emotion regulation scales compared to the control group. Case-studies will be selected for observation and exploratory investigation.

For Target Group 2 (teachers), a self-reported questionnaire designed to evaluate the impact of the training will be proposed to the teachers at the end of the classroom activities. Focus group will be carrying out during the teachers' training and the classroom activities.

Materials

1) It was planned the use of the following questionnaires for the Target Group 1 (students) during the Pre and Post-test: The *Flow Scales* (Jackson, Eklund, & Martin, 2010), a self-report tool composed by three groups of scales for Flow assessment, which allows you to describe the characteristics of the experience of flow, to evaluate the flow as a complete and coherent experience, to grasp the individual experience of "being in the flow core"; *ERQ-Emotion Regulation Questionnaire* (Gross & John, 2003): a brief self-report scale consisting of 10 items that allows you to assess individual differences in relation to two specific emotional regulation processes (Reappraisal or cognitive reformulation of meanings and Suppression or inhibition of expression); The *CERQ-Cognitive Emotion Regulation Questionnaire* (Garnefski, Rieffe, Jellesma et al., 2007): 36 items related to thoughts and assessments arising against a negative autobiographical event; The *PANAS-c (Positive and Negative Affect Scale)*, the version for children worked out by Laurent et al. (1999); a self-report instrument that measures two distinct and independent dimensions: positive emotions and negative emotions; The *Multidimensional Students' Life Satisfaction Scale-MSLSS* (Huebner, 1994): a self-report instrument that allows to develop a multi-dimensional profile of the subjective well-being assessment in relation to meaningful contexts (family, school).

2) The following questionnaire will be proposed to Target Group 2 (teachers): a self-report questionnaire (multiple choice questions and questions of Likert 5-point scale) specially constructed to evaluate the effects of the training on their professional practice.

3) Case-studies will be indagated by microanalysis of video recorded during classroom activities, by means of the following tools: *The Flow Grid* (inspired by Addressi, Ferrari, & Carugati 2015), with the aim of identifying the state of well-being by measuring the intensity of 5 dimensions of flow (focused attention, clear-cut feedback, clear goals, pleasure, control); the *LAP-Improvisation Assessment Profile* (Bruscia, 1998) in order to analyze the experiences of musical improvisation realized in the classroom.

Data analysis

The data of the questionnaires will be analyzed to detect whether there are significant differences between experimental group and control group, and/or for individual studies. The data emerging from the case-study observation will be analysed to detect the possible increase of flow state and creative behaviors in improvisational musical experiences proposed to the pupils by the teachers. The data of focus groups and self-report questionnaires with the teachers will allow to collect both the evaluations of teachers themselves concerning the impact of the training program carried out and the adoption of appropriate emotional regulation strategies. The data will be submitted to specific statistical analyses.

Expected results and conclusions

The results of the LINK Impact study 2 will contribute to evaluate the effectiveness of the teachers' training courses in a specific context such as the school, to enable the teachers to use music and art-therapy practices to facilitate students' learning processes, well-being and creativity, to the implementation of the Training Manual, to encourage innovative practices in schools, and to outline the material and resources collected in the ToolKit for teachers, as described in the objectives of the LINK project.

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