TEACHING TO IMPROVISE WITH THE CONTINUATOR

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Theoretical background

Improvisation musical processes, for many years, are in the spotlight of psychology studies (Pressing 1998, Csikszentmihaly 1997, Sawyer 1997). Recent studies on teaching of improvisation have shown that such practices develop self-motivation, collaborative playing and musical skills in children (McPherson 2005, Gellerich 2002, Burnard 2000, Custodero 2007). However, teaching improvising is still rarely tackled in Western formal music education.

This poster deals with the Continuator (Pachet 2003), the first prototype of the Interactive Reflexive Musical System, and aims to study how these systems could be used in learning/teaching music improvisation. Previous studies have shown that the Continuator is able to stimulate learning processes and musical creativity in adults and young children (Addessi & Pachet 2005, 2006; Pachet & Addessi 2004).

The core concept of the IRMS approach is to teach powerful - but complex - musical processes (such as tonal harmony, improvisation, etc.) indirectly by putting the user in a situation where these processes are performed not by the user (like in traditional approach) nor by the machine (like in some ITS approaches), but by the actual interaction between the user and the system (Pachet 2006).

Aims

The aim of the study is verify how the Continuator affects learning/teaching musical improvisation in young children. The continuator is seen as a tool to improve improvisation and creative processes in children and as support for teacher in teaching of improvisation.

Method

The experimental protocol is aimed at children of 9-11 age, attending a course of piano at a private school of music. Participants are grouped into two pairs (A and B) and taking part in a session of improvisation in pairs and in a single setting, for one month. The individual setting is organized differently for each pair: pair A plays the individual sitting with the Continuator, the pair B plays the individual sitting only with piano. A pre-test and a test have preceded and followed the experimental phase.

	A Experimental Pair		B Control pair	
Pre-test	play the tune "Danza Indiana" with improvisation		play the tune "Danza Indiana" with improvisation	
Experimental phase	1 session on pair a week with the teacher, play the tune "Aoette" with improvisation	1 session a week, alone, with the Continuator. Playing tunes "Danza indiana", "Aoette" and practice improvisation	1 session a week, on pair, with the teacher, playing the tune "Aoette" with improvisation	1 session alone a week, with the piano, playing tunes "Danza indiana", "Aoette" and practice improvisation
Test	play the tune "Danza Indiana" with improvisation		play the tune "Danza Indiana" with improvisation	

The data collection is done through audio and video recording of all meeting. The experimental hypothesis is:
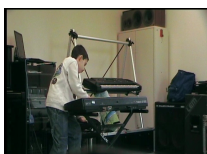
Leo is studying glissato
with the Continuator
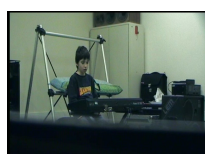
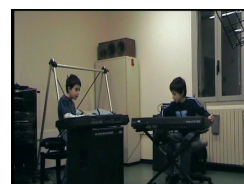Filo is listening the
Continuator's answer

The pair that use the Continuator in the individual session develop great improvisation ability in collective sessions.
We have created an observation grid to analyse the participant's improvising ability. For analyse the pre-test and test we have assigned grade from 0 to 2 at every category of the grid:

0= no presence
1= medium frequency
2= high frequency

Result

Collaborative Playing		Pair A		Pair B	
		Pre-Test	Test	Pre-Test	Test
Interaction on the time	Exchange and imitation of musical ideas	0	1	0	1
	Ripetition and variation	0	1	1	1
	Anticipation	0	0	0	0
Sharing goals	Self-assigment	0	2	0	1
	Self-correction	1	2	1	1
	Problem finding/problem solving	0	2	1	2
	Group knowldege	0	2	1	1
	Expansion	0	0	0	0
Course of interaction	Role in the improvisation (soloist, follower etc..)	1	1	1	1
Personal Process					
Complexity (control of the situation)	Flow	1	2	1	1
	Heterarchy	0	2	0	0
Feedback	Feedback	1	2	1	1
	Deliberate gesture	0	2	0	1
Think in Sound	Think in Sound	0	2	1	1
Handing of the sound	Repetition, germination, density sound	0	1	1	1
Rhythmic-melodic coherence	Preserving of musical idea in time — Short- medium- long term anticipation e recall	0	1	1	1
	Preserving of musical idea in the time — Formula, cliché and personal vocabulary	0	1	1	1
	Formal developing — How to build the improvisation	0	1	1	1
Result		4	25	12	16
		21		4	

Play glissato together
(Exchange and imitation of musical ideas)

Smile together

one plays high sound and one plays
low sound (Self-assigment)

Laura reads the tune while
following with chord her partner (control of the situation)

Conclusion

✓ The initial results show how children who have used the system in individual sessions have acquired greater skills in improvisation playing, especially the interactive aspect and the variety of one's musical vocabulary are improved.

✓ Also the system is positively accepted by the children as a partner of study and research to improve their performance skills. As well the particular interaction between system and children encourage self-government in learning and the children actively acting on their learning.

We believe that many of the interesting properties emerging from in our experiments arise from the efficiency of the concept of an *interactive reflective musical system*: the users can play with "virtual" copies of themselves, or at least with agents who have a mimetic capacity and can evolve in an organic fashion.

This system may then become a valuable support for the teacher to improve conscious, authentic and personal improvisation skills in child. In our experiment, children learn to improvise by interacting with a computer, which is necessary if their teacher cannot, or does not want to, improvise.