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Teaching young musicians expressive performance: an experimental study

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ABSTRACT

Twenty-nine pupils (aged 8–15) took part in an improvisation test and an experimental vs. control group teaching session. The aim of the improvisation test was to explore whether participants had knowledge about the use of expressive cues to convey basic emotions in improvisations. Assessments of the improvisations by four adjudicators indicated that most pupils in this sample could convey happiness, sadness and anger effectively in improvisations, providing a useful starting point for expressive music performance, which was examined in the experimental study. The experimental study investigated whether discussion of musical character is effective for improving pupils' expressiveness, by comparing outcomes with a control teaching session that focused on accuracy and technical fluency. Participants' performances of a 'happy' and 'sad' musical excerpt pre- and post-teaching were assessed by four adjudicators. Results indicated that the experimental teaching had been significantly more effective for improving expressiveness in the 'sad' extract than control teaching.

This study is the first in a larger project that aims to develop and test instructional strategies for facilitating pupils' learning of expressive performance of Western classical music. Although several studies have investigated strategies for teaching tertiary students and adults performance expression (e.g. Lisboa et al. 2005; Persson 1994, 1996; Woody 2000, 2001, 2002a, 2002b, 2003, 2006a, 2006b), little is known about effective strategies for teaching primary and secondary school pupils expressive performance. It is important to develop a systematic pedagogy for facilitating pupils' learning of expressiveness (see Laukka 2004; Williamon 2014; Woody 2000) and the reported study has been designed to contribute towards this goal.

Literature review

Expressive music performance

Expression in music performance is a multifaceted phenomenon, consisting of various aspects of expressiveness (Juslin 2003; Schubert and Fabian 2014). First, music can be seen as expressive of emotions, affects, feelings, characters and patterns of sound (Brendel 2011; DeBellis 2001; Gabrielsson 1999; Juslin 2003; Juslin and Laukka 2000; Juslin and Persson 2002). Secondly, varying levels of musical tension and expressive intensity might be considered parameters of expressive performance (Fabian, Timmers, and Schubert 2014; Nusseck and Wanderley 2009; Schubert and Fabian 2014).

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Furthermore, conveying the structure of a work convincingly is an aspect of performance expression (Clarke 1988; Friberg and Battel 2002; Juslin 2003; Palmer 1997). Authors appear to agree that performance expression is communicated through variation of auditory expressive devices (Fabian, Timmers, and Schubert 2014; Juslin 2003; Juslin and Persson 2002) such as tempo, timing, dynamics, articulation, timbre, attack, decay, intonation, vibrato, ornamentation and ancillary gestures. In this article, an expressive music performance is defined as one in which the musician communicates the compositional structure and musical character convincingly to a listener. *Musical character* relates to the affects, emotions, characters or atmosphere represented in a musical work (e.g. Shaffer 1995). *Overall expressiveness* describes the expressive intensity in a performance. An extensive discussion of expressiveness in music performance can be found in Fabian, Timmers, and Schubert (2014).

The foundation for learning expressive music performance

Communication of emotion in music is rooted in children's experience of infant-directed speech and song (Juslin and Timmers 2010). From an early age, children use expressive improvisations in songs and musical play (Hargreaves 1986; Moog 1968; Moorhead and Pond 1942; Tafuri 2008; Welch 2016). Davies (1986) found that children (aged 3–13) can invent songs expressing thoughts and feelings, and observed that children have an instinctive feeling for minor keys to express solemn, intense or mysterious words. Furthermore, Adachi and Trehub (1998) found that children can use various expressive devices to communicate emotions in songs. They asked children (aged 4–12) to make up two songs, one with and one without words, to make an experimenter feel happy or sad. Additionally, children were asked to sing one well-known song in such a way that the experimenter would feel either sad or happy, and also to induce the opposite emotion. The writers discovered that children can portray happiness and sadness contrastingly through their sung performances using gestural, linguistic, vocal and musical devices. Furthermore research has shown that children can perceive basic emotions such as happiness and sadness in music. Kastner and Crowder (1990) presented 38 children (aged 3–12) with 12 short accompanied and unaccompanied musical phrases in major and minor modes. The children were asked to match each extract with a cartoon-like drawing of a positive (happy or contented) or negative (sad or angry) facial expression. They found that all children in their sample demonstrated a reliable mode-emotion association of positive-major and negative-minor mode. Dalla Bella and colleagues found that 6-year olds can perceive basic emotions, such as happiness and sadness, in music when communicated via tempo or mode, while 5-year olds could only distinguish these emotions based on tempo (Dalla Bella et al. 2001). Based on these findings and children's experience with infant-directed speech and song, one would expect pupils to have a repertoire of expressive intentions and gestures that could be used in instrumental improvisation and performance (see Sloboda and Davidson 1996; Sloboda 2005).

Instructional strategies for teaching expressive performance

Prevalent instructional strategies found in studies conducted with tertiary students are *verbal teaching using metaphor*, *verbal teaching explaining concrete musical properties* and *aural modelling* (Woody 2000). According to Woody all these strategies were effective for improving expressiveness (Woody 2006a). Furthermore, *effective feedback* (Woody 2003) by the teacher (Hallam 1998), through recordings of students' performances (Hallam 2010; Juslin et al. 2004; Woody 2000, 2001) or computer software (Juslin et al. 2006; Karlsson, Liljeström, and Juslin 2009) can be a useful tool for improving expressivity. Some scholars have suggested that children need physical movements to experience the music they are learning (Davidson, Pitts, and Correia 2001; Nijs 2017), while others have proposed that it might be helpful for teenage musicians to make some expressive decisions for themselves (McPhee 2011). Broomhead (2005, 2006) found that *teacher's enquiry* encouraging students' initiative and providing problem-solving opportunities can facilitate expressive performance in secondary school choir rehearsals. Meissner (2017) found that tutors in an

action research study used various instructional strategies for teaching pupils (aged 9–15) expressive performance: *teacher's enquiry, discussion, explanation of expressive devices, gestures and movements, singing, imagery, modelling, 'projected performance'* and *listening to own recordings*. Participating teachers emphasised the importance of pupils thinking about the interpretation, and 'owning the performance'. Results of this study suggested that teacher's enquiry and discussion of the musical character combined with an explanation of the use of expressive devices is in particular helpful for improving pupils' expressiveness. The author proposed that pupils might perceive playing from music notation as a reading and/or technical exercise. As this was an exploratory investigation, it is important to further examine the use of enquiry and discussion for facilitating pupils' learning of expressiveness.

Dialogic teaching of performance expression

Traditionally, instrumental tuition is based on the master-apprentice model and is teacher directed; the teacher selects the repertoire and determines how the music is to be played, musically and technically (Harnoncourt 1988; Hallam 2006). Often teachers expect their students to be compliant, allowing them little space for developing their own interpretation (Persson 1994, 1996; Hallam 2006, 2010; McPhee 2011). Hallam (1998, 2006) proposed that teachers should be facilitators of learning, giving students space to develop their musical ideas. Furthermore, McPhee suggested that tutor and student should be 'collaborative partners sharing an exchange of experiences and musical ideas' (2011, 336, referring to Reid, 1999).

Kleine Staarman and Mercer (2010) proposed that teaching and learning should be seen as an interactive process, in which teachers and learners develop a shared understanding by using '*guided construction of knowledge*' (Mercer 1995). Guided construction of knowledge describes the 'communication process that lies at the heart of education: that in which an expert helps a novice to develop their understanding and knowledge' (Kleine Staarman and Mercer 2010, 75). Through spoken language teachers and learners expand their knowledge and develop their ideas. Mercer's notion of the guided construction of knowledge is based on the work of Vygotsky (1962, 1986), and incorporates the ideas of *scaffolding* (Wood, Bruner, and Ross 1976) and *dialogic teaching* (Alexander 2008). 'Dialogic teaching harnesses the power of talk to stimulate and extend pupils' thinking and advance their learning and understanding. It helps the teacher more precisely to diagnose pupils' needs, frame their learning tasks and assess their progress' (Alexander 2010, 1). For effective dialogic teaching it is important that teachers ask open questions so that questions and answers form the building blocks of the conversation, developing the understanding of student and teacher (Alexander 2008).

Although music notation provides a representation of rhythm and pitch, it does not describe the intuitive aspects of music (e.g. Gibbs 2015; Howat 1995; see Palmer 1997). Performers have to make decisions about articulation, dynamics, timing etc., based on their interpretations of a musical work. If pupils perceive playing from notation as a reading or technical exercise then they might not reflect on aspects of interpretation. By asking open questions teachers can help their pupils to consider the musical meaning and structure of the works they are studying, thus assisting them to reflect on and develop their interpretation (Meissner 2017). Therefore a dialogic teaching approach could help pupils to improve their performance expression. The current study aims to investigate the effectiveness of a dialogic teaching approach for improving pupils' overall expressiveness, particularly their emotional expression in music performance.

Hypothesis and research questions

The hypothesis of the reported study is that questions and discussion can develop pupils' awareness of the musical character and facilitate their understanding of the use of expressive devices to communicate the emotional content of the music (Figure 1). The research questions can be formulated as follows: Can discussion of musical character combined with instruction about modifying expressive
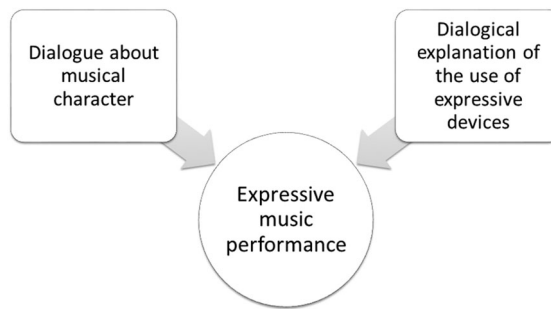
Figure 1. Model for teaching expressive music performance in a dialogic teaching context.

devices be effective for improving pupils' expressive music performance? Is this approach reliably more effective than teaching that concentrates on accuracy and technical fluency? To find an answer to these questions an experimental study was instigated to investigate whether discussion of musical character combined with an explanation of the use of expressive devices is more effective for improving pupils' performance expression than teaching focusing on technique and notational accuracy through rehearsal and improvisation. Additionally, an improvisation test explored whether the participants had knowledge about the use of expressive gestures at the start of the project. If pupils can communicate happiness and sadness contrastingly through their instrumental improvisations by using expressive tools such as articulation, dynamics and tempo, then they should also be able to do this through their performances of rehearsed music, as this would suggest that they are aware of the use of expressive cues. The reported study is the first part of a larger project and describes the quantitative findings of the study. In a complementary qualitative investigation, pupils' experiences in these research sessions were investigated through questionnaires and video-stimulated recall interviews. Results suggested that most participants found the methods that were used helpful for their learning (Meissner, Timmers, and Pitts forthcoming).

Method

Participants

29 pupils aged 8–15 (18 girls, 11 boys), at the level of Pre-Grade 1 – Grade 8,[1] playing recorder (7), violin (5), piano (4), flute (3), cello (3), clarinet (2), cornet (1), trumpet (1), double bass (1), baritone (1) and French horn (1). Six participants attended a private school[2] while 23 went to state schools. 21 participants were recruited via local schools' music departments and 8 pupils via a church youth band. The researcher had asked participating schools for musicians at an intermediate level, but advanced players signed up too. Based on previously passed grade exams participants were allocated to a lower (1, $N = 19$), intermediate (2, $N = 5$) or advanced (3, $N = 5$) level group and randomly assigned to an experimental (15) or control group (14). The mean level of playing (lower, intermediate and advanced level) was 1.53, and the median level was Grade 3 for both experimental and control group.

Research ethics

Ethical approval was obtained through the standard University review process. Participants and their parents received information letters and signed consent forms.

Procedure improvisation and experimental test

All participants were tested individually at a time and venue that was convenient for them. For 20 pupils the research sessions took place in a music room at school during their normal school day, for

eight participants the sessions took place after school in a church teaching room, while the remaining participant was tested in the experimenter's music teaching room after school (as this pupil attended a different school). These variations in procedure were accepted in order to have a larger sample.

The *improvisation test* was video-recorded. Pupils had been invited to bring a piece they knew well and were asked to play this at the start to help them feel at ease. Participants were then invited to make a short improvisation. After this warm-up improvisation the pupils were asked to make up a happy tune, 'to make a listener feel happy', and subsequently they were asked to improvise a sad and an angry tune. The *experimental vs. control group teaching sessions* were held at least three weeks after the improvisation test and were video-recorded. All participants were given two contrasting extracts, a 'happy' (*Branle* or *Allegro*) and a 'sad' (*Rain* or *Adagio*) excerpt, three days before the session to facilitate practice, and participants chose which extract they played first. Different test pieces were offered to each ability group to ensure that participants received music of an appropriate level. Participants of the lower level group (Grade 1–3, $N = 19$) received *Branle* and *Rain*; intermediate players (Grade 4–5, $N = 5$) *Allegro* and *Rain*; and advanced players (Grade 6–8, $N = 5$) *Allegro* and *Adagio* (Appendix 2). After advice from instrumental teachers extracts were transposed to keys suitable for participants' instruments. Players of melody instruments received just the melody line. Level 1 pianists were allowed to only play the right hand if playing with two hands was too challenging for them. The improvisation test as well as the experimental and control sessions were conducted by the first author of this paper.

Lesson content

Teaching for the control group focused on basic technical and music reading skills. Clapping rhythms and playing scales and arpeggios in the key of the piece were used to practise difficult rhythms or passages. Furthermore extemporisation was used to improvise tunes with similar rhythmic or melodic patterns. Modelling was only used if this was necessary to indicate pitch or clarify a rhythmic or melodic pattern. Modelling was used sparingly as this could otherwise influence pupils' expressiveness. The researcher did not refer to musical character or interpretation in the control group lessons.

After similar work on basic technical and music reading skills, the musical character was discussed in experimental group lessons. Pupils were asked '*What is the character of this music?*' The use of expressive devices to communicate the musical character was explored through dialogue, and participants were given the opportunity to try out various ways of playing the music. The musical phrases of the extract were discussed briefly whenever there was sufficient time for this. Like in the control group modelling was used sparingly.

Assessments

In education settings teachers, examiners and adjudicators generally evaluate pupils' performances in a holistic way; visual and aural aspects of pupils' playing are observed and assessed. Therefore, it was decided to use video recordings of pupils' performances for all assessments to strengthen ecological validity.

The improvisations were evaluated in two ways. First four independent adjudicators assessed the improvisations on musical content (MC) and expressive cues (EC) on a 5-point Likert scale ranging from 0 'not at all communicating the intended emotion' to 4 'very clearly communicating the intended emotion' (Appendix 1). The assessment procedure was explained via a Skype-conversation with each adjudicator. Adjudicator 1 is a professional musician, teacher and choir director; adjudicator 2 is a professional musician, teacher and experienced improviser; adjudicators 3 and 4 are professional musicians and teachers as well as experienced examiners. Initially assessments were done by the first two adjudicators, but later it was decided to invite two more adjudicators as the ICC (2, 1) values for some measures were low (e.g. ICC (2, 1) for EC-Sad was .39).

To investigate whether the pupils were able to convey the intended emotions to listeners who were not informed of their intention a second assessment was organised. Four MA students on a Music Psychology in Education course evaluated whether the improvisations conveyed happiness, sadness, anger or some other emotion. The second group of adjudicators were unaware of the intended emotion, and videos for each participant were presented in random order.

Extracts of pupils' performances at the beginning and end of the experimental sessions were assessed by four independent adjudicators[3] on a 7-point scale, ranging from 'not at all'/'deadpan' to 'excellent'. Performances were marked 'blind' for order in the lesson and for control/experimental group. The following components of pupils' performances were assessed: *accuracy*; *technical fluency*; *emotional expression* (i.e. *expression of happiness* in Branle/Allegro or *sadness* in Rain/Adagio); *appropriate shaping of phrases*; *bodily communication* (through ancillary gestures); *overall expressiveness*. The assessment procedure was explained via individual Skype-conversations using sample recordings, and confirmed in writing (Appendix 3). Initially this assessment was done by two independent adjudicators. However, as ICC (2, 1) values for some measures were fairly low (e.g. *bodily communication* in Branle/Allegro1 ICC (2, 1) = .27, in Rain/Adagio1 ICC (2, 1) = .34), two more adjudicators were invited.

Analysis

To estimate interrater reliability between the four adjudicators Two-Way Random Consistency ICC (2, k) calculations were used (see Landers 2015) for the improvisation and performance assessment data.

To examine whether the improvisations in the test were more effective in terms of MC or EC, we used paired samples *t*-tests comparing MC and EC scores (scores were averaged across adjudicators), while a repeated measure ANOVA was used to explore the effect of emotion (Anger, happiness, sadness) on MC and EC scores and to investigate whether there was a difference between the two groups (experimental/control) in their ability to express basic emotions through improvisation.

Scores related to performance assessments in the experimental teaching session were also averaged across adjudicators and the difference between post-pre test scores was calculated. It was decided to focus on difference scores per measure rather than absolute scores, to simplify the analysis and to reflect the interest in difference between pre- and post-test scores and main effect of group, including a possible interaction with piece. A repeated measure ANOVA was used to test the effect of group (experimental/control) and piece (Branle/Allegro – Rain/Adagio) on difference scores (for difference scores that followed ND). *Lesson duration* was added as covariant. Difference scores that had non-normal distribution were analysed with Mann-Whitney U tests.

Results

Results improvisation test

Most participants (27/29) brought a piece to the improvisation session and played this for the researcher. Only 10 participants had experience of improvisation, varying from beginners to experienced jazz musicians. This finding, that many young musicians have limited experience of improvisation, is in line with observations by McPherson, Davidson, and Faulkner (2012) that pupils often lack opportunities to develop their improvisation skills. When they were asked to improvise a tune conveying a specific mood, some pupils made up improvisations confidently while others were initially timid. As some pupils were hesitant, it was decided to give them a chance to make a warm-up improvisation first.

The improvisations were first assessed on musical content (MC) and the use of expressive cues (EC). MC refers to the musical material used in the improvisations such as major and minor

modes, stepwise or jumpy melodic contour, chromatic colours, low or high register and rhythm. The use of EC refers to performance parameters such as articulation, dynamics, tempo and tone colour. Participants' use of MC and EC in improvisations was assessed on a five point Likert-scale as mentioned above. ICC (2, k) values for adjudicators' assessments ranged from moderate (.61) for MC-Sad to good (.82) for MC-Angry (Table 1). The moderate ICC values for some measures suggest that it is difficult to evaluate MC and EC on objective rating scales. One adjudicator observed afterwards that she thought that there are many different ways to experience and express anger, happiness and sadness. She thought that there was always something that suggested the intended emotion in an improvisation. For that reason she had never awarded 0 in her assessments, while other adjudicators had sometimes done this.

A mixed measures ANOVA was run to test the effects of emotion and group on the improvisation test scores. This showed a significant effect of emotion on MC scores (F (1, 27) = 5.809, p = .005, r = .42). Participants were more proficient at communicating happiness (M MC-Happy = 2.72) and sadness (M MC-Sad = 2.70) using MC than anger (M MC-Angry = 2.17). Pair-wise comparisons confirmed that the scores for Anger were significantly different from the Sad and Happy scores (p = .012). There was no main effect of emotion on EC scores (p = .764), which were generally evaluated to be rather low (M = 2.03). No other significant effects were found: No main effect of group on MC (p = .391) or EC (p = .847), and also no interactions between the effects of emotion and group for MC (p = .101) or EC (p = .936).

Inspection of the range and mean assessment scores (Table 2) suggests that participants were more proficient modifying MC than adjusting EC to convey these basic emotions in their improvisations. Overall, the average MC score (Mean-MC = 2.53, SD = .61) was higher than the average EC score (Mean-EC = 2.03, SD = .65), and a paired samples t-test shows that this is a significant difference (t (28) = 9.41, p < .001). The mean difference between average MC and EC scores was .5 with a 95% confidence interval ranging from .39 to .61, with a large effect size (d = .79). The paired samples t-test also revealed significant differences between MC-Sad and EC-Sad (t (28) = 7.131, p < .001, d = .88), MC-Happy and EC-Happy scores (t (28) = 9.731, p < .001, d = .94) with large effect sizes. Contrastingly, no significant difference was found between MC-Angry and EC-Angry scores. These findings suggest that participants' ability to modify expressive gestures was less developed than their skill to employ musical material to convey happiness and sadness. Musicians need to adjust expressive gestures in performance in order to play expressively. Therefore it might be beneficial for these pupils to learn more about the use of expressive cues.

There were strong correlations between MC and EC scores for each emotion: Pearson's r was .80 (p <.001) for MC and EC-Angry scores; r = .87 (p <.001) for MC and EC-Happy scores; and r = .78 (p <.001) for MC and EC-Sad (N = 29, scores averaged across adjudicators). This suggests that there was a relationship between pupils' ability to show a particular emotion in the MC and in their use of EC. There was significant correlation between age and level of playing (Spearman's ρ = .836, p < .001, N = 29), but there were no significant correlations between age, level of playing or improvisation experience and MC or EC scores.

In the second assessment four independent adjudicators evaluated whether the improvisations conveyed happiness, sadness, anger or some other emotion, whilst unaware of the intended emotion.

Table 1. Two-way random consistency ICC (2, k), average measures, for assessments by four adjudicators.

Measure	ICC (2, k)
MC-Angry	.82
MC-Happy	.80
MC-Sad	.61
EC-Angry	.81
EC-Happy	.75
EC-Sad	.64

Table 2. Mean and median scores for MC and EC per emotion, $N = 29$. Scores were averaged across adjudicators.

	MC-Angry	MC-Happy	MC-Sad	EC-Angry	EC-Happy	EC-Sad	Mean-MC	Mean-EC
Mean	2.17	2.72	2.70	2.03	1.96	2.09	2.53	2.03
Median	2.50	2.75	2.75	2.00	2.00	2.00	2.58	1.91
SD	1.02	.78	.65	1.04	.83	.72	.61	.65
Minimum	.00	.75	1.25	.50	.50	.75	.92	.83
Maximum	3.75	4.00	3.75	3.75	4.00	3.50	3.58	3.17

On average, in 79% of cases the adjudicators identified the intended emotion. Improvisations conveying sadness were most successful (90%), followed by improvisations expressing happiness (79%) and anger (67%). Apparently it was harder for these pupils to convey anger, or this emotion was harder to recognise for the adjudicators.

Results experimental vs. control group teaching test

Participants cooperated well during their research session and most (25/29) pupils indicated that they had practised the extracts beforehand (two participants from each group reported that they had not practised). Experimental group participants responded instantly to the researcher's questions concerning the musical character. As mentioned above, different extracts were offered to each ability group to ensure participants received test pieces of an appropriate level. Grade 3 players in group 1 were offered the possibility of playing the Allegro instead of Branle if they thought Branle was too easy. Likewise, advanced pupils were asked whether they were confident playing Adagio, and were offered Rain instead if Adagio seemed too difficult. None of the advanced players chose to play the easier piece, but two of the lower group players (one from the experimental and one from the control group) chose to play Allegro instead of Branle. Despite this approach, test pieces were easy for some and challenging for other participants and this influenced lesson duration. Phrasing was discussed briefly in 9/15 experimental group sessions. There was not always sufficient time to consider phrasing, as the emphasis of the experimental sessions had been on emotional expression and accuracy.

The ICC (2, k) values ranged from .53 for *bodily communication* in Rain/Adagio 1, to .94 for *accuracy* in both test pieces at the start, with all, except two measures, above .70 (Table 3). ICC values were highest for *accuracy* and *technical fluency* scores. Given the general consistency, we are confident with averaging the scores of the four adjudicators, keeping in mind that the scores are less reliable for bodily communication.

There were no systematic differences between the two groups in any of the measures at the start of the lesson, as confirmed by an independent T-test or Mann-Whitney U test, depending on whether the measure was normally distributed ($p \geq .093$). This was the case for both pieces (Branle/Allegro and Rain/Adagio).

Table 3. Two-way random consistency ICC (2, k), average measures.

Measure	ICC (2, k) Branle/Allegro 1	ICC (2, k) Branle Allegro 2
Accuracy	.94	.88
Technical fluency	.93	.84
Expression happiness	.75	.82
Phrasing	.78	.77
Bodily communication	.70	.70
Overall expressiveness	.81	.76
	ICC (2, k) Rain/Adagio 1	ICC (2, k) Rain/Adagio 2
Accuracy	.94	.93
Technical fluency	.93	.87
Expression sadness	.73	.85
Phrasing	.81	.77
Bodily communication	.53	.74
Overall expressiveness	.67	.79

The effect of group condition (experimental/control) on lesson duration was tested to examine whether condition had unintentionally influenced lesson duration. A Univariate ANOVA showed an effect of group on lesson duration that was marginally significant (F (1, 27) = 3.719, p = .064); There was a trend for the experimental lesson to be longer than the control lesson. Other predictors of lesson duration were the students' average *accuracy at the start* and *technical fluency at the start*. These were significantly correlated with *lesson duration* ($r = -.581$, $p = .001$ for *technical fluency at the start* and $r = -.509$, $p = .005$ for *accuracy at the start*); overall students with low accuracy and technical fluency scores at the beginning had longer lessons. Therefore *lesson duration* was added as a covariate to account for differences that may have been due to lesson duration.

The distribution of *difference scores* (Post-Pre-test Scores) per group (experimental/control) was normal for both groups and both pieces for three measures: *overall expressiveness*, *emotional expression* and *technical fluency*. These were analysed using parametric tests. The *difference scores accuracy*, *phrasing* and *bodily communication* were in some conditions (for a particular piece and group) not normally distributed, and were therefore examined using non-parametric tests.

Results ANOVA and Mann-Whitney U Test

The effects of piece, group and lesson duration (as covariate) were tested using a mixed measures ANOVA for the dependent variables that were normally distributed. A main effect of group was found for *overall expressiveness* (F (1, 26) = 7.149, p = .013, r = .46) and *emotional expression* (F (1, 26) = 5.770, p = .024, r = .43). The main effect of group was moderated by an interaction with piece for *difference scores in overall expressiveness* (F (1, 26) = 9.429, p = .005, r = .52) and a marginal interaction between group and piece on *difference scores emotional expression* (F (1, 26) = 3.984, p = .057, r = .36). Additionally a main effect was found of *lesson duration* on *difference scores technical fluency* (F (1, 26) = 4.724, p = .039, r = .39). This was related to a positive correlation between *lesson duration* and the average *difference scores technical fluency* (Pearson's r = .276, p = .147). There was a moderate effect of group condition (experimental/control) on *technical fluency* (F (1, 26) = 4.022, p = .055, r = .37), and a moderate interaction between group and piece on *difference scores technical fluency* (F (1, 26) = 3.619, p = .068, r = .31). No other effects or interactions were significant. Inspection of the means (Figures 2–4) shows that the difference scores were positive on average, indicating an improvement from pre- to post-test. The significant effects of group related to a greater improvement from pre- to post-test in the experimental group than the control group in *emotional expression*, and *overall expressiveness* in the 'sad' piece However, the difference scores in *technical fluency* in the 'happy' piece were greater for the control group than the experimental group. The interactions indicated that the difference between groups was moderated by piece.

To examine this interaction, independent *t*-tests were run for each piece comparing the difference scores of the two groups.

In Branle/Allegro the mean *difference scores overall expressiveness* in the control group (M = .75) was slightly higher than in the experimental group (M = .72). However, an independent *t*-test showed that this was not a significant difference (p = .88). Contrastingly in Rain/Adagio the mean *difference scores* for *overall expressiveness* was higher for the experimental (M = 1.38) than for the control group (M = .41) and an independent *t*-test showed this was a significant difference (t (27) = 3.979, $p < .001$, d = 1.48). In Branle/Allegro the mean *difference scores expression happiness* in the experimental group (M = 1.2) was higher than in the control group (M = 1.05). An independent *t*-test shows that this was only a marginal difference (p = .068). The mean *difference scores* for *expression sadness* was higher in the experimental (M = 1.82) than in the control group (M = .55), and an independent *t*-test shows that this was a significant difference with a large effect size (t (27) = 3.371, $p < .002$, d = 1.25). In Branle/Allegro the mean *difference scores technical fluency* in the control group (M = 1.23) was higher than in the experimental group (M = .50) and an independent *t*-test showed this was a significant difference (t (27) = −2.409, $p < .023$, d = .89). In Rain/Adagio the mean *difference scores technical fluency* was slightly higher for experimental (M = .80) than the control group (M = .68) and an independent *t*-test showed that this was not a significant difference
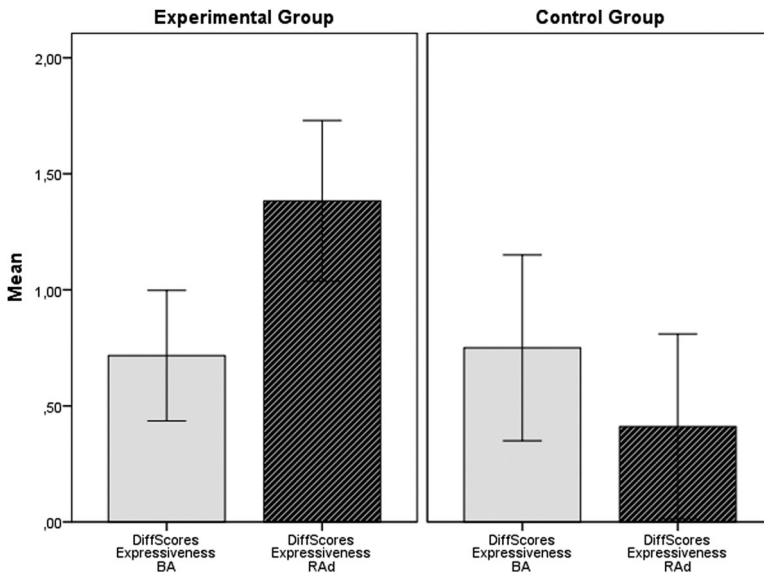
Figure 2. Difference scores (Post – Pretest scores) overall expressiveness Branle/Allegro (BA) and Rain/Adagio (RAd) for experimental and control group, error bars 95% CI.
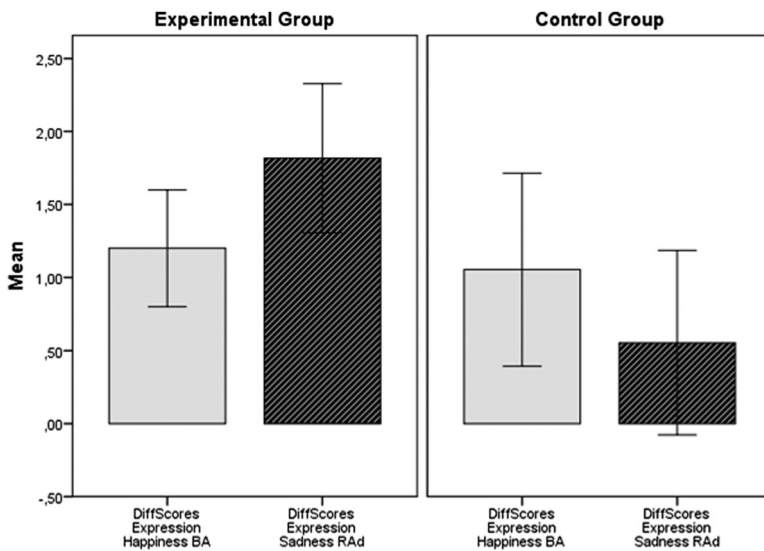

Figure 3. Difference scores (Post – Pretest scores) emotional expression Branle/Allegro (BA) and Rain/Adagio (RAd) for experimental and control group, error bars 95% CI.

($p = .73$). In summary, the experimental teaching was significantly more effective for improving *expression of sadness* and *overall expressiveness* scores in Rain/Adagio than the control teaching, and there was a trend for the control group teaching to improve more for *technical fluency* scores in Branle/Allegro.

The Mann-Whitney U Test (MWUT) was used to examine the effect of group on the difference scores that were not normally distributed. The effect of group was tested separately for each piece. For *difference scores accuracy* a significant effect of group was found for Branle/Allegro ($U = 50.00$, $p = .016$, $Z = -2.411$, $r = .45$). In Branle/Allegro the control group's accuracy scores improved more
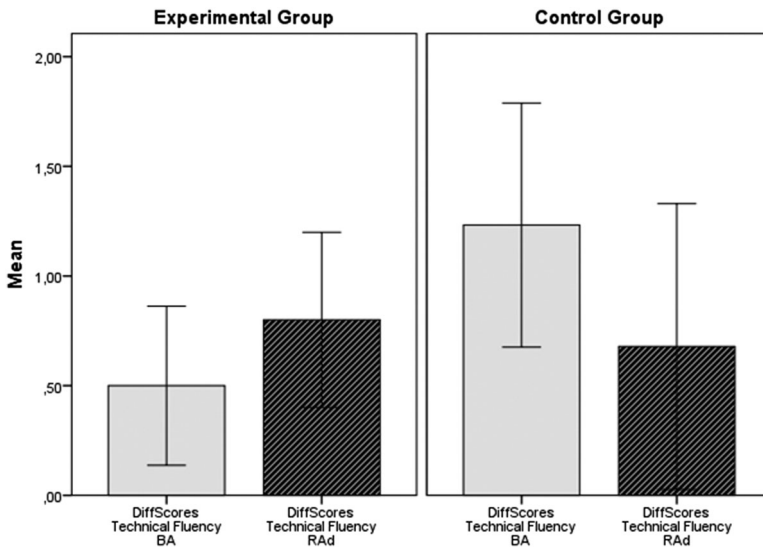
Figure 4. Difference scores (Post – Pretest scores) technical fluency Branle/Allegro (BA) and Rain/Adagio (RAd) for experimental and control group, error bars 95% CI.

(MD = 1.38, N = 14) than the experimental group's scores (MD = .50, N = 15). Conversely, for *difference scores phrasing*, a significant effect of group was found for Rain/Adagio (U = 53.50, p = .024, Z = −2.260, r = .42). The experimental group improved more (MD = 1.25, N = 15) than the control group (MD = .00, N = 14). Similarly, the MWUT showed a significant difference in *difference scores bodily communication* in Rain/Adagio between the experimental (MD = .75, N = 15) and control group (MD = .00, N = 14), U = 21.50, p = < .001, Z = −3.687, with a large effect size r = .69. These results indicate that the control teaching had been significantly more effective for improving *accuracy* scores in Branle/Allegro than experimental teaching, and experimental teaching had been
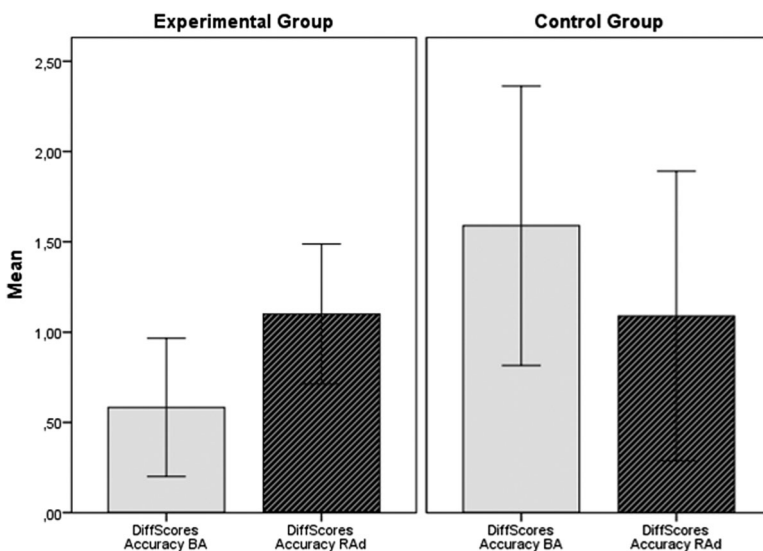

Figure 5. Difference scores (Post – Pretest scores) accuracy Branle/Allegro (BA) and Rain/Adagio (RAd) for experimental and control group, error bars 95% CI.
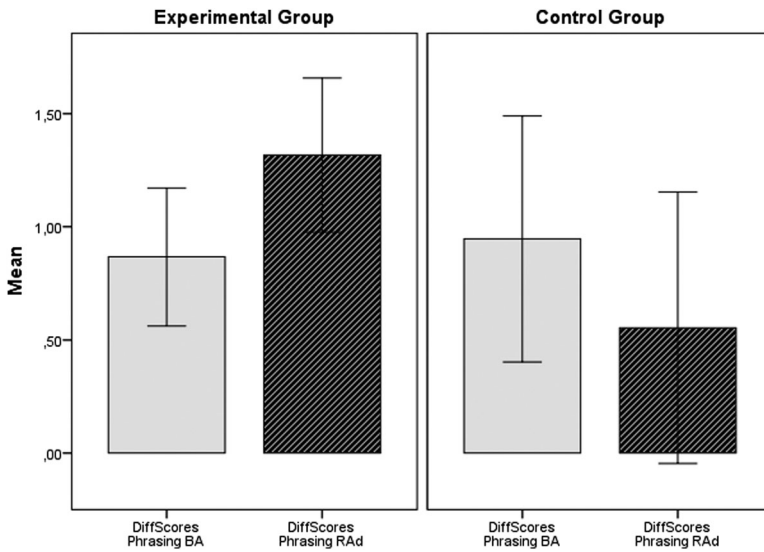
Figure 6. Difference scores (Post – Pretest scores) phrasing Branle/Allegro and Rain/Adagio for experimental and control group, error bars 95% CI.
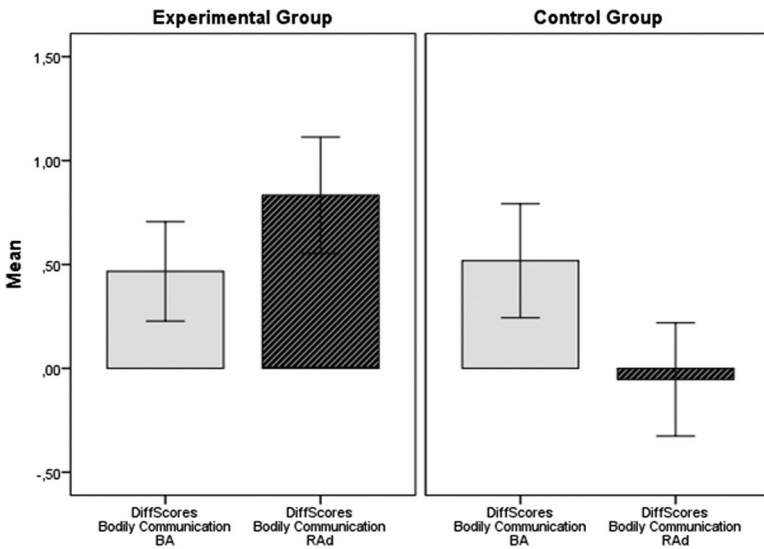
Figure 7. Difference scores (Post – Pre-test scores) bodily communication Branle/Allegro (BA) and Rain/Adagio (RAd) for experimental and control group, error bars 95% CI.

significantly more effective for improving *phrasing* and *bodily communication* scores in Rain/Adagio (Figures 5–7). We have to treat findings from the MWUT with caution as it is not possible to add *lesson duration* as covariate.

Relationship between improvisation and experimental assessment scores

Relationships between pupils' EC scores in the improvisation test and their scores for *emotional expression* at the start of the lesson were examined. Analysis shows that there was a significant

correlation between EC-Happy scores and *expression happiness* in Branle/Allegro1 (Pearson's *r* = .51). There was only a moderate relationship between EC–Sad and *expression sadness* in Rain/Adagio1 (*r* = .37). A paired samples *t*-test[4] shows that there was a significant difference between EC-Happy and *expression happiness* at the start (*t* (28) = 5.063, *p* < .001, *d* = −.96) and also between EC-Sad scores and *expression sadness* at the start (*t* (28) = 5.214, *p* < .001, *d* = −1.09) with higher scores for EC-Happy and EC-Sad in improvisations than at the start of the lesson. Consequently, although most participants in this sample could communicate sadness to some extent by using EC in their improvisations, this was not reflected in their use of expressive gestures in their playing of sad music from notation at the start of the lesson.

Discussion

Since Adachi and Trehub (1998) found that children can portray happiness and sadness contrastingly through their sung performances one might expect that pupils would be able to express emotions through their instrumental improvisations too, as this would imply that they are aware of the use of expressive cues. Findings from the improvisation test suggest that most pupils in this sample could convey happiness and sadness effectively in their improvisations, as adjudicators in the second assessment identified 79% of intended emotions in improvisations correctly. Improvisations conveying sadness were most successful (90%), followed by improvisations conveying happiness (79%), whilst anger was the most difficult emotion to express successfully. This finding is similar to results in a study investigating children's labelling and drawing of basic emotions (Brechet, Baldy, and Picard 2009). Brechet and colleagues found that understanding, labelling and drawing simple basic emotions, such as happiness and sadness, is mastered earlier than the more complex emotions such as fear, anger and disgust.

The average scores for MC were significantly higher than those for the use of EC. Anger seemed to have been the most difficult emotion to convey using MC, whereas happiness and sadness were shown more clearly in MC. The mean score for MC-sadness and MC-happiness were 2.7, indicating that pupils could convey this mood fairly well using MC. EC scores were not high, around 2, suggesting that these pupils had some, possibly intuitive knowledge concerning the use of expressive devices. There were fairly strong correlations between mean MC and EC scores for each emotion, but age and level of playing did not correlate with pupils' use of EC. Consequently, it would be useful to teach about the use of expressive devices and it seems unnecessary to wait until pupils are older or more advanced musicians.

As participants' ability to modify expressive gestures was less developed than their skill to employ musical material to convey basic emotions, one might suppose that this difference is related to pupils' focus on improvising a new melody, rather than playing music from notation. However, this does not seem to be the case, as the scores for *expression of happiness/sadness* at the start of the research session were significantly lower than the mean scores for EC-Happy and EC-Sad in the improvisation test. Although most pupils in this sample were able to convey happiness and sadness in improvisations using EC to some extent, they did *not* do this in their performance at the start of the experimental sessions. It seems therefore that reading from notation hinders expressiveness, or at least, students are not thinking about expressing an emotional character that is present in the music. In their improvisations, these participants were not hindered by a reading task, and could concentrate on communicating the intended emotion in their improvisation through the use of expressive cues.

The ICC values were moderate to high for most assessments. Apparently, evaluations of aspects of expressiveness are subjective and might be influenced by personal preference. Despite the moderate correlations data analysis showed several consistent patterns. As this study was conducted with a small sample we have to be cautious with our interpretation and conclusion.

Findings from the experimental vs. control group teaching sessions confirm the hypothesis that a dialogic teaching approach can develop pupils' understanding of the musical character and their use

of expressive cues. Experimental teaching had been significantly more effective for improving *emotional expression* and *overall expressiveness* in the 'sad' extract than control teaching. The control teaching had been especially effective for improving *accuracy* and *technical fluency* in the 'happy' piece, through the practice of difficult sections, scales and arpeggios. The control group spent more time working on technique and accuracy and therefore the 'happy' piece, which was probably more demanding for most participants, improved more. It seems that increased accuracy and technical facility additionally improved expressiveness in the 'happy' piece. No improvement in expressiveness was observed in the control group's performance of the 'sad' piece. It would seem that pupils' default manner of playing when reading from notation is a performance that is characterised by a tempo, dynamics and articulation which is comparatively close to that of a performance expressing happiness. Similarly, in the study by Brechet, Baldy, and Picard (2009) children tended to picture a person with a 'neutral' expression (someone 'who is thinking of nothing in particular') as a happy person. The authors proposed that happy could be the default emotion expected by children of ten years and younger (Brechet, Baldy, and Picard 2009). This would explain why the experimental teaching was especially effective for improving the expression of sadness in Rain/Adagio. It was interesting to hear how most participants initially played Rain/Adagio in the same tempo and with the same articulation and dynamics as Branle/Allegro. Once pupils started considering the musical character of Rain/Adagio they immediately adjusted their articulation, dynamics and tempo, thus improving their expressiveness and accuracy. It is interesting that focusing on emotional expression generated higher scores for bodily communication in Rain/Adagio too, even though the use of ancillary gestures was not addressed in the lesson. Additionally, scores for phrasing improved considerably for both pieces in the experimental group, and for the 'happy' extract in the control group, despite the fact that limited attention was given to phrasing in experimental, and not at all in control group sessions.

Although the adjudicators assessed participants' communication of happiness or sadness, open questions were asked in the lessons; '*What is the character of the music?*' followed by a conversation about the musical character. Most pupils described Rain and Adagio as 'sad', 'solemn', 'funeral music' or 'calm'. Contrastingly, one girl thought of Rain as a March. Branle and Allegro were described as 'happy', 'jolly', 'dance-like' or 'sprightly'. The participants' answers led to the question '*How can you show this in your playing?*' These questions helped the pupils to consider their interpretation and communication of the music. To accommodate alternative interpretations (i.e. other than happy or sad) *overall expressiveness* was added to the assessments. Whenever participants had a different interpretation, this should be assessed for expressiveness too, and it was expected that a rating of *overall expressiveness* would accommodate various interpretations.

There were some limitations to the study. In an experimental study in education there are always variations between participants and lesson situations due to human nature and variability; it is impossible to control all variables like in a lab-based experiment. As the study was conducted with a relatively small sample, teaching environment, technical difficulties or limitations of individual pupils could potentially have a considerable effect on the outcome of the study. Despite the limitations of the study the data present interesting information that can be relevant to music teachers. Results from this study show that it is possible to teach pupils expressive performance skills fairly early on in the learning process and that it is not necessary to concentrate on technique and accuracy before addressing aspects of expressiveness. It is important for teachers to realise that a pupil's accuracy and technical fluency can improve even if the emphasis of teaching is on expressive playing.

Data from this study support the notion that pupils do not tend to reflect on the musical character and its communication. Since most pupils in this sample could modify expressive devices to communicate happiness and sadness in their improvisations, they were able to use this skill once they started considering the musical character of the test extracts. Although performance expression comprises more elements than emotional expression alone, working on this aspect of performance by asking questions and thus stimulating pupils' reflection on the interpretation can be a good starting point to help pupils improve their expressiveness.

Conclusion

Most pupils in this study communicated happiness and sadness effectively in their improvisations by adjusting EC and modulating the MC of their improvisations, but their use of EC was significantly less effective than their use of MC. Age or level of playing did not influence their use of EC. Thus, it seems that pupils have some, possibly intuitive knowledge about the use of expressive devices, which could form a foundation for learning emotional expression in music performance. Consequently, it would be useful to teach about this aspect of performance and it seems unnecessary to wait until pupils are older or more advanced musicians. The presented findings confirmed that it is possible to teach pupils expressive performance skills by using questions and dialogue to develop pupils' awareness and understanding of the musical character and their use of expressive cues and gestures, thus improving their emotional expression and overall expressiveness. Furthermore, these results indicated that a pupil's technical fluency and accuracy can improve even if instruction focuses on performance expression. The benefits of the 'experimental' approach compared to the control teaching were stronger for the 'sad' than the 'happy' piece; improving the fluency and accuracy of the performance seemed sufficient for improving pupils' expressiveness in the happy piece. Further research is planned to investigate how dialogic teaching might be used more generally for facilitating young musicians' expressiveness.

Notes

1. Grades as used by the Associated Board of the Royal Schools of Music (ABRSM) exam system in the UK. Most music exam boards in the UK have eight grade levels, ranging from Grade 1 to Grade 8 (most advanced).
2. Private schools in the UK are independent fee paying schools, regulated by a board of governors.
3. The same adjudicators as for the first assessment of the improvisation test.
4. To compare the average EC-Happy and EC-Sad scores (on a 5-point scale from 0 to 4) with the scores for expression of happiness and sadness (on a 7-point scale from 0–6), the Median-EC scores were multiplied by 1.5 (see Dawes 2008).

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Notes on contributors

Henrique Meissner combines academic research and instrumental music teaching. She studied recorder at the Utrecht Conservatoire and completed an MA in Music Psychology in Education with the University of Sheffield. She was awarded a scholarship by the Arts and Humanities Research Council RCUK and an additional stipend by The University of Sheffield for her doctoral project which investigates how teachers can facilitate children's learning of expressive music performance.

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Appendix 1. Explanation improvisation test assessment 1

Musical Content
Do the participants convey the intended feeling/emotion in the musical material of the improvisation? (i.e. this is not an assessment of the quality of the improvisation.)

Assessments
0 = not showing the intended feeling/emotion at all
4 = Expressing the intended feeling very clearly.

For example (The improvisation does not need to include all of these.):
Angry: Jumps in the melodic contour; possibly dotted or syncopated notes; strong repetitive patterns.
Sadness: Stepwise melodic contour; low/medium register; chromatic colours; descending minor 2nd; minor mode; long notes.
Happiness: High or medium register; melodic contour may have jumps; fast or dotted rhythm; major mode.

Expressive Cues
Do participants convey the intended feeling in their performance (i.e. in their use of expressive cues?)

Assessments
0 = Not showing the intended feeling/emotion at all
4 = Expressing the intended feeling very clearly.

For example:
Angry: Dynamics loud, f or ff; articulation strong, accented or marcato; tempo fast or fairly fast.
Sadness: Dynamics soft, p or mp; articulation legato, gentle; slow tempo.
Happiness: Dynamics loud, f or mf; articulation light or staccato; tempo fast or fairly fast.

For all performances:
Appropriate tone colour?
Are facial expressions and gestures expressing the intended emotion?

Appendix 2. Test pieces

Figure 8(a) and (b). Melody instruments played the melody line in a key appropriate for their instrument. The melody lines of Branle (Original title: Bransle de Martine) and Rain (Transposed extract of Regen) are by Martine Telkamp (1987, 1988). Copyright © Martine Telkamp, Blokfluitfeest: Wijs en onwijs op de sopraanblokfluit. Haarlem: Uitgeverij De Toorts. Printed with permission. Left hand was added for this study by the researcher.

Figure 8(c) and (d). Melody instruments played the melody line in a key appropriate for their instrument. The Allegro is a shortened and arranged extract from Die Freude from Heldenmusik by Georg Philip Telemann. Adagio is a shortened and arranged extract from movement 1 Adagio from Sonata in D minor, Opus II, No. 2 by Benedetto Marcello.

Appendix 3. Rating scale experimental-control group teaching test

- **0** = not at all, nothing.
  When evaluating expressiveness: Dead-pan performance.
- **1** = tiny little bit (i.e. not nothing).
- **2** = a bit (or: some expression).
- **3** = in the middle; a mixed performance; sometimes alright, sometimes not so good.
  3 is appropriate when a child sometimes plays correctly and other times incorrectly. Or sometimes technically in control, then suddenly with a weak technique. Or a performance containing both expressive and less expressive passages.
- **4** = fair/quite good.
- **5** = good.
- **6** = excellent, very good.