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Interest and choice: student-selected repertoire and its effect on practising behaviour

James M. Renwick and Gary E. McPherson

J.Renwick@student.unsw.edu.au

Motivational research in academic subjects has demonstrated that when students are interested in an activity and feel free to choose whether or not to do it, they are more likely to engage in higher-level cognitive functioning, find it easier to concentrate, persevere, and enjoy their learning. This case study of a young beginning clarinettist named Clarissa consisted of interviews and computer analysis of videotaped practice sessions. Clarissa's practice behaviour in teacher-assigned repertoire was compared with her work on a piece she chose to learn herself. Results show that when practising self-selected repertoire, Clarissa was more likely to engage in strategies that are typical at more advanced stages of development, such as silent fingering, silent thinking and singing. She also spent more time practising the piece, and persevered when faced with difficulties. Implications for instrumental pedagogy are discussed.

Extensive research has been undertaken in academic domains such as reading and mathematics on the effect of interest and intrinsic motivation on the learning process and its outcomes (Eccles, Wigfield & Schiefele, 1998). However, research on motivational aspects of musical learning has largely bypassed interest and intrinsic motivation. A recent review (O'Neill & McPherson, 2002) found that motivational research in music has tended to concentrate on:

- self-efficacy, in terms of one's beliefs about being capable of and confident enough to achieve desired goals (e.g. McPherson & McCormick, 1999);
- feelings of *flow* resulting from optimal levels of perceived challenge and skill in situations that involve intense concentration (e.g. O'Neill, 1999a);
- the attributions students make regarding the cause of their success or failure (e.g. Austin & Vispoel, 1998);
- the impact of habitual responses to failure that result in either redoubled effort or avoidance of the task (O'Neill, 1996); and
- the relationship between expectancy beliefs (e.g. 'How good would you be at learning to play a new instrument?') and value beliefs (e.g. 'How much do you like playing a musical instrument?') (McPherson, 2000; O'Neill, 1999b; Wigfield et al., 1997).

Because children are often left alone to decide on the duration, frequency, and intensity of their instrumental practice, the extent to which they are able to self-regulate their motivational, emotional, and cognitive states has a large impact on the effectiveness of their learning (Boekaerts, 1997; McPherson & Renwick, 2001; McPherson & Zimmerman, 2002).

A vital question for teachers is: how do motivational factors affect learning? An

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important construct in answering this question is the *value* of the activity as perceived by the student. Pintrich & De Groot (1990) measured task value as a combination of several aspects of students' goals and beliefs: (a) *mastery orientation* ('I prefer class work that is challenging so I can learn new things'); (b) *importance* ('It is important for me to learn what is being taught in this class'); (c) *extrinsic utility value* ('I think I will be able to use what I learn in this class in other classes'); and (d) most relevant to the present research, *intrinsic interest* ('I like what I am learning in this class', 'I think that what we are learning in this class is interesting'). In their study of seventh-grade science and English students, Pintrich & De Groot (1990) found that the perceived value of a learning domain predicted levels of cognitive strategy use and other aspects of self-regulated learning, such as planning, monitoring comprehension, and persisting with difficult or boring tasks. These self-regulated behaviours in turn influenced the quality of learning outcomes. McPherson & McCormick (1999) recently extended this research paradigm to the study of instrumental music learning, finding that task value predicted levels of cognitive strategy use and time spent practising technical work, repertoire, and engaging in informal/creative activities. In a second study, they found that task value ('Doing well on my instrument is important to me', 'Playing my instrument is my favourite activity') also predicted results in externally assessed performance examinations (McPherson & McCormick, 2000).

This characterisation of task value should be distinguished from *intrinsic motivation*, defined by Ryan & Deci (2000) as 'the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn' (p. 70). Intrinsically motivated learning is undertaken solely for its own sake, in contrast to the many forms of extrinsically motivated behaviour, where factors such as extrinsic utility value, fear of failure, or expected rewards may control the learning process. Thus, students might value music for many reasons without always experiencing their learning as being intrinsically motivating. Music teachers are accustomed to observing a wide range of behaviour across the extrinsic–intrinsic continuum, from the teenage guitarist determined to pick up a favourite pop song by ear, through to the domineering teacher-controlled environment of many conservatoires (Mackworth-Young, 1990; Persson, 1994). Clearly, the long quest to develop expertise in playing a musical instrument requires a powerful mixture of intrinsic and extrinsic motivation to persist with the thousands of hours of practice required (Ericsson, Krampe & Tesch-Römer, 1993). Hence, the self-determination theory proposed by Deci, Ryan and their colleagues (Rigby, Deci, Patrick & Ryan, 1992; Ryan & Deci, 2000) is illuminating: they see extrinsic motivation as existing along a continuum of greater or lesser autonomy. External regulation is characterised by external rewards and punishments and compliance on the part of the learner, while identified regulation reflects a conscious valuing of an activity which, while not intrinsically motivating, is accepted as personally important. Higher quality learning is related to intrinsic motivation (Benware & Deci, 1984; Gottfried, 1985) and to more autonomous forms of extrinsic motivation (Grolnick & Ryan, 1987).

In the last decade, an extensive programme of research has been conducted into one aspect of task value, namely *interest* (Krapp, Hidi & Renninger, 1992). When people are interested in a learning situation, they display focused attention, increased cognitive functioning, persistence, and emotional involvement (Hidi, 2000). Interest theory investigates the domain-specific aspects of intrinsic motivation, often by observing the effects of

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different levels of interest on individuals' processing of information (Schiefele, 1999). Interest has been found to enhance the subjective quality of the learning experience and also to influence the quality of learning results, with high-interest subjects engaging in more intensive and meaning-oriented processing of text (Schiefele & Rheinberg, 1997). Interest (Schiefele, 1991; de Sousa & Oakhill, 1996), like task value (McPherson & McCormick, 1999; Pintrich & De Groot, 1990), has been found to be associated with the use of higher-order learning strategies, even when controlling for prior knowledge.

Unlike task value and intrinsic motivation, interest theory fundamentally concerns the relation between a person and an environmental object such as a text or area of knowledge. Researchers have tended to concentrate on just one of the elements in this relationship: either *individual interest* or *situational interest* (for an overview, see Renninger, Hidi & Krapp, 1992). On the one hand, individual interest is a relatively stable and enduring orientation, which can be directed toward an activity such as learning an instrument. Situational interest, on the other hand, is generated by interesting environmental conditions, such as surprise, novelty, complexity, and ambiguity. As we will see in the case study reported here, individual interest can interact with situational interest (Hidi & Anderson, 1992).

Choice has often been introduced as a means of gauging a participant's area of interest. Providing students with choices has also been found to relate strongly to superior learning outcomes (Reynolds & Symons, 2001). Unfortunately, the effects of choice and interest are often confounded, as students will typically choose learning materials in which they are more interested (Greco, 1997). Nevertheless, even the provision of quite trivial choices has been found to lead to increases in intrinsic motivation, levels of learning, and perceived competence (Cordova & Lepper, 1996), presumably through the sense of self-determination that it fosters (Zuckerman, Porac, Lathin, Smith & Deci, 1978). Qualitative research in instrumental music learning has confirmed these findings (Brändström, 1995; Jørgensen, 2000; Mackworth-Young, 1990).

To date, there is virtually no evidence in instrumental music research explaining possible connections between self-regulated strategy use, interest, intrinsic motivation, and choice. However, recent research has demonstrated the importance of strategy use in the practice of expert musicians. As skill develops, musicians increase the size of the sections that they repeat, as well as varying such performance dimensions as tempo and hand use (Chaffin & Imreh, 1997; Gruson, 1988; Hallam, 1995; Miklaszewski, 1989; Nielsen, 1999a; Williamon & Valentine, 2000). Observational research (Barry, 1992; Hallam, 1997; McPherson & Renwick, 2001) has revealed that such strategies are seldom used by unsupervised novices, who tend to resort to simply playing a piece through over and over, ignoring errors or correcting them by repeating one or two notes.

This article presents a case study that demonstrates the effect of intrinsic interest in a particular repertoire on strategy use and persistence. The participant, whom we will call Clarissa, was one of 157 primary school children involved in a wide-ranging longitudinal study of musical development. This study, conducted over three years, involved regular collection of several measures of musical skill, as well as ongoing interviews with the children, their mothers, their classroom teachers, and their music teachers. Clarissa was also one of a sub-sample of children who videotaped their home practice sessions (for an overview, see McPherson & Renwick, 2001). After describing the methods used for

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collecting the interview and videotape data, each of these sets of results will be presented in turn, followed by a discussion of their combined implications.

Method

Interviews

During the three years of the study, the children were interviewed immediately before they commenced instruction and at the end of each academic year of their learning. To supplement these interviews, the children's mothers were interviewed before their children began instruction and at regular intervals over the three years. The children's classroom teachers and instrumental teachers were also interviewed at the end of each year and asked to comment on each child's progress. The interviews with the children and their mothers covered a broad range of topics, as determined by a literature review before the study commenced.

Videotapes

Before videotaping began, Clarissa and her parents were interviewed in order to explain the purpose of the study. This preliminary briefing stressed the need to ensure that the home practice sessions should be as normal as possible, and thus representative of how Clarissa generally practised her instrument. Clarissa provided video footage of four practice sessions in Year 1, and later agreed to record three more sessions in Year 3. In each year, the first practice session was left unanalysed to allow Clarissa to become habituated to the recording situation.

The present study is based on analysis of (a) the second and fourth practice sessions in Year 1, which occurred in the fourth and fifth months of instruction, and (b) of the second and third practice sessions in Year 3, which occurred four days apart in Clarissa's 32nd month of learning the clarinet. They were coded using the software package *The Observer* (Noldus, Trienes, Hendriksen, Jansen & Jansen, 2000), which allows the researcher to play the videotape at various speeds through a computer interface, and to use various 'channels' to code behaviour. This process provides highly rigorous data that can be validated by repeatedly viewing the videotape, although this rigour comes at a high cost in terms of research time: a ten-minute practice session can take up to five hours to code.

Results

Interviews

The interviews revealed that Clarissa was nine-and-a-half years old when she joined her school instrumental programme. She chose clarinet because 'It sounded fun', because her best friend played it, and also because 'The clarinet teacher looked nice'. Before starting clarinet lessons, Clarissa had learnt Suzuki violin for four years, but this was discontinued when she started clarinet. Her first expression of interest in learning an instrument appeared to be something of a family 'story' which Clarissa and her mother both volunteered: 'I saw someone playing violin on TV when I was about three and I asked my

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Mum if I could learn an instrument.' Interview responses tell us that, once Clarissa had started clarinet lessons, practice sessions regularly occurred at 7:45 a.m. and that this was the last activity in her routine before leaving for school. In the interview at the end of Year 1, Clarissa stated that both parents and her younger sister often listened to her practise, and that they would 'stand and watch and clap afterwards'. This encouragement appears to have bolstered Clarissa's intrinsic motivation.

The interviews reveal a notable lack of mastery motivation, with Clarissa's statement that she preferred to learn an 'easy' piece rather than a 'hard' one. This avoidance of challenge would normally be characterised by motivation theorists (e.g. Gottfried, 1985) as demonstrating a lack of intrinsic motivation. However, with Clarissa, it seemed that there was a strong association between intrinsic motivation and the pleasure that she took in playing easier, familiar melodies. As she said in an interview at the end of Year 1: 'I don't like learning hard pieces because I find it annoying.' In the same interview, Clarissa stated that she considered the most important thing to do when practising was to 'play my favourite songs'.

The interview data for Year 3 reveal some interesting factors that changed over the intervening years. One clear change was in the social environment, with Clarissa stating that her parents now only actively listened to her practise on a semi-regular basis. Her mother reported that:

> I don't sit there from beginning to end like I did occasionally when she first started, but when she is finishing her practice; I sometimes go in and applaud at the end.

Her mother's description of her daughter is also revealing:

> She is not really a perfectionist but a little bit of a dreamer so she will sometimes just go through her pieces and not really pay any attention to what she is doing, though generally she is fairly good. . . . We hardly ever have to remind her any more, because she has a set routine, and she will just go and do it.

Later in the same interview, Clarissa's mother made the following comment:

> She hates homework and hates to do things she hasn't chosen. . . . Left to her own devices she wastes a lot of time getting started, but once she gets going, she doesn't have much trouble.

Three years of exposure to teachers telling Clarissa how she ought to practise may have influenced her own reflections of how to practise:

> I normally play the piece all the way through and then come back to the bits that are bad. . . . I practise one segment at a time.

Clarissa's motivational pattern in Year 3, as she approached adolescence and the transition to high school, appears from the interviews to be highly multifaceted. For instance, when asked to respond to 14 Likert scale items, which provided a variety of possible reasons for practising, Clarissa's strongest response ('very true of me') was on the scale 'Because that's what I'm supposed to do'. Enjoyment-related reasons were scored 'not very true of me'. What might seem a noticeable increase in autonomy, as reflected in an increasing tendency to practise alone, is qualified by Clarissa's remarks about her practice being contingent on extrinsic rewards such as receiving pocket money from her parents for

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completing a variety of assigned tasks. Thus, it would appear that Clarissa's general motivational orientation to school activities was that they were part of her larger set of obligations:

> Playing my clarinet is part of my morning routine, which is part of my job list and I get paid my pocket money if I do everything on the job list.

Nevertheless, research (Pintrich & Schrauben, 1992) suggests that high levels of extrinsic motivation can occur together with high levels of intrinsic motivation. Several of Clarissa's comments revealed her motivation to achieve. When asked what was the most exciting thing that had happened to her musically, she answered: 'When I graduated from Book One Suzuki when I played the violin.'

However, by Year 3, Clarissa seemed unsure of her own level of achievement on the clarinet, possibly making this a less potent motivator:

> I don't know if I am going well on the clarinet. Not many people have made any comments on my playing, so I am not sure.

By Year 3, Clarissa seemed to have changed her attitude towards 'hard' pieces. Asked if she liked learning them, she replied: 'Yes. It makes the pieces a challenge.' While Clarissa stated that she found practising 'more boring than fun', she also said: 'I like to practise most of the things my teacher gives me.' This shows that she was able to distinguish between her intrinsic interest in the repertoire and her dislike for the process of learning it. She was also able to distinguish between tasks of extrinsic utility that are not inherently enjoyable (Eccles, Wigfield & Schiefele, 1998). Asked what were the bad things about learning clarinet, she replied: 'You have to keep on playing your scales, but you need them to play songs.'

When asked in the Year 3 interview what were the good things about learning the clarinet, Clarissa replied: 'You get to play fun, jazzy songs.' This comment caught our attention as we analysed the comments that Clarissa and her mother provided for us during our interviews and compared these with the observational data we obtained from detailed analysis of her home practice videotapes.

Videotapes

The two practice sessions analysed from Year 3 consisted predominantly of work on classical solos by Haydn, Mozart, Ponchielli, and Johann Strauss, assigned by Clarissa's clarinet teacher from a popular anthology (Walton, 1995). However, the second practice session provided a portion of data that was surprisingly atypical. This session contained work on five scales, two band parts, and three classical solos including Gabriel-Marie's *La Cinquantaine*. There was also an extended period of time in which Clarissa practised Woody Herman's *Golden Wedding*, a 'jazzed-up' version of *La Cinquantaine* with added blues ornaments and swing rhythm.

What proved surprising was the degree of persistence that Clarissa demonstrated when she practised *Golden Wedding*, in comparison with her other literature. With the classical repertoire, Clarissa spent on average 0.79 seconds practising per note in the score. With *Golden Wedding*, this increased to 9.83 seconds per note: a twelvefold

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Table 1 *Comparison of behaviours according to year and repertoire choice*

	Year 1		Year 3				
	15 teacher-assigned pieces		5 teacher-assigned pieces		*La Cinquantaine**		1 student-selected piece (*Golden Wedding*)
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*
Percentage of total strategy use							
Silent fingering	0.00	0.00	0.50	1.41	0.00	0.00	6.58
Silent thinking	0.72	2.87	1.32	2.25	3.16	4.47	13.70
Singing	0.00	0.00	0.00	0.00	0.00	0.00	5.54
Percentage of time by run-through							
Second run-through	0.00	0.00	0.00	0.00	0.00	0.00	17.32
Third run-through	0.00	0.00	0.00	0.00	0.00	0.00	8.79
Repetitions per minute							
Repeat 1–2 notes	3.06	2.44	2.90	1.85	2.04	1.98	2.71
Repeat > 2 notes	0.61	0.70	1.81	0.93	1.01	0.52	5.09
Different tempo	0.00	0.00	0.00	0.00	0.00	0.00	1.36
Time on piece per note (sec)	1.28	0.50	0.79	0.16	0.60	0.03	9.83

* *La Cinquantaine* was one of the five teacher-assigned pieces in Year 3, and results for this piece are displayed separately for comparison with *Golden Wedding*, the jazz version of *La Cinquantaine*. *La Cinquantaine* was practised in both Year 3 sessions (hence the variance).

increase. To further investigate the extent to which Clarissa's practising behaviour differed according to repertoire, each piece practised in the videotapes from Years 1 and 3 was analysed according to all behavioural codes (see Table 1).

In addition to the remarkable difference in time spent on the pieces, there were large differences on several other measures. Clarissa practised the classical pieces almost exclusively with her 'default' play-through approach, in a manner barely distinguishable from her behaviour in Year 1 (and in contradiction of her self-reported strategy use). In stark contrast, with *Golden Wedding* there was a marked increase in silent fingering, silent thinking, and singing. *Golden Wedding* was the only example on videotape of Clarissa playing a piece through more than once. In this session, she practised the piece for 4.3 minutes before turning to another. She then returned to *Golden Wedding* for 1.6 minutes for two additional run-throughs.

As Table 1 shows, comparison of the pattern of repetitions revealed additional large differences. With *Golden Wedding*, Clarissa was much more likely to repeat sections

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longer than two notes, and slightly less likely to repeat only one or two notes than in the classical pieces. In other words, in this piece she demonstrated behaviour that Gruson (1988) found to be associated with higher levels of expertise. It was also only in *Golden Wedding* that Clarissa showed any signs of deliberately altering her tempo when repeating sections – another important component of the approach of experts (Miklaszewski, 1989; Nielsen, 1999b). The appearance of this strategy in Clarissa's otherwise typically novice behaviour was unexpected.

To illustrate these marked differences between Clarissa's practising behaviour, Figures 1 and 2 reproduce transcriptions of both *La Cinquantaine* and *Golden Wedding*. Figure 1 reproduces the original score of *La Cinquantaine* with annotations describing the nature of the repetitions. Figure 2 transcribes the pitch content of Clarissa's work on *Golden Wedding*, and shows the nature of repetitions and her use of specific strategies such as silent thinking, fingering, and humming.[1]

Table 1 shows that some of the behaviours that distinguished *Golden Wedding* emerge out of an apparent developmental trend from Year 1 to Year 3. Silent fingering, silent thinking, and repetitions of sections longer than two notes all increased between Year 1 and Year 3, but this increase was much more pronounced in Clarissa's practice of *Golden Wedding*.

Discussion

The large differences in practice behaviour that we observed between repertoires led us to consider possible explanations. When Clarissa was re-interviewed shortly after providing the researchers with her videotaped practice sessions, she explained that her desire to learn *Golden Wedding*, unlike other pieces, was strongly motivated by her intrinsic interest in the piece. Clarissa explained how, in one of her instrumental lessons, her teacher had mentioned that he played a 'jazzy' version of *La Cinquantaine* in his swing band, and had demonstrated this version to her so that she could hear the transformation. Strongly motivated by her desire to play in a jazz style, Clarissa asked her teacher to notate the theme of *Golden Wedding* in her practice diary, so that she could learn it at home. Thus, rather than the task being chosen by the teacher, as is the usual practice in most lessons, *Golden Wedding* was chosen by the student.

The notated version of *Golden Wedding*, hastily sketched out by the teacher (see Figure 3), appears on the videotape to act only as a rough prompt for Clarissa to determine which notes to play. The aural memory of the teacher's performance was possibly a more vivid prompt. There is a phrase where the melody climbs to notes in the clarinet's range that Clarissa does not know well, and she uses a trial-and-error approach to find these notes, by reference to her mental representation of her teacher's performance. Thus, it would appear that Clarissa was able to return in *Golden Wedding* to the pleasurable activity she reported in Year 1 of playing her 'favourite songs' by ear, at the same time as she demonstrated highly atypical task engagement.

Clarissa's work on *Golden Wedding* vividly illustrates the transactional nature of interest. The musical object itself appears to have created a strong sense of situational interest – possibly bolstered by such attractive features as its authenticity as a piece played by the teacher himself in a professional context. Clarissa brought her individual interest in

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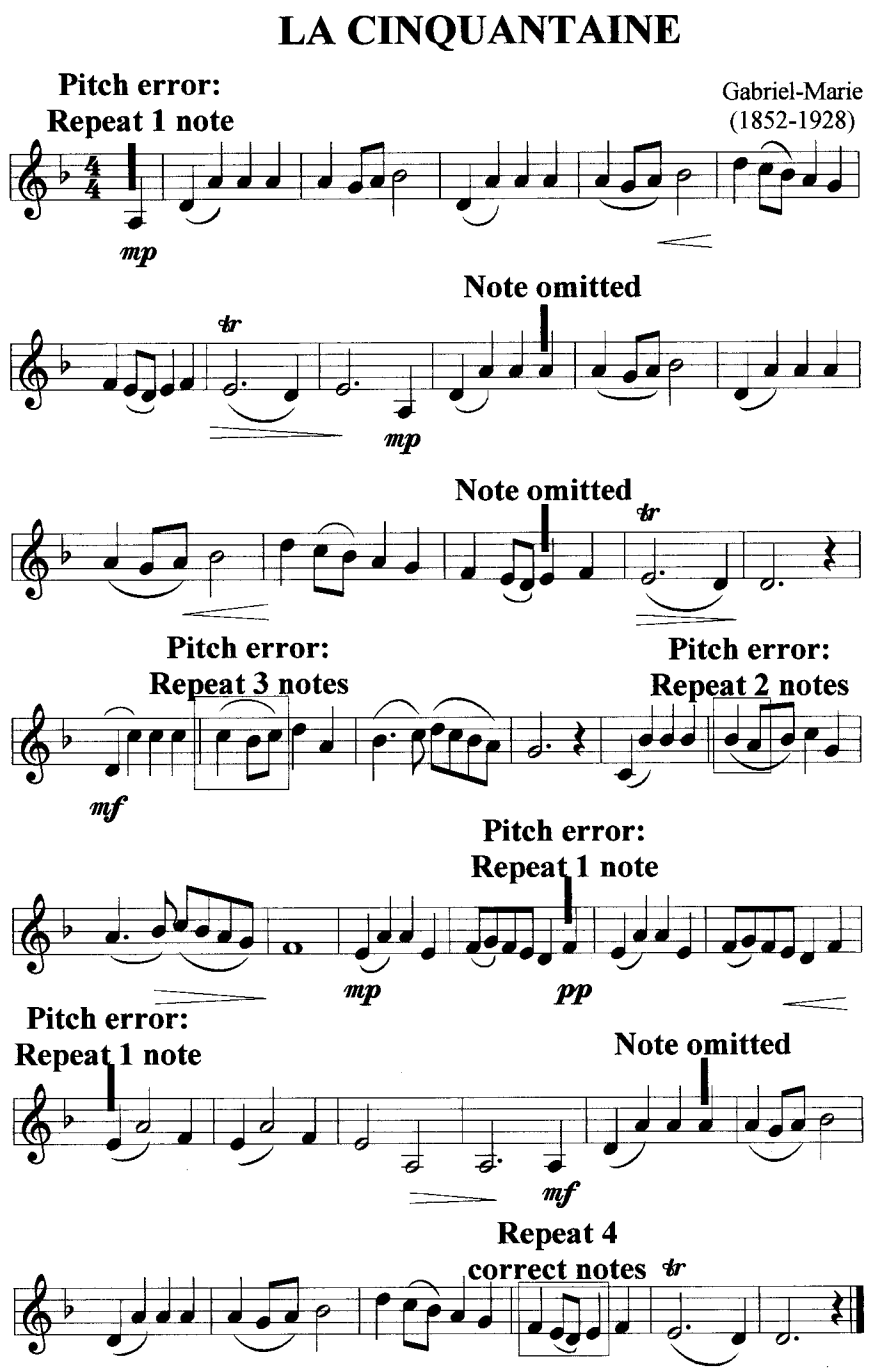


Fig. 1: Annotated score of *La Cinquantaine,* indicating the nature of errors made in the session in which *Golden Wedding* was also practised (cf. CD track 1). From Walton (1995). Adapted with permission.

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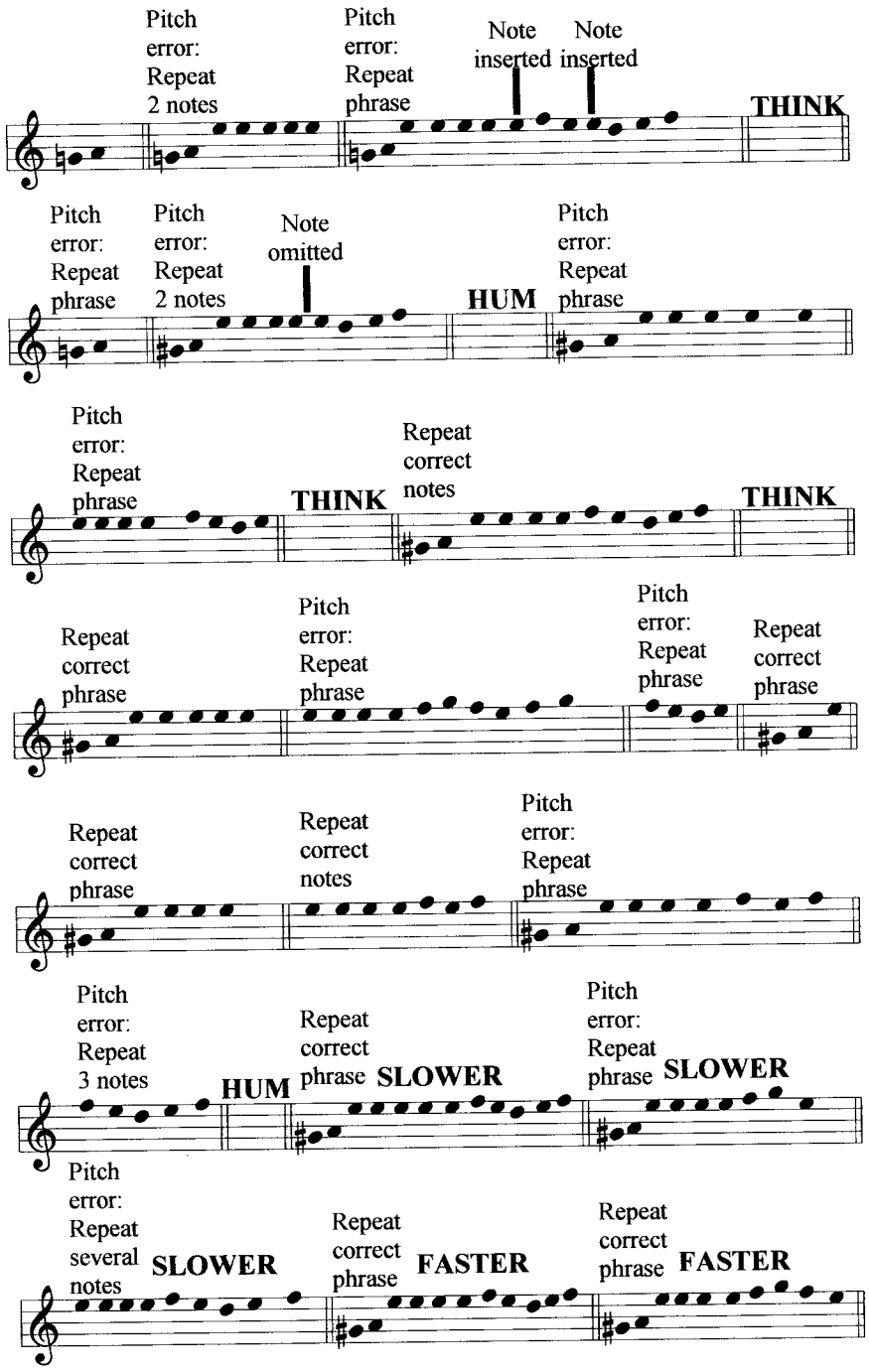
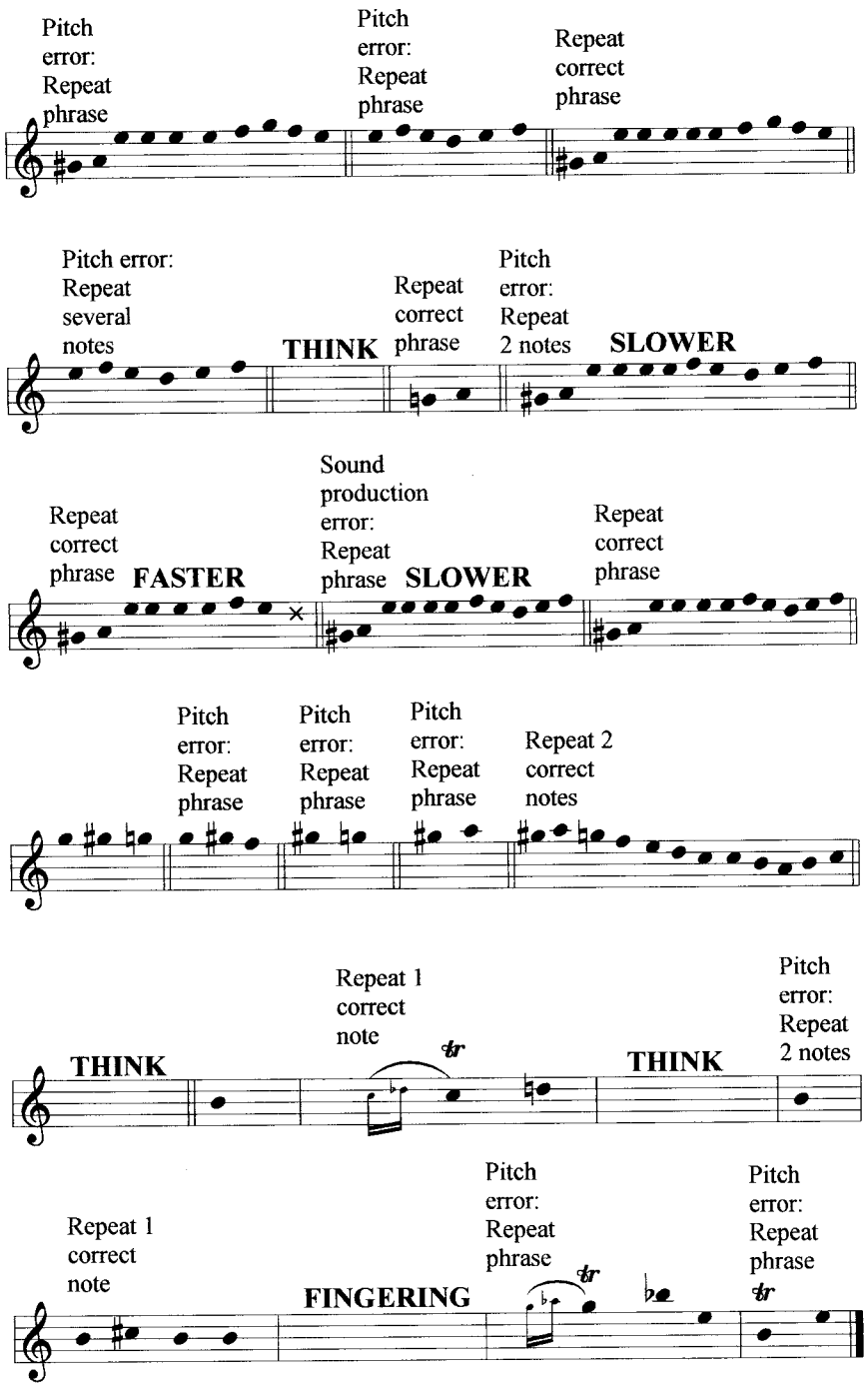


Fig.2: Transcription of the pitch content of Clarissa's work on *Golden Wedding* (cf. CD track 2).

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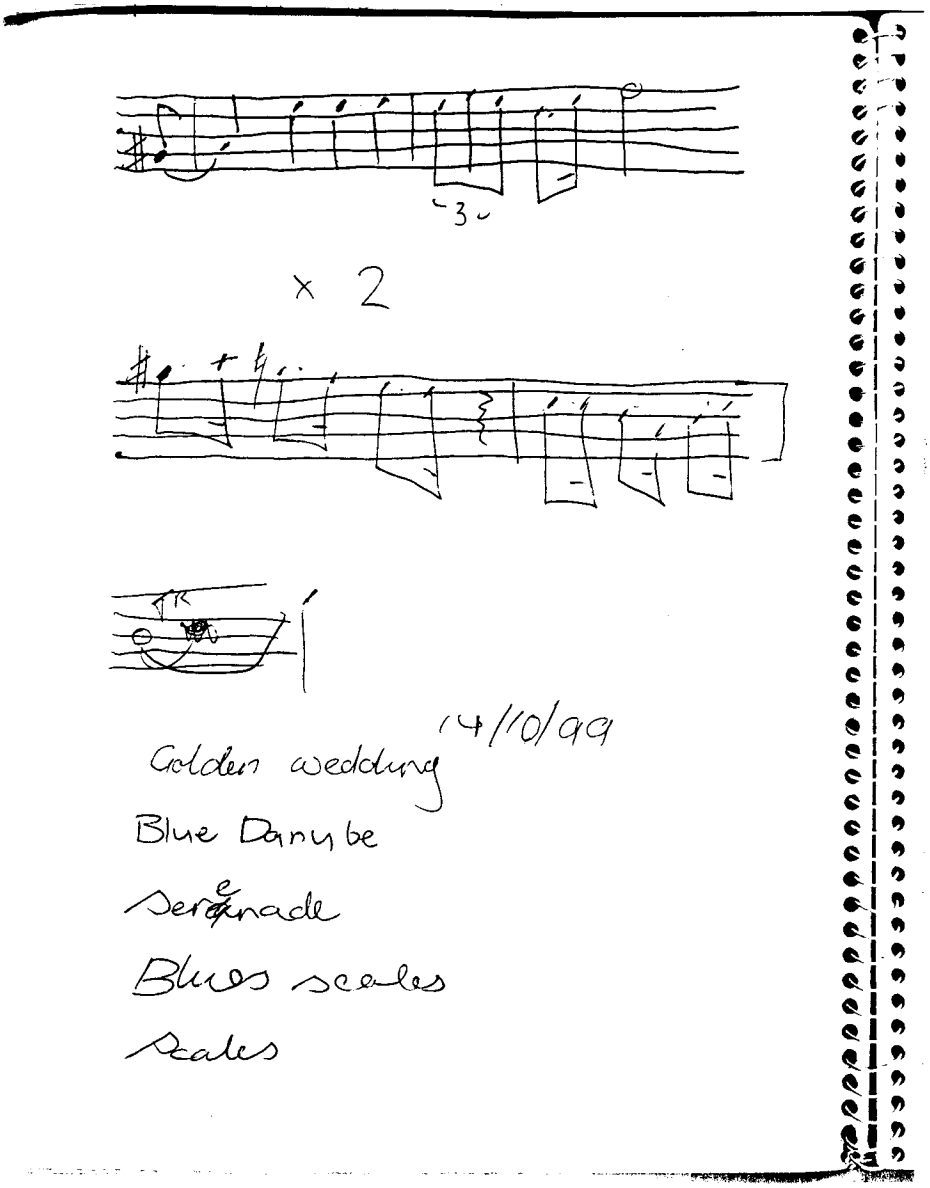


Fig. 3: Teacher's notation of *Golden Wedding* used by Clarissa.

'fun, jazzy songs' to the process, providing an example of how, under the right conditions, situational interest can interact with individual interest and, over time, even create an individual interest.

The results of this case study suggest that with strong enough motivation, even quite young learners can engage in the types of self-regulatory behaviour that will enhance their

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musical achievement. Folk psychology tells us that we can expect children to play pieces that they like for longer periods of time than pieces they find less interesting: this case study confirms this 'common-sense' view with strong empirical data. We also found less obvious effects of interest on Clarissa's practising behaviour: her increased use of advanced strategies such as humming, silent fingering, silent analysis, adjustment of tempo, and repetition of larger sections. Common sense would not necessarily predict that interest would lead to such behaviours, which do not emerge until more advanced grades in studies of children learning repertoire assigned by the teacher or researcher (Hallam, 1997). Despite the common-sense desirability of providing students with a level of self-determination and with repertoire that they find interesting, the majority of instrumental teachers – at least in the English-speaking world – continue to choose most of the repertoire played by their students, and to base their lessons around a teacher-directed model where the prime focus of attention is 'learning the notes' (Reid, 2001). However, in some situations, such as those we found in Clarissa's practice, allowing students to practise repertoire that they select themselves and find personally interesting can lead to a marked increase in the use of the cognitive and metacognitive strategies that typify experts' practice, and thus more effective learning.

Recently, there have been some signs of the emergence of more autonomy-supportive teaching strategies aimed at nurturing students' individual interests. For example, graded music examinations – which have traditionally provided a quite restrictive orientation for music students in the British Commonwealth – have started to offer students more options, such as composition, ear-playing, improvisation, and jazz studies, as alternatives to set classical pieces, traditional discrimination-based aural tests, and scales.

It is highly probable that successful student musicians find a balance between playing pieces that they like and find personally satisfying, and practising repertoire that their teachers assign to improve their technical and musical abilities. In this sense, our results provide additional support for Sloboda & Davidson's (1996) concept of 'formal' and 'informal' aspects of practice. They report that high-achieving musicians tend to do significantly greater amounts of 'formal' practice, such as scales, pieces, and technical exercises, than their less successful peers. However, their results also show that high achievers are likely to report more 'informal' practice, such as playing their favourite pieces by ear, 'messing about', or improvising. Sloboda & Davidson conclude that these 'informal' ways of practising contribute to musical success because the highest-achieving students are able to find the right balance between freedom and discipline in their practice.

Current instrumental research has paid much attention to repertoire assigned by teachers. We speculate from our results that a focus on what students find interesting and enjoyable to perform might help to clarify the underlying motivational processes that make practice less of a chore and more of something that young learners will find personally stimulating, challenging, and rewarding.

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Note

1 Sound examples of these excerpts will be included in the CD accompanying issue 19.3.

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