Every picture tells a story:
Pupil representations of learning the violin
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Abstract

The influence on learning outcomes of interpersonal interaction amongst teachers, pupils and parents is the subject of an inquiry that took this researcher on a voyage from the qualitative to the quantitative side of the "methodological divide", and back again.

This paper presents findings from phase one of the research, which included a quantitative survey to examine how learning and teaching experience for violin pupils was influenced by the interpersonal dynamics of responsiveness and control, within pupil-parent and pupil-teacher relationships.

As part of the survey pupils were asked to draw pictures of their violin lessons. It was thought that the pictures might reveal pupils' perceptions of their experience of learning an instrument and that the pictures would add depth to the quantitative scales that measured interpersonal mechanisms and pupil outcomes.

The pictures were subjected to content analysis and coded accordingly. These codes were matched with pupil artists' scores for control and responsiveness, as well as with their scores for outcomes that included enjoyment of music, personal satisfaction, self esteem, self efficacy, friendship, motivation and musical attainment. Analysis of variance was computed in order to test the null hypotheses that a) pupil-teacher-parent interpersonal behaviour (control and responsiveness).was not represented in their pictures and b) pupil outcomes were not reflected in their depictions of violin lessons. This paper presents the results of this analysis, thus addressing the question of whether the pictures could be accepted as telling a credible and coherent story about pupils' perceptions of learning the violin.

Introduction

How do interpersonal relationships influence outcomes for pupils learning musical instruments? Accounts of parent-pupil-teacher relationships in the context of instrumental learning intimate that the power of human interaction to shape our teaching and learning experience is both an ageless issue and a relatively unexplored one. The advent of the Japanese Suzuki method of violin teaching, which came to the West during the 1960's and which holds as a central tenet the importance of the parent as 'home teacher', played a powerful role in highlighting the issue of parent participation in the realm of children's instrumental learning. The Suzuki method, however, cannot claim sole ownership of the concept of parent-teacher-pupil partnership in instrumental learning; biographical evidence (Weschler-Vered, 1986, Lochner, 1950, Mehuhin, 1977, Milstein and Volkov, 1990, Lewis and Staryk, 2000, Stern and Potok, 1999) demonstrates that parents across cultures and historical time frames have frequently involved themselves integrally in the process of their children's instrumental learning, and a consequence of this involvement has often been the development of complex relationships amongst parent, teacher and pupil. Furthermore, earlier empirical studies into the role of parents in instrumental learning (Doan, 1973, Brokaw, 1982, Sosniak, 1985, Sloboda and Howe, 1992, Davidson et al., 1996) would indicate that parents, teachers and pupils from diverse backgrounds and representing a range of teaching methods, have cooperated in pursuit of excellence on a musical instrument. The research presented here differs from previous studies in the same domain in its treatment of the parent-teacher-pupil relationship as a complex entity in itself, central to the musical development of the pupil and crucial in determining the extent to which positive outcomes are experienced by all three participants.

The findings presented in this paper are specifically concerned with pupil perceptions and experiences within the learning environment. The intention was to go beyond action to interaction, and to explore the relationships between parent, teacher and pupil, with a view to identifying qualities of these relationships which, in the view of the pupils themselves, were linked with positive outcomes.

Inspired by the work of Dolloff (1999), who explored music education students' beliefs and perceptions of teachers by analyzing visual images produced by the students, pupils in this study were invited to produce a picture of their experience of learning the violin. The rationale for this additional section in the pupil survey was that some pupils, particularly amongst the younger age groups, would possibly articulate their experience more coherently in a picture than in written text, and that the visual images had the potential to add depth to the quantitative data.

Some researchers have explored, in non-therapeutic settings, how children depict personally important or emotionally significant topics, and have investigated whether the size of objects depicted in their drawings can be used as a reliable index of children's feelings towards these objects (Sechrest and Wallace, 1964, Burkitt et al., 2003, Thomas et al., 1989). Burkitt et al (2003) found evidence that "children do produce larger drawings of positive topics than of neutral topics, and smaller drawings of negative topics than of neutral topics (in surface area and height)" (ibid: 581), and suggested that children may be using an acquired pictorial convention whereby larger figures represent nice characteristics and smaller figures represent nasty characteristics, or alternatively that children may be using an appetitive

mechanism which serves to increase the size of nice topics in order to achieve psychological affinity with such topics, whilst using a defensive mechanism which serves to decrease the size of nasty topics in order to achieve psychological distance from these figures (ibid: 580). In accordance with this previous research the drawings produced by pupil participants in this research were analyzed with the aim of discerning whether there was statistical evidence that the pictures provided reliable and valid information relating to the pupils' perceptions of their learning experiences, particularly in relation to interaction with teachers and parents within the learning environment.

Context

The violin teacher's studio, as an educational context, is somewhat unique in several respects. First, the violin itself has been found to be the most frequently taught musical instrument in English Local Authority music provision (Hallam et al., 2005). Second, the learning often takes place on a one-to-one basis or in very small groups and in the early stages requires high levels of parental facilitation and support. Third, the relationship between parent, pupil, and individual teacher often spans several years and thereby may encompass many life changes experienced by the three participants in the learning partnership.

Methods

Phase one of this research included a survey of pupil attitudes. As a framework for identifying interpersonal dimensions a model proposed by Leary (1957) was adopted, whereby all human interaction is conceptualised on a control-responsiveness matrix. The pupil survey, based on existing research instruments (Doan, 1973, Rife et al.,

2001, Wubbels et al., 1993), measured these interpersonal dimensions of control and responsiveness, as well as learning outcomes which included enjoyment of music, friendship, self-efficacy, self-esteem, personal satisfaction, motivation and musical attainment (Creech, 2001). The scales each comprised a number of statements that pupils were asked to respond to on a Likert scale ranging from strongly agree to strongly disagree. An overall score for every individual respondent on each scale (including scales for responsiveness and control as well as the scales for outcomes) was calculated by adding together Likert scale scores for every one of the variables comprising the scale. For every scale the same statistical procedures of analysis were carried out, using the computer programme SPSS. Cronbach's Alpha was first computed in order to check that the variables on the scale were consistent with one another and represented just one dimension. A further check for consistency was done by checking that there were significant correlations between means for each variable on the scale and mean for the overall total scale.   Variability amongst the mean responses to statements on the scale was then checked with a repeated measures analysis of variance, and frequencies were examined in order to identify the nature of this variability. In the analyses of the scales for pupil control and responsiveness a factor analysis was then carried out in order to ascertain whether there were underlying dimensions contributing to these constructs.

350 violin pupils aged between eight and eighteen years of age were surveyed. Pupils in this age group could complete the survey unaided and articulate their thoughts without help from parents or teachers.   The pupils learnt the violin in a range of settings, including private studios, independent schools, maintained schools, and music conservatories. 67% were taught by "no specific method", 18% were taught by

the Suzuki method, and the remaining 15% were taught by a variety of other violin

teaching methods.

Pupil pictures

Pupils were asked to draw a picture of a normal violin lesson. The instructions for

this section of the survey *("Please fill the box with a picture (drawings, colours,*

symbols, photos) of a normal violin lesson.") were deliberately left open to

interpretation so that pupils would be free to produce pictures that were meaningful to

themselves, including either metaphorical or realistic images.

Goodman (1976) suggested that some children's drawings are purely symbolic, in that

they denote the topic but do not resemble or convey specific information about it. For

the purposes of this research purely symbolic drawings were first coded as "holistic"

in order to convey the sense that these drawings represented the whole person's

feelings towards the topic rather than information about the topic. Drawings that

depicted symbols specifically associated with the subject matter, but no action and not

placed in a clear context, were coded as "task symbol", and drawings that contained

action and symbols associated with the task in context were coded as "task action".

A coding scheme was devised for the pupil drawings based on content of the drawings

and size of objects. The codes included information about who was in the drawing,

other objects in the drawing, size of figures, most prominent object, action, and facial

expressions.

Differences between drawings produced by pupils were examined first for statistical evidence that the illustrations provided insight into pupil experience of interpersonal interaction within the teaching studio. Pupils were grouped according to their codes for picture type and picture content. Analysis of variance was computed in order to test the null hypothesis that there were no between groups differences for the interpersonal dimensions of *control* and *responsiveness,* measured by attitude rating scales. Similarly, analysis of variance was computed in order to test the second null hypothesis that pupil outcomes, also measured by attitude rating scales, were not reflected in their depictions of violin lessons. It was thus possible to discern whether the pictures really did tell stories, from the pupil perspective.

Ethical considerations

The principal ethical considerations in relation to this research were that a) the research involved working with children and b) the research was exploring interpersonal relationships amongst the participants, a sensitive area with the potential for raising unexpected issues for participants. In accordance with British Psychological Society ethical guidelines (Phoenix and Thomas, 2002) all participants were informed of the research aims, focus, and methods, pupil participants were given assurances that their pictures would be anonymised in any reporting of the data, and written consent was obtained for their pictures to be used in research reports.

Findings

The influence of control and responsiveness on pupil representations of learning

Control and responsiveness factors

Factor analysis of these two axes of the model of interpersonal interaction (Leary, 1957) revealed that both the control and responsiveness constructs could be conceptualised as each comprising three more specific dimensions. In the case of the control construct these underlying dimensions were defined as pupil-teacher deference, pupil-teacher influence, and pupil-parent autonomy. In the case of the responsiveness construct the three factors were defined as pupil-teacher accord, receptiveness to parental support, and pupil-teacher reticence.

Control factors

Pupils who perceived their teachers to be authoritarian over behaviour, practice, and achievement were likely to have high scores on factor one, labelled as "pupil deference". As consumers of the teacher's learning agenda, these pupils were prepared to comply with the wishes of the teacher over learning goals and lesson content, and may in fact have felt powerless within the pupil-teacher relationship.

Factor two, on the other hand, reflected a dimension of independence and pupil power within the teaching studio. Pupils with high scores on this factor, labeled "pupil influence" were likely to contribute to setting goals, and to perceive that they may effect changes in the teacher's agenda.

Factor three, interpreted as "pupil autonomy" was concerned with the pupil's desire to be an autonomous learner within the context of the pupil-parent relationship, taking

responsibility for home practice and engaging in a pupil-teacher relationship without parental participation. Pupils with high scores on this factor were perhaps taking responsibility for their own learning and striving to achieve independence at home and an autonomous pupil-teacher relationship.

Responsiveness factors

One dimension of responsiveness was found to be the extent of receptiveness on the part of the pupil towards parental support. This factor reflected pupil attitudes towards parental participation, parent attendance at concerts, parent-teacher communication and general pupil-parent communication related to the violin.

Responsiveness was also found to be associated with pupil-teacher accord, or conversely reticence, within the pupil-teacher relationship. Pupil-teacher accord was concerned with the qualities of warmth, understanding, patience, and mutual respect. 'Enthusiasm for the subject matter' was included in this cluster of variables, suggesting that the presence or absence of the qualities comprising pupil-teacher accord may greatly influence pupil enthusiasm.

In contrast, pupil-teacher reticence was concerned with psychological distance between pupil and teacher. This factor labelled 'reticence' included a negative correlation coefficient with the variable concerned with engagement with the subject matter ("I like it when my teacher and I get to play duets together", $R = -.484$). Thus it would seem that whilst enthusiasm for the subject matter may be inextricably linked with pupil-teacher proximity or accord, apathy towards the subject matter may be associated with pupil-teacher distance or reticence.

Picture categories

220 children provided pictures. The drawings included realistic representations of learning tasks, symbolic images relating to the subject matter, and abstract drawings that did not obviously depict a learning environment. 10 pictures were coded as holistic (Figure 1), 41 as task-symbolic (Figure 2), and 169 as task-action (Figure 3).

Figure 1: Holistic drawing

Figure 2: Task symbol drawing

Figure 3: Task action drawing

As expected, children occupying the youngest age groups submitted the majority of pictures (Table 1). Nonetheless, a chi square test did not reveal any significant association between pupil age and type of picture.

Table 1: Picture categories, by artist age

		age 8-11	age 13-14	age 15-18	Total
Picture category	Holistic	6	3	1	10
	Task action	104	40	25	169
	Task symbol	19	13	9	41
Total		129	56	35	220

Analysis of variance provided evidence that there was a significant difference in mean scores for pupil-parent autonomy between the picture category groups ($F=6.245_{(2)}$, $p=0.002$) (Table 2).

Table 2: Mean scores and standard deviations for pupil parent autonomy, grouped by picture category

	Group	Mean	Std. Deviation
pupil parent autonomy	holistic	-.66	.83
	task action	-.11	.99
	task symbol	.40	1.019

Pupils who produced holistic pictures had the lowest scores for pupil-parent autonomy, while those who drew task symbol pictures had the highest mean scores for this dimension of control.

Pupil self portraits

Interaction within the pupil-parent dyad was found to be associated with how pupils chose to portray themselves in their pictures. Analysis of variance revealed significant differences (see Table 3) both in the case of pupil-parent autonomy ($F=5.558_{(5)}$, $p<0.001$) and receptiveness to parental support ($F=3.853_{(5)}$, $p=0.002$).

Table 3: Means and Standard deviations for pupil-parent autonomy and receptiveness to parental support, grouped by codes for pupil self portraits

Group	Pupil-parent autonomy		Receptiveness to parental support	
	Mean	Std. Deviation	Mean	Std. Deviation
pupil not present	.62	.98	-.40	1.03
smiling	-.30	.98	.24	.99
frown	.36	.82	-1.29	.87

There were no frowning pupils amongst pictures by artists in the lowest 25 percentile for pupil autonomy; nor were there frowning pupils amongst pictures by those who scored above the mean for receptiveness to parental support. Furthermore, while numbers of smiling pupils decreased as the pupil autonomy scores increased, the

reverse was true in the case of receptiveness to parental support. Similarly, while the lowest number of pictures with absent pupils was found amongst the group who occupied the lowest percentile for pupil autonomy, the reverse was true in the case of receptiveness to parental support, with the highest number of pictures with no pupil found amongst the lowest percentile.

There was an evident contrast between a self portrait by a pupil who occupied the lowest percentile for receptiveness to parental support and the highest percentile for pupil autonomy (Figure 4) and another drawing created by a pupil who occupied the highest percentile for receptiveness to parental support and the lowest for pupil autonomy (Figure 5). Whereas the former depicts an unhappy pupil with her back to a teacher who is evidently displeased with the pupil's progress, the latter portrays a smiling parent observing a happy pupil playing to her teacher. The star on the music in this latter picture suggests that this pupil, unlike the first picture, experienced a sense of achievement related to the violin.

Figure 4: high pupil-parent autonomy, low receptiveness to parental support
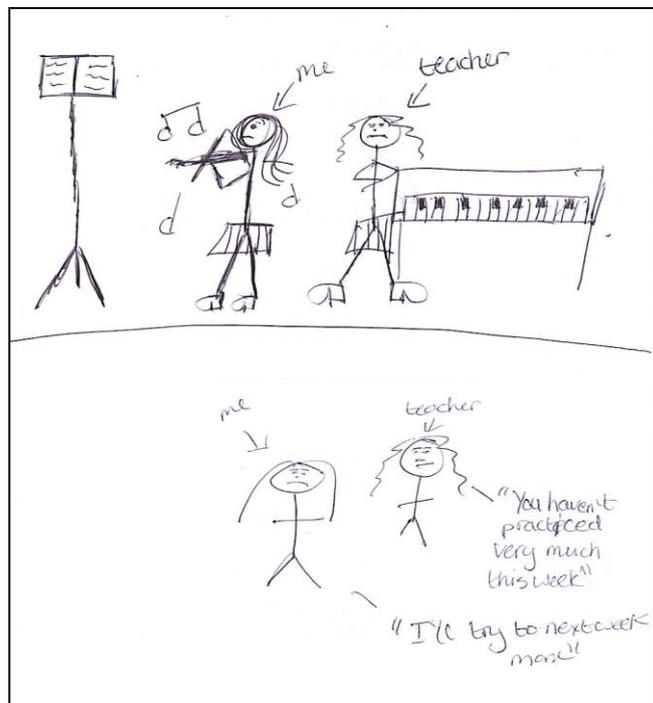
Figure 5: Low pupil-parent autonomy, high receptiveness to parental support

Representations of teachers

Analysis of variance revealed differences between groups, grouped according to their representations of teachers, for pupil-parent autonomy ($F=4.568_{(4)}$. $P=0.001$), pupil-teacher accord ($F=3.525_{(4)}$. $P=0.004$), and pupil-teacher reticence ($F=4.888_{(4)}$. $P=0.001$) (see Table 4).

Table 4: Means and Standard deviations for pupil-parent autonomy, pupil-teacher accord, and pupil-teacher reticence, grouped by codes for pupils' portrayals of teachers

Group	pupil parent autonomy		pupil teacher accord		pupil teacher reticence	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
teacher not present	.21	1.12	.08	1.02	.37	1.10
back view	.26	1.07	-.48	.69	.15	.91
smiling	-.29	.90	.15	.98	-.26	.95
frowning	.71	1.20	-.78	1.13	.83	.84
no expression	.09	.91	-.22	.87	-.01	1.05

In the case of pupil-parent autonomy teachers were most likely to be portrayed as smiling in pictures by pupils who scored below the mean for pupil-parent autonomy, while the greatest number of pictures illustrating frowning teachers or not including teachers at all was found in the top 25 percentile for this control factor.

Likewise the greatest numbers of smiling teachers were found in pictures by pupil artists who scored above the mean for pupil-teacher accord, while representations of teachers who were seen from the back, were frowning, or were expressionless were most likely to be found amongst pictures drawn by pupils who scored below the mean for this responsiveness factor.

Finally, the greatest number of smiling teachers was found in pictures by pupils with the lowest scores for pupil-teacher reticence. Pictures depicting frowning teachers or not including teachers at all were most likely to be drawn by pupils who scored in the top 25 percentile for this dimension of responsiveness.

There was an evident dissimilarity between the representations of teachers in pictures drawn by a) a pupil who occupied the lowest percentile for pupil-teacher accord and the highest percentile for pupil-teacher reticence (Figure 6) and b) a pupil who occupied the highest percentile for pupil-teacher accord but the lowest for pupil-teacher reticence (Figure 7). The most striking difference was that in the former picture pupil and teacher were not facing each other and were not sharing in music-making, while the reverse was depicted in the latter picture.

Figure 6: High pupil-teacher reticence, low pupil-teacher accord

Figure 7: High pupil-teacher accord, low pupil-teacher reticence

Portrayals of parents

Significant differences in the mean scores for pupil-parent autonomy ($F=6.598_{(3)}$, $P<0.001$) and receptiveness to parental support ($F=6.622_{(3)}$, $P<0.001$) were found between pupils grouped according to their portrayals of their parents (Table 5).

Table 5: Means and Standard deviations for pupil-parent autonomy and pupil receptiveness to parental support, grouped by codes for pupils' portrayals of parents

Group	pupil parent autonomy		receptive to parental support	
	Mean	Std. Deviation	Mean	Std. Deviation
parent not present	.07	.98	-.07	1.01
observing	-.54	.99	.70	.94
participating	-.80	.38	.65	.55
back view	-1.57	.60	1.35	.04
smiling	-.65	.86	.68	.81
no expression	-.59	.88	.87	.21

Smiling mothers were most often found in pictures drawn by pupils who scored below the mean for this factor, while the mother was more likely to be absent from pictures drawn by pupils who scored in the top 25 percentile for pupil-parent autonomy.

On the other hand, pupils with the highest scores for receptiveness to parental support produced the greatest number of images of mothers attending lessons, and of these the majority had happy expressions.

A drawing created by a pupil whose scores were low for receptiveness to parental support and high for pupil autonomy (Figure 8) depicts the parent as a tiny figure, entering the scene at the very end of the lesson. In contrast, a drawing by a pupil whose scores were high for receptiveness to parental support and low for pupil autonomy (Figure 9) portrays a parent who dominates the scene.

**Figure 8: Low receptive to parental support, high pupil autonomy**
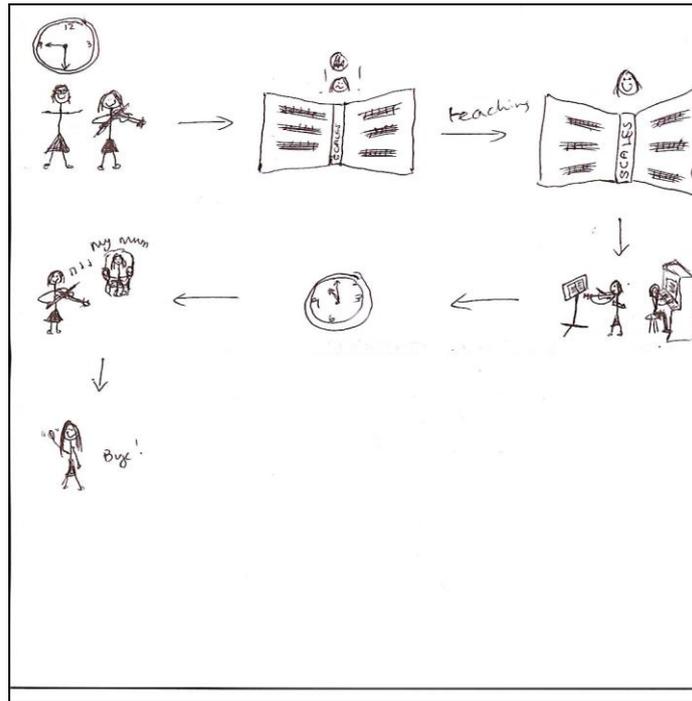
Figure 9: Low pupil-parent autonomy, high receptiveness to parental support

Positive outcomes for pupils reflected in their representations of learning

Enjoyment of music

Differences in pupils' enjoyment of music were reflected in the facial expressions

assigned to pupils ($F=7.407_{(5)}$. $P<0.001$), parents ($F=3.504_{(3)}$. $P=0.016$) and teachers

($F=7.426_{(4)}$, $P<0.001$) (see Table 6).

Table 6: Mean scores for enjoyment of music, grouped by pupil, parent and teacher expressions

Group	Enjoyment of music	
	Mean	Std. Deviation
Pupil smiling	.29	.85
Pupil frowning	-1.48	.91
Parent smiling	.58	.73
Parent not smiling	.09	.99
Teacher smiling	.32	.82
Teacher frowning	-.88	1.07

Pupils who drew smiling pupils, parents and teachers had the highest mean scores for

enjoyment of music, while those who drew frowning or expressionless figures had the

lowest mean scores for this outcome.

Figure 10, drawn by a pupil with a low score for enjoyment of music, depicts an

unhappy pupil, disconnected from the violin and seemingly disengaged from human

interaction, while in contrast Figure 11, created by a pupil who had a high score for

this outcome, portrays a smiling pupil engaged with the subject (the violin) and at the

centre of parent-teacher attention.

Figure 10: Low enjoyment of music
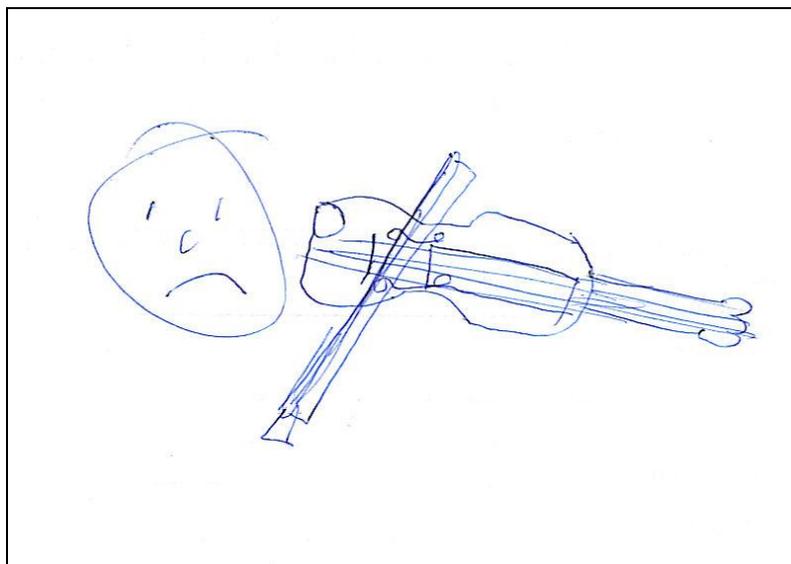
Figure 11: High enjoyment of music
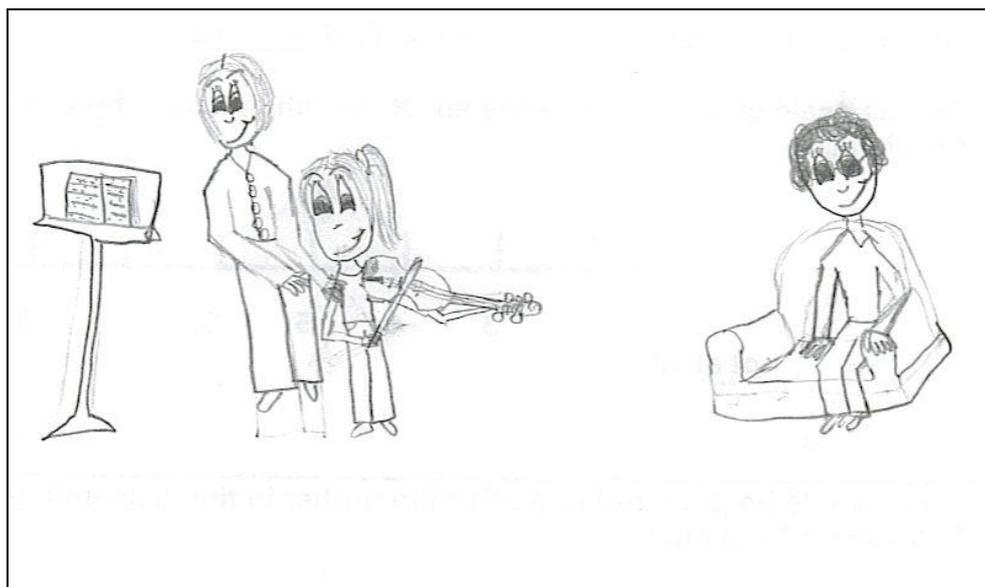
Personal satisfaction with music lessons

Similarly, analysis of variance suggests that pupils' personal satisfaction with music lessons was reflected in their representations of both pupils ($F=6.479_{(5)}$, $P<0.001$) and teachers ($F=5.883_{(4)}$, $P<0.001$) (see Table 7).

Table 7: Means scores for personal satisfaction, grouped by pupil and teacher expressions

Group	Personal satisfaction	
	Mean	Std. Deviation
Pupil smiling	.27	.91
Pupil frowning	-1.15	1.29
Teacher smiling	.30	.92
Teacher frowning	-.63	1.00

Pupils who portrayed frowning teachers and pupils had the lowest mean scores for personal satisfaction, while those who drew smiling figures had the highest mean scores for this outcome. No frowning pupils were found amongst pictures by pupils who scored in the top 25 percentile for personal satisfaction.

Differences were found between the personal satisfaction scores of pupils, according to which figure they chose to depict as the most prominent ($F=2.548_{(9)}$, $P=0.009$). Table 8 demonstrates that 23% of pictures by pupils with the lowest satisfaction depicted all figures as being equally prominent, while 49% of pictures by pupils with the highest satisfaction included equally prominent figures. Pupils with the lowest satisfaction produced drawings that portrayed a clock or musical notation as being the most prominent component, while these figures were not found to be prominent in pictures drawn by pupils with the highest satisfaction.

Table 8: most prominent figure, according to pupil satisfaction

	25 Percentiles of Satisfaction				Total
	1	2	3	4	
Not applicable	1 2.5%				1 .5%
All equal	9 22.5%	13 17.6%	18 26.9%	18 48.6%	58 26.6%
Pupil	12 30.0%	25 33.8%	24 35.8%	6 16.2%	67 30.7%
Teacher	10 25.0%	14 18.9%	9 13.4%	8 21.6%	41 18.8%
Parent		1 1.4%		1 2.7%	2 .9%
Music stand		3 4.1%	6 9.0%	1 2.7%	10 4.6%
Violin	1 2.5%	14 18.9%	3 4.5%	1 2.7%	19 8.7%
Musical notation	2 5.0%	3 4.1%	2 3.0%		7 3.2%
Piano	4 10.0%	1 1.4%	5 7.5%	2 5.4%	12 5.5%
Clock	1 2.5%				1 .5%
Total	40 100.0%	74 100.0%	67 100.0%	37 100.0%	218 100.0%

Motivation

Pupil motivation, too, was found to be reflected in pupil artists' self portraits ($F=8.806_{(5)}$, $P<0.001$) and in their representations of teachers ($F=5.945_{(5)}$, $P<0.001$) (see Table 9).

Table 9: Mean scores for motivation, grouped by pupil and teacher expressions

Group	Motivation	
	Mean	Std. Deviation
Pupil smiling	.30	.87
Pupil frowning	-1.32	1.23
Teacher smiling	.29	.81
Teacher frowning	-.59	1.38
Teacher not in the picture	-.20	.95

Pupils who portrayed smiling pupils and teachers had the highest mean scores for this outcome, while those who drew frowning figures had the lowest mean scores. Teachers were most likely to be absent in pictures drawn by pupils occupying the lowest percentile for motivation .

Self-efficacy

Differences for self-efficacy were found between groups categorized by their representations of both teachers ($F=2.463_{(4)}$, $P=0.046$) and pupils ($F=3.559_{(5)}$, $P=0.004$) (see Table 10).

**Table 10: Mean scores for self-efficacy, grouped by pupil and teacher expressions**

Group	Self-efficacy	
	Mean	Std. Deviation
Pupil smiling	.08	1.01
Pupil frowning	-1.20	.80
Teacher smiling	.09	1.04
Teacher frowning	-.784	1.08

Frowning pupils and teachers were most frequently found amongst pupils with the lowest self-efficacy (Figure 12) whilst smiling pupils and teachers were depicted more often by pupils with the highest self-efficacy scores (Figure 13). Pupils were most likely to be absent from the scene in pictures by created by those with the lowest self-efficacy.

Figure 12: low self-efficacy
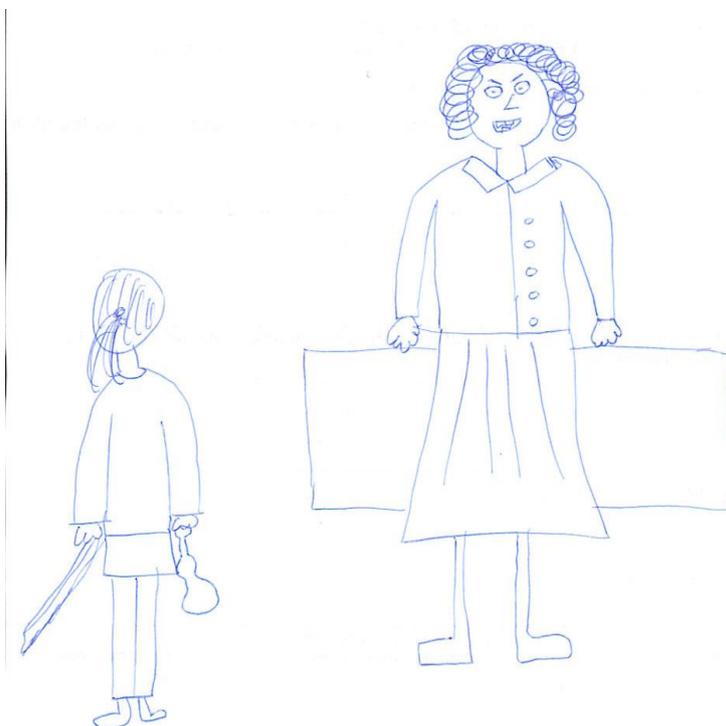
Figure 13: high self-efficacy
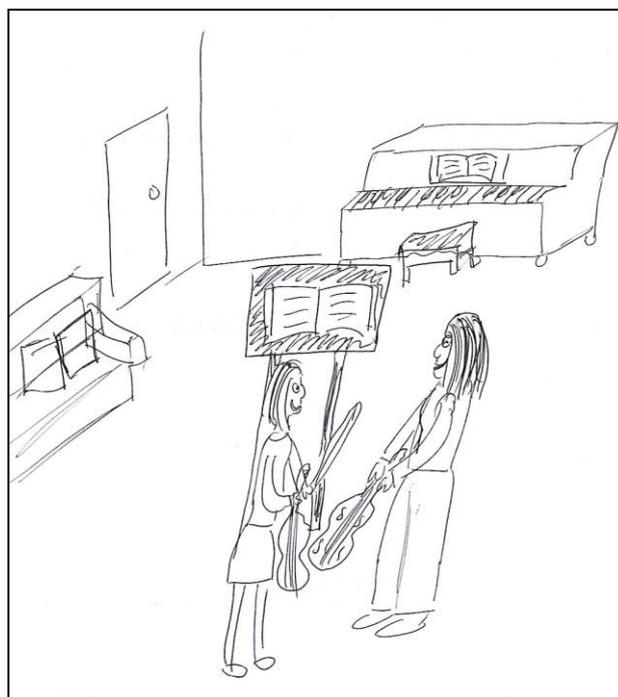
Analysis of variance also revealed differences for self-efficacy between groups categorized by whether the picture included a teacher playing the violin, not playing but with violin in the picture, or no violin present in the picture ($F=5.446_{(2)}$, $P=0.005$) (see Table 11).

Table 11: Mean scores for self-efficacy, grouped according to teacher's violin played or not

Group	Self-efficacy	
	Mean	Std. Deviation
No teacher's violin	-.176	.98
Teacher playing the violin	.406	1.26
Violin in picture, not played	.30	.90

Pupils who scored in the highest 25 percentile for self-efficacy were most likely to include the teacher's violin in their picture, while pupils occupying the lowest percentile were least likely to include this.

Self esteem

Pupil self esteem was found to be associated with the type of picture the pupil was likely to create ($F=4.514_{(2)}$, $P=0.012$). Table 12 shows that 50% of holistic pictures were created by pupils occupying the top percentile for self esteem, while 50% of task symbol pictures were created by pupils occupying the lowest percentile for this outcome. Task action pictures, which formed the largest category, were found fairly equally amongst the four percentile groups for self esteem.

Table 12: self esteem reflected in picture category

Percentiles of self esteem	Holistic or task oriented			Total
	Holistic	Task action	Task symbol	
1	1 10.0%	43 25.9%	20 50.0%	64 29.6%
2	3 30.0%	38 22.9%	8 20.0%	49 22.7%
3	1 10.0%	41 24.7%	4 10.0%	46 21.3%
4	5 50.0%	44 26.5%	8 20.0%	57 26.4%
	10 100.0%	166 100.0%	40 100.0%	216 100.0%

Self esteem was also found to be associated with pupils' representations of themselves in violin lessons ($F=6.825_{(5)}$, $P<0.001$) (see Table 13).

Table 13: Mean scores for self-esteem, grouped by pupil self portraits

Group	Self-esteem	
	Mean	Std. Deviation
Pupil smiling	.30	.94
Pupil frowning	-1.23	1.66
Pupil absent from picture	-.52	.86

Pupils were most likely to be drawn from the back view, to be frowning, or to be absent from the scene altogether in images created by those who scored below the mean for self esteem, while smiling pupils were most often found in pictures drawn by pupils in the top percentile for self esteem.

Pupil friendship

Pupil friendship too was found to have an association with the type of picture pupils chose to create ($F=3.722_{(2)}$, $P=0.026$). Again the differences lay between holistic and task symbol pictures. Table 14 shows that while 90% holistic pictures were created

by pupils who scored below the mean for friendship, 66% of task symbol pictures were drawn by pupils who scored below the mean for this outcome.

Table 14: Pupil friendship reflected in picture type

Percentiles of friendship	Holistic or task oriented			Total
	Holistic	Task action	Task symbol	
1		49 29.2%	14 34.1%	63 28.8%
2	1 10.0%	49 29.2%	13 31.7%	63 28.8%
3	6 60.0%	29 17.3%	6 14.6%	41 18.7%
4	3 30.0%	41 24.4%	8 19.5%	52 23.7%
	10 100.0%	168 100.0%	41 100.0%	219 100.0%

Musical attainment

No association was found between musical attainment level and the content of the pictures. However, a chi square test revealed an association between hours of practice done by the pupil per week (which very likely reflects attainment levels) and parent action depicted in the picture ($x^2_{(12)}$=23.733, p=0.022). Table 15 shows that of those pupils whose parents were depicted observing the lesson 30% did in excess of 6 hours of practice per week. Amongst pupils who did not portray a parent in their illustration just 9% undertook more than 6 hours of practice per week.

Table 15: association between parent attendance at lessons and hours of practice per week

	Hours of violin practice each week					Total
	Not known	0-3 hours	4-5 hours	6-7 hours	8 or more hours	(100%)
Parent not present	4 2.2%	104 56.8%	59 32.2%	15 8.2%	1 .5%	183
Parent outside room			1 100.0%			1
Parent observing		18 54.5%	5 15.2%	7 21.2%	3 9.1%	33

Parent participating		1 33.3%	2 66.7%			3
Total	4 1.8%	123 55.9%	67 30.5%	22 10.0%	4 1.8%	220

Likewise, the chi square test revealed an association between hours of practice and portrayals of teacher action during lessons ($x^2_{(8)}$=20.103, p=0.01). Table 16 shows that amongst pupils who depicted their teachers playing the violin during lessons 38% practiced for 6 or more hours per week. Conversely, fewer than 10% of pupils who either portrayed a teacher's violin not being played or did not include a teacher's violin practised for these numbers of hours.

Table 16: association between teacher action and hours of practice

	Hours of violin practice each week					Total (100%)
	Not known	0-3 hours	4-5 hours	6-7 hours	8 or more hours	
No teacher's violin in picture	3 1.8%	95 57.6%	51 30.9%	14 8.5%	2 1.2%	165
Teacher playing	1 4.8%	6 28.6%	6 28.6%	7 33.3%	1 4.8%	21
Violin present, but not played		22 64.7%	10 29.4%	1 2.9%	1 2.9%	34
Total	4 1.8%	123 55.9%	67 30.5%	22 10.0%	4 1.8%	220 100.0%

Discussion

The evidence presented in this paper suggests that the pupils' drawings a) did reflect the operationalisation of control and responsiveness within the learning partnership and b) did convey credible accounts of the outcomes experienced by pupils, including enjoyment of music, personal satisfaction, motivation, self-efficacy, self esteem and friendship.

Holistic pictures were most likely to be created by pupils who had the lowest pupil-parent autonomy and scored above the mean for friendship. One interpretation of this finding is that the holistic pictures conveying positive feelings of the whole person towards the subject matter were created by pupils who associated close family relationships and rewarding friendships with their engagement in music.

Smiling pupils, parents and teachers were frequently found in pictures created by pupils who experienced strong pupil-teacher rapport, high receptiveness to parental support and high enjoyment of music. Similarly, smiling teachers were found most often amongst pictures by pupils who had the lowest scores for pupil-teacher reticence and the highest scores for personal satisfaction, motivation and self-efficacy. Pupils were often excluded from the pictures or depicted from the back view by artists with low self-efficacy and low self esteem, but were found to be present and smiling in the pictures by those with high scores for personal satisfaction. Teachers and pupils were most likely to be depicted with equal prominence by pictures created by highly satisfied pupils, while pupils with low satisfaction often assigned most prominence to inanimate objects such as clocks, music stands or musical notation. These findings suggest that pupils who were receptive to parental support and who were more influential than reticent within the pupil-teacher dyad may have experienced enhanced outcomes, as depicted in their drawings. Earlier research supports this interpretation; O'Neill (2002) found that children who persevered with instrumental music lessons were more likely to perceive their parents as supportive than those who dropped out, while Manturzewska (1990) concluded that a fundamental condition for the

development of creative musical talent in all stages of life is "musical dialogue with someone who believes his or her musical ideas and accepts them" (ibid: 138).

Amongst those pupils who included the teacher's violin in the picture there were many who practised for more than 5 hours per week, while the large majority of pupils who did not include a teacher's violin practised less; hours of practice may in turn have contributed to positive outcomes, in particular musical attainment. Likewise, the inclusion of a teacher's violin in the picture was found to be associated with pupil self esteem and self-efficacy; pupils with the highest scores for these outcomes were most likely to portray the teacher's violin. This supports earlier research that suggests teacher demonstrations on the instrument and increased time spent playing rather than talking during the lesson are factors associated with positive outcomes for pupils (Rife et al., 2001, Duke, 1999, Hallam, 1998).

The pupils drawing were thus found to be a valuable source of data, containing abundant background information and insight into pupils' interaction styles and experiences within the violin teaching studio.

Conclusion

This researcher brought to this enquiry extensive personal and professional experience of all three points of the teacher-parent-pupil triangle, and it was perhaps inevitable that this store of both implicit and explicit knowledge relating to the inquiry would influence researcher-participant interaction and have a bearing on any interpretation. For this reason phase one of the research was designed from an individual differences perspective, comprising a survey of parent, teacher and pupil attitudes which provided

a broad picture of interpersonal relationships within the context of violin learning. Thus the first methodological leap was taken, from an initial view of one-to-one teaching and learning experience as being idiosyncratic and socially constructed within individual cases to a nomothetic view that conceptualised clusters of interaction types within which individual cases could be located.

Despite providing some assessment of typicality amongst the sample, it was not possible to elicit the complex and multiple perspectives of individuals within a research design where the participants were the focus of solely objective enquiry. Thus a second methodological step was taken, from a quantitative to a qualitative focus; qualitative data was gathered as part of the survey, and the second phase of the research subsequently included case studies of survey respondents.

This paper has demonstrated one way in which the quantitative findings from the survey of pupils could be related to their qualitative drawings, and how it was possible to continue on the 'methodological journey' by creating a bridge between the nomothetic survey evidence and the idiosyncratic drawings. The approach to analysis presented here represents one response to the challenges of a) establishing validity and reliability in interpretation of qualitative data, and b) adding depth to the probabilistic findings generated from quantitative data.

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