

Students' Views of Teacher-Student Relationships in the Primary School

Natalie Leitão

and

Russell F. Waugh

Edith Cowan University

Perth, Western Australia

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Address e-mail correspondence to Natalie Leitao
jleitao@inet.net.au

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Abstract

This study investigated teacher-student relationships from the students' point of view at Perth metropolitan schools in Western Australia. The study identified three key social and emotional aspects that affect teacher-student relationships, namely, Connectedness, Availability and Communication Skills. Data were collected by questionnaire (N=139) with stem-items answered in two perspectives: (1) Actual: This is what does happen and (2) Idealistic: this is what I wish would happen, using four ordered response categories: not at all (score 1), some of the time (score 2), most of the time (score 3), and almost always (score 4). Data were analysed with a Rasch measurement model and a uni-dimensional, linear scale with 20 items (2 times 10 stem items), ordered from easy to hard, was created. The data were shown to be highly reliable, so that valid inferences could be made from the scale. The Person Separation Index (akin to a reliability index) was 0.90; there was good global student and item fit to the measurement model; there was good item fit; the targeting of the item difficulties against the student measures was good, and the response categories were answered consistently and logically. The difficulties of the items strongly supported the conceptualised structure of the variable. This study shows that research into teacher-student relationships is made possible using modern methods of measurement, and by considering primary students' points of view.

Background

Teaching is a people profession that demands a large proportion of time being devoted to personal interaction. Positive teacher-student relationships are believed to be necessary for effective teaching and learning to take place (Arthur, Gordon, & Butterfield, 2003; McInerney & McInerney, 2006; Sztejnberg, den Brok, & Hurek, 2004). Effective teachers are those who, in addition to being skilled at teaching, are attuned to the human dimension of classroom life and can foster positive relationships with their students (Good & Brophy, 2000; Larrivee, 2005). But what is meant by positive teacher-student relationships? Why are teacher-student relationships important and how are they to be measured? This paper begins with some discussion to these questions as a background to the present study.

Teacher-Student Relationships

Positive teacher-student relationships are characterised by mutual acceptance, understanding, warmth, closeness, trust, respect, care and cooperation (Good & Brophy, 2000; Krause, Bochner, & Duchesne, 2006; Larrivee, 2005; Noddings, 2005; Smeyers, 1999). The success of any interpersonal relationship is dependent to a large extent upon input from both parties (Pianta, 1999). In the classroom setting, it is the teacher who has the opportunity, and indeed, the responsibility, to initiate positive interpersonal relationships (Barry & King, 1993; Krause et al., 2006; McInerney & McInerney, 2006; Smeyers, 1999). The teacher who is pro-active in demonstrating acceptance, understanding, warmth, closeness, trust, respect, care and cooperation towards his or her students not only works at initiating positive teacher-student relationships, but also increases the likelihood of building strong relationships that will endure over time (Barry & King, 1993).

Teacher-student relationships are important for many reasons. Teacher-student relationships greatly influence a student's ability to adjust to school, to do well at school, and to relate to peers (Entwisle & Hayduk, 1988; Howes, Hamilton, & Matheson, 1994; Pianta, 1999; Sztejnberg et al., 2004). Teacher-student relationships have an impact on classroom management and affect learning progress (Klem & Connell, 2004; Sztejnberg et al., 2004). From a developmental perspective, the establishment of a positive teacher-student relationship aids a student's cognitive,

social and emotional growth and enhances their mental well-being (Brazelton & Greenspan, 2000; Lynch & Cicchetti, 1992; Pianta, 1999; Weare, 2000). Stable teacher-student relationships impact positively on a student's developing sense of self and promote resiliency in them (Pianta & Walsh, 1996; Rutter, 1979). Furthermore, the benefits of positive teacher-student relationships extend to teachers, contributing to an improved sense of job satisfaction (L. Goldstein & Lake, 2000).

Past research on teacher-student relationships has focused heavily on instructional aspects of the relationship, and largely ignored the social and emotional aspects of teacher-student relationships (Baker, 1999; Birch & Ladd, 1996; Pianta, 1999). As such, research into social and emotional aspects of teacher-student relationships is relatively new. This study, which takes place across Perth metropolitan schools in Western Australia, helps to address this gap in the research by identifying key social and emotional aspects of the teacher-student relationship from the literature and exploring these in more detail with data collected in Perth, Western Australia. The three key social and emotional aspects of the teacher-student relationship that have been identified for inclusion in the present study are connectedness, availability and communication. These are explained in more detail in the following section.

A Theoretical Model of Teachers' Relationships with Students

There are many aspects that influence the quality and nature of personal relationships and, specifically in this study, relationships between teachers and students in the primary school. A complete understanding of how these aspects influence teachers' relationships with students is likely to be very complex. To fully understand the interconnections between all possible aspects would be very involved, and is beyond the scope of this study. However, it is possible to simplify these connections by creating a theoretical model and building into it a selected number of aspects that are considered most important. This simplified model provides an understanding of the interconnections between the selected aspects, gives direction to the research in the collection of data, and provides guidelines for the analysis and interpretation of the data. A simplified model was created using three aspects that were found to be necessary for the development of strong, healthy relationships between teachers and students. The three aspects are Connectedness, Availability

and Communication. Each of these three areas is seen to be a key aspect likely to impact on a teacher's ability to develop relationships with the students in their classroom. The model showing the three key aspects have is depicted pictorially in Figure 1. An explanation of the model and an explanation of the inclusion of the three key aspects follows.

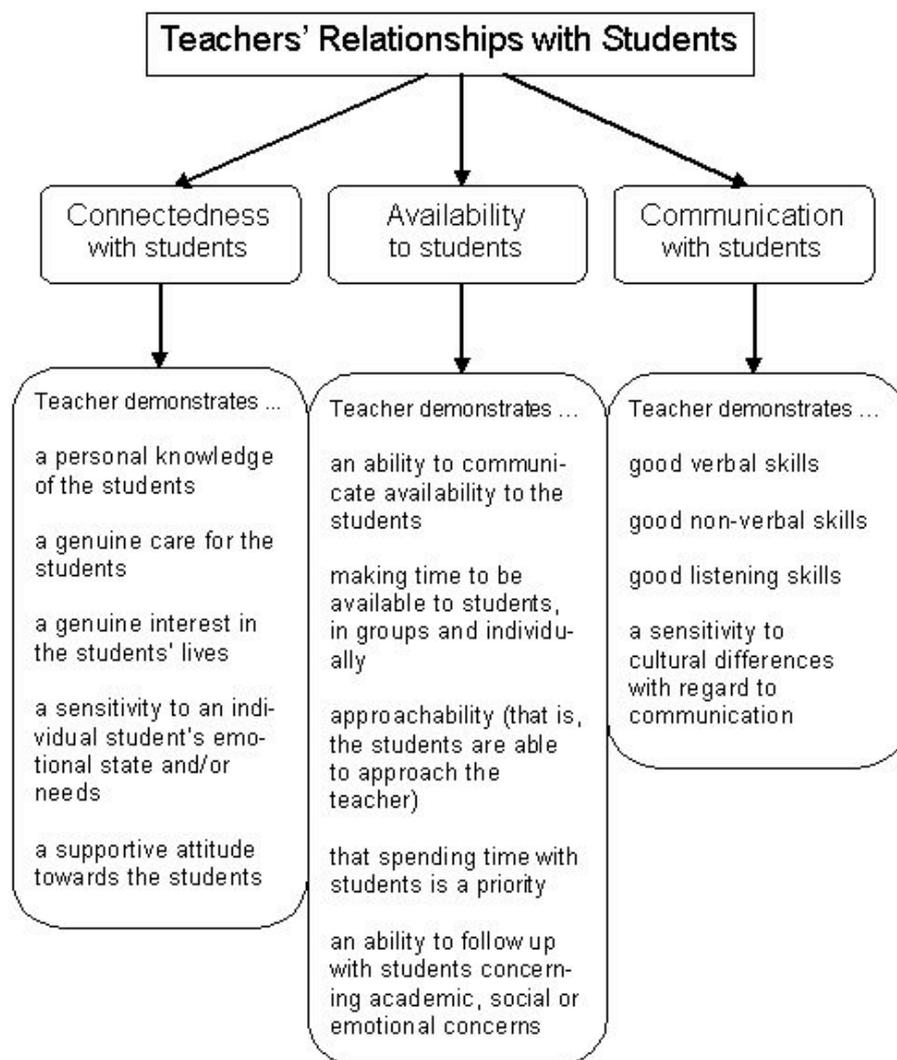


Figure 1. Theoretical Model: Teachers' Relationships with Students.

Source: Created by Natalie Leitão (2006)

The Theoretical Model is a multi-levelled model. Incorporated in the first level are the three key aspects most expected to impact on teachers' relationships with students: Connectedness, Availability and Communication. The second level of the model features the expected mechanisms by which the key aspects were expected to be demonstrated by teachers as they relate with the students in their classes.

Teachers who demonstrated the expected mechanisms were seen to be working towards achieving the key aspects in their relationships with students.

Connectedness refers to the connection that exists between a teacher and a student and, as indicated in the literature, is an important aspect in the development of teachers' relationships with students in the classroom (Fox, 1993; Howes, 2000). Connectedness encompasses how 'in-tune' a teacher may be with a student, and concerns the emotional tone of the relationship (Lynch & Cicchetti, 1992). A secure connection between a teacher and student contributes to an individual student's academic success, a student's ability to regulate his or her own behaviour, and a student's ongoing ability to develop social relationships with others (Entwisle & Hayduk, 1988; Shields et al., 2001; Thompson & Lamb, 1984; Valeski & Stipek, 2001). How well teachers connect with their students is considered to be a significant aspect to investigate when considering teachers' relationships with students in the primary school because positive connections enhance a student's sense of belonging and self value (Slater, 2004).

Availability is an important aspect influencing teachers' relationships with students as indicated in the literature (Good & Brophy, 2000; Pianta, 1999). In this study, availability means how available teachers are to their students. Put another way, it means how easily students are able to access their teacher. Availability includes a teacher being available to fulfil a need for a student, be it an academic need (for example, to help with school work), or a social or emotional need (for example, to talk about being rejected by a friend). By being available and spending time with students, teachers and students are able to get to know each other better (Good & Brophy, 2000; Pianta, 1999). In addition, ongoing contact with a caring adult, such as the classroom teacher, helps develop in children a protective mechanism thereby reducing psychosocial risk factors (Weissberg, Caplan, & Harwood, 1991).

Good communication is important to the ongoing development of relationships between teachers and students. Adler (1985) emphasises this point by stating "without communication, there can be no community. Human beings cannot form a community or share in a common life without communicating with one another" (p. 15). When done effectively, communication allows for the meeting of 'hearts and

minds' (Adler, 1985). In the context of the classroom, ongoing communication is noted by Wynne (cited in Sroufe, 1989) as being a major process in the development of relationships.

Effective communication is based on a shared focus of attention that leads to shared meanings. By communicating effectively, people are able to relate to each other in meaningful ways. Communication that takes on "a quality of caring, openness, and authenticity ... naturally engenders respect and love" (Campbell, 2005, p. xxix). Goldstein (1995) describes an effective teacher as being one who is able to communicate with their students "in positive, sensitive, and assertive ways" (p. 16). In the context of the classroom, communication of this kind is expected to strengthen a relationship of trust and respect between teacher and student (Good & Brophy, 2000).

A Structural Model of Teachers' Relationships with Students

In addition to the theoretical model, a structural model for the questionnaires has been constructed for use in the study. The structural model presents the theoretical basis for the construction of the questionnaires developed for this study. It is based on an expectation that attitudes influence behaviour (Ajzen, 1989; Clark & Peterson, 1986). More specifically, the theory of reasoned action purports that beliefs influence attitudes, attitudes influence intentions, and intentions influence behaviour (Ajzen, 1989). The structural model demonstrates the degrees of difficulty associated with each of these steps. For example, in this study, it was expected that attitudes would influence intentions and be easier than intentions, and that intentions would influence behaviour and be easier than behaviour. In this way, a pattern of difficulty emerges in the structural model from left to right. In addition, a pattern of difficulty emerges in the structural model from top to bottom, because the items within each key aspect are presented in order of difficulty. Within each key aspect, the initial item was expected to be the easiest to answer, the following items were expected to be harder to answer and the final item was expected to be the hardest of all to answer. Thus, what results is a structural model that maps out multi-directional expected levels of difficulty as shown in Table 1. Varying intensities of the colour blue have been used to represent the varying degrees of difficulty. The lightest shade of blue represents the easy to answer attitudes and the easy first items. The middle shade of blue represents the harder to answer intentions and the harder middle items. The darkest shade of

blue represents the hardest to answer behaviour and the hardest to answer final items.

Table 1
Structural Model of Teachers' Relationships With Students

		Easy	Harder	Hardest
		Attitudes	Intentions	Behaviour
Easy	First item			
Harder	Middle item/s			
Hardest	Final item			

Source: Created by Natalie Leitão (2006)

Although the structural model comprises three levels of difficulty from left to right, that is, attitudes, intentions and behaviour, a simplified form of this model has been used for the present study. In consideration of students' ongoing conceptual development, responses expected from them were limited to the two perspectives of attitudes and behaviour. Specifically, students were asked their views on easy to answer attitude items (What I wish would happen) and harder to answer behaviour items (This is what does happen). In this way the questionnaire developed for students has been constructed to mirror the pattern of difficulty present in the structural model of teachers' relationships with students.

The structural model interconnects closely with the Rasch measurement used in this study. Rasch measurement calculates item difficulties on the same scale as the measures and has been used to enable a true linear scale to be created with standard units. In this way, Rasch measurement provides a means for testing the structure of the questionnaire and, in turn, testing the structure of the teachers' relationships with students model, relating to the stated key aspects that were expected to influence teachers' relationships with students.

Aim

This paper reports on just one part of a larger study that investigated teachers' views and students' views of teacher-student relationships using linear scales and discussion data. The part of the study documented in this paper focuses on the students' views using a linear scale. As such, this part of the study had two main aims. The first aim was to create a theoretical model involving three aspects (connectedness, availability and communication skills) to determine student self-reported self-views in two perspectives (ideal and actual) with regard to the teacher-student relationship. The second aim was to create a linear scale of self-reported teacher-student relationships from the student's point of view in which the item difficulties are ordered from easy to hard and calibrated on the same scale as the measures from low to high.

Significance

Given that research into the social and emotional aspects of teacher-student relationships is a relatively new area of study, it is understandable that there are few well-validated tools available. Calls have been made for the development of valid and reliable tools that can be used to better understand teacher-student relationships (Ang, 2005; Pianta, 1999). This study responds to those calls by employing world's best practice in measurement in the human sciences (Rasch measurement), to develop a linear scale from the point of view of the student. This is a significant aspect to the study as linear measures of teacher-student relationships using a Rasch measurement model have not been created before. In addition, a theoretical model of teachers' relationships with students and a structural model have been created for this study. In so doing this study offers a completely new approach to better understand relationships between teachers and students and the role these relationships play in the primary school classroom.

This study is important because it contributes new knowledge to the body of information about teachers' relationships with students in primary school classrooms in Perth, Western Australia. Of the research published on teacher-student

relationships most of the studies have been conducted in the United States of America. My research provides information based on Western Australian teachers and students, resulting in greater local applicability than that of research conducted overseas.

Method

Prior to the commencement of the study, approval was sought at the university level and at the school level. Initial approval to conduct the study was given by the Edith Cowan University Ethics Committee. Subsequent approval was given by school principals, staff, students and the students' parents.

Convenience sampling was used to find the 139 participants who were all from schools in the Perth Metropolitan area. A sub-sample of the 15 students tested the questionnaire. Of the total 139 students, 70 were male and 69 were female. The students ranged in age from 7 to 13 and came from a total of 26 schools, 13 of which were government schools, and 13 of which were independent schools. Figure 2 shows the break down of students by age and gender.

Students completed the Teachers' Relationships with Students Questionnaire: Student's View (see Appendix A). Each student completed a single questionnaire to report on how they perceived their relationship with their teacher to be. In this way a total of 139 questionnaires were completed.

The Rasch Unidimensional Measurement Models computer program (RUMM) (Andrich, Sheridan, & Luo, 2005) was used to analyse the data and create a scale of Teacher-Student Relationships from the students' view. Wright (1999) recommends the use of such computer programs, particularly as they may be a way of helping social scientists "to take the decisive step from unavoidably ambiguous, concrete raw observations to well-defined, abstract linear measures with realistic estimates of precision and explicit quality control" (p. 101).

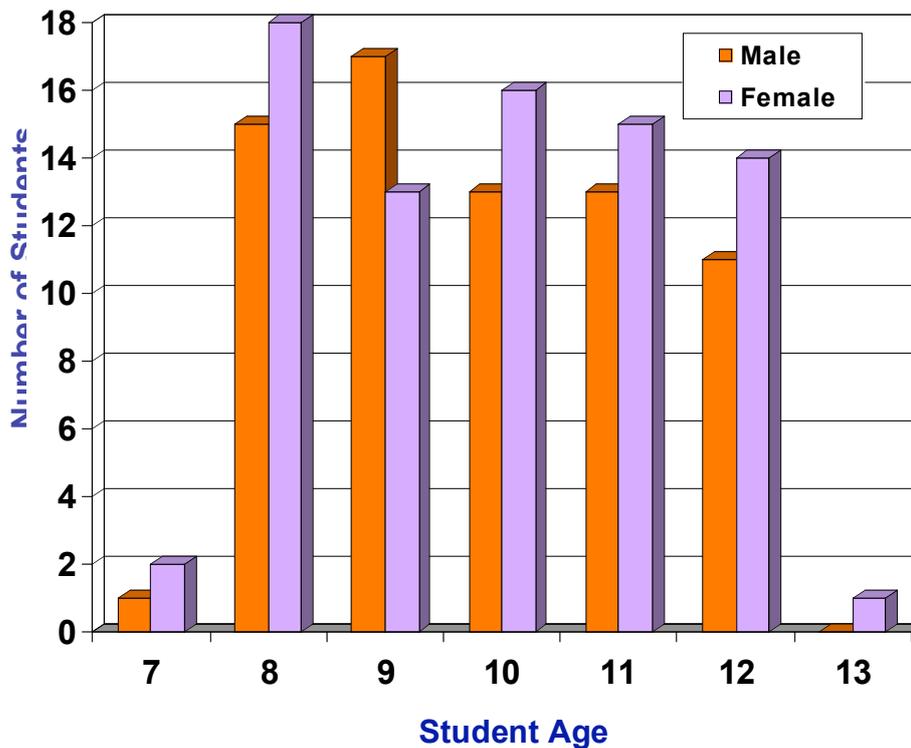


Figure 2 Age and Gender of Student Participants.

Results

Initial Rasch Analysis

The analysis started with ten items, each answered in two perspectives ('this is what does happen' and 'what I wish would happen'), giving 10 x 2 (20) items. Data were analysed with the RUMM 2020 computer program (Andrich et al., 2005). It was first checked to see whether the response categories were answered consistently and logically. The RUMM 2020 program assesses this with two outputs, namely, response category curves and thresholds. Response category curves show the probability of answering each response category by the Teacher-Student Relationship measure. These curves showed that students could not discriminate consistently between the two lowest categories ("never" and "some of the time"). An example of this is given in Figure 3.

Thresholds are points between adjacent response categories where the odds are 1:1 of answering in either category. For good measurement, thresholds should be ordered in line with the ordering of the response categories. The thresholds, in this case, were not ordered in line with the ordering of the response categories, and this

supported the evidence from the response category curves. Therefore, the two lowest response categories were combined giving score 1 for 'never or some of the time', score 2 for 'most of the time', and score 3 for 'always. Using these three response categories, the data were re-analysed with the RUMM 2020 program (note: the RUMM 2020 program converts the scores to 0, 1, 2). This re-analysis is now reported.

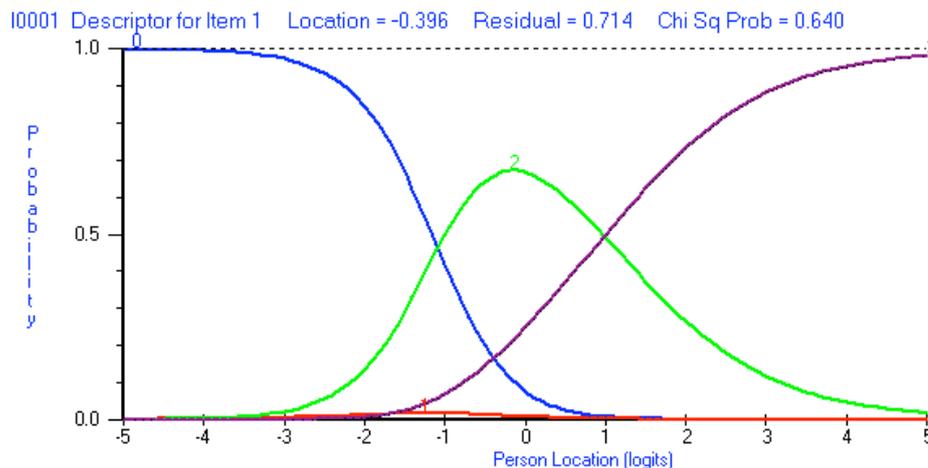


Figure 3 Response Category Curve for Item 1 Showing Poor Discrimination.

Note: Students have not discriminated between response categories 0 (not at all) and 1 (some of the time). Consequently, those two response categories were combined for the final analysis.

Final Analysis

The final analysis of the data for the model of Teachers' Relationships with Students: Students' View used 20 items (10 x 2 perspectives), three response categories and 139 students. The RUMM 2020 program produces outputs to assess fit to the measurement model, reliability and dimensionality. These are now explained.

Global Item and Person Fit

Table 2 shows the global item and person fit. The fit residuals for both the item difficulties and the person measures have a mean near zero and a standard deviation near one. The residuals are the differences between the actual values and the expected values, calculated according to the measurement model and, when they are standardised, they have an approximately normal distribution (mean = 0, SD = 1), if the data fit the measurement model. These fit residual data for the measure of

Teacher-Student Relationships have a good fit to the measurement model (see Table 2).

Individual Item Fit

The RUMM 2020 program calculates individual item fits to the measurement model and these are given in Appendix B. Nineteen items out of 20 fit the measurement model with a probability greater than 0.05, indicating that there is an excellent fit to the measurement model.

Table 2

Global Item and Person Fit to the Measurement Model

ITEM-PERSON INTERACTION

	ITEMS		PERSONS	
	Location	Fit Residual	Location	Fit Residual
Mean	0.00	-0.16	1.54	-0.13
SD	1.78	0.95	1.53	0.93

Notes on Table 2.

1. Item location is item difficulty in logits
2. Person location is person measure in logits
3. SD is standard deviation
4. The mean item difficulty is constrained to zero by the RUMM 2020 program
5. Fit residuals are the difference between the actual values and the expected values calculated according to the measurement model (standardised). They have a mean near zero and an SD near 1 when the data fit the measurement model. (A good fit for these data).
6. All values are given to two decimal places because the errors are to two decimal places.

Consistency of Category Responses

The thresholds between category responses are given in Appendix C. The thresholds are ordered in line with the conceptual ordering from low to high (never/some of the time, most of the time and all the time). This indicates that the students answered the three response categories consistently and logically.

The RUMM 2020 program produces category response curves for each item showing the relationship between the probability of answering each category in

relation to the Teacher-Student measure. An example is given in Figure 4.

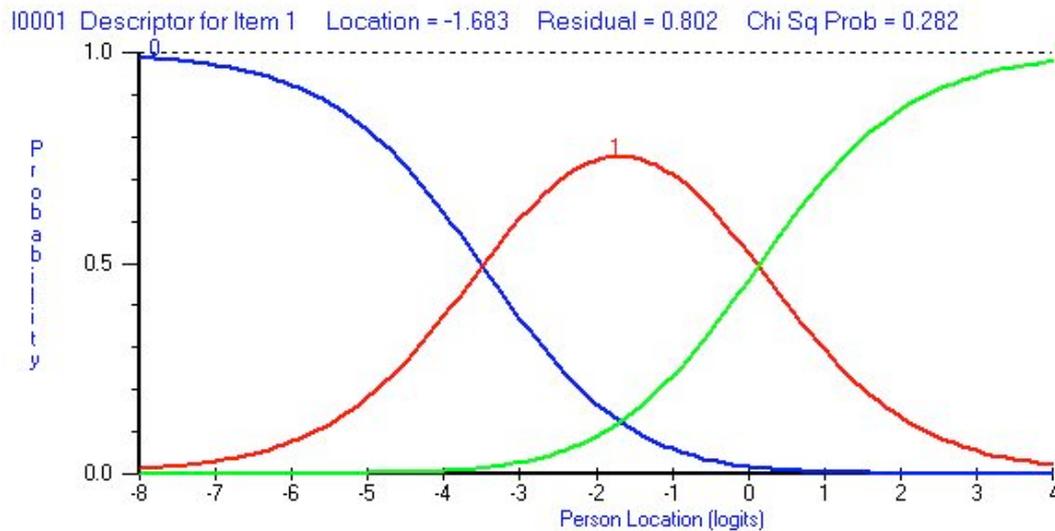


Figure 4 Response Category Curve for Item 1

Figure 4 shows that when the measure is low, then the probability is high that the student response is low (never/some of the time), that as the measure increases, the probability of answering in the lowest category decreases and the probability of answering in the next category increases, and that as the measure increases further still, the probability of answering category two (most of the time) decreases and the probability of answering category three (all the time) increases. This means that the students have answered the three response categories logically and consistently. The response category curves for all 20 items were good.

Item Characteristic Curves

The RUMM 2020 program produces an item characteristic curve for each item showing the relationship between the expected response score and the Teacher-Student measure. An example is given in Figure 5 for item 8. It shows how the item discriminates for groups of persons near the item difficulty. In this case, the item is functioning as intended. The item characteristic curves for all 20 items showed that the items were functioning as intended.

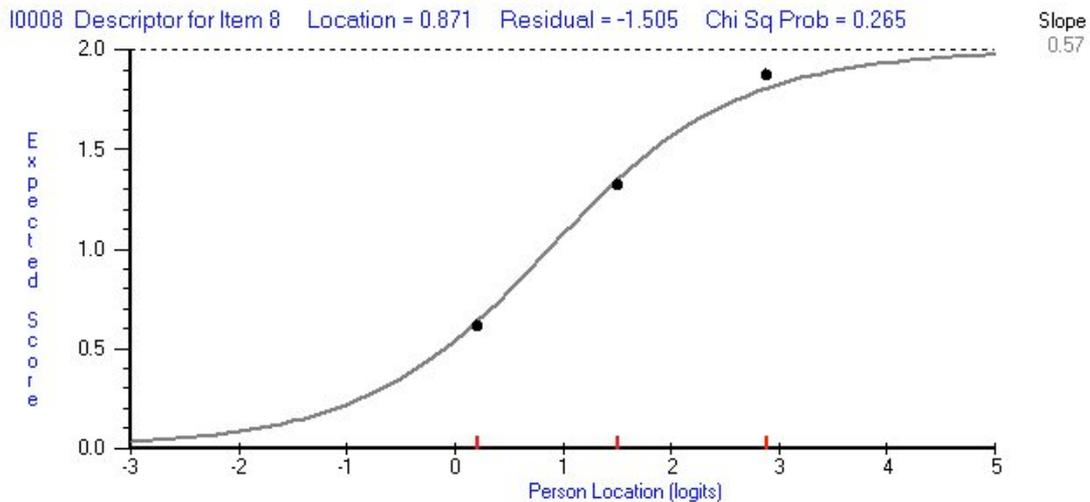


Figure 5 Characteristic Curve for Item 8

Dimensionality

The RUMM 2020 program calculates an item-trait interaction effect to determine whether a unidimensional trait has been measured. This examines the consistency with which students with measures all along the scale agree with the calculated difficulties of the items along the scale. That is, it provides a check that all the students agree that particular items are easy, of medium difficulty or hard. For the item-trait interaction, the total item chi-square was 45.00, and the probability was 0.27 (chi-square = 45, df = 40, p = 0.27). This indicates that there was no significant interaction of person measures with item difficulties along the scale and that, therefore, it can be concluded that a unidimensional trait was measured.

Person Separation Index

The Person Separation Index is 0.90 indicating that the measures are well separated along the scale in comparison to their errors of measurement. This also implies that the power of the tests-of-fit are strong and the RUMM 2020 program says that the power for these data are excellent.

Targeting

The RUMM 2020 program produces a Person Measure/Item Difficulty graph. This graph (see Figure 6) shows the scale of item difficulties from easy (about -1.8 logits) to hard (about +2.6 logits) and the student measures calibrated on the same

scale from low (about -6.2 logits) to high (about + 5.6 logits). This shows that some hard items need to be added to the scale to better target those students with high measures.

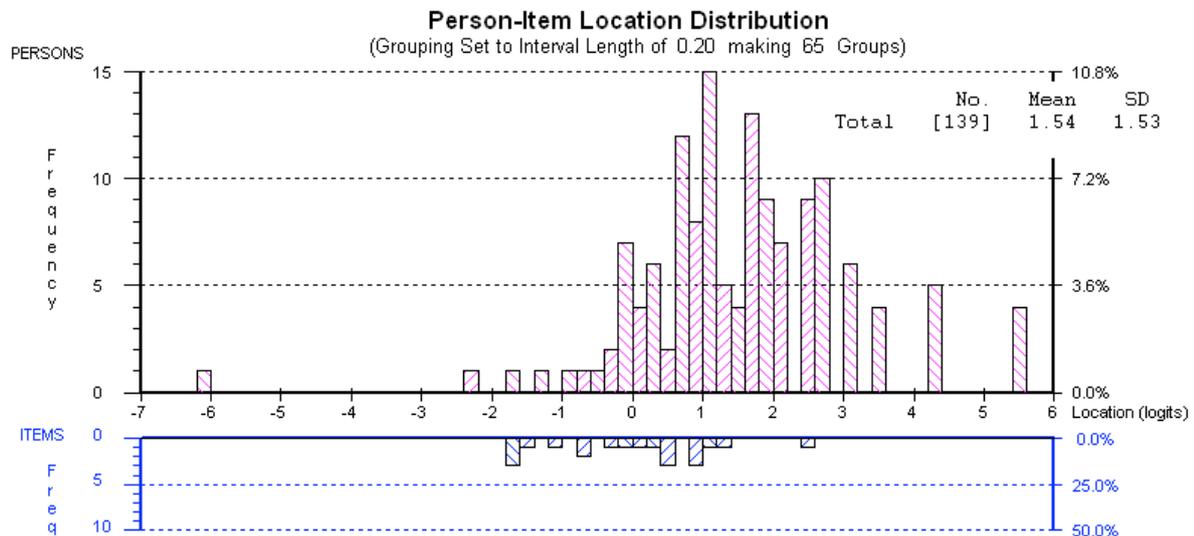


Figure 6 Person Measure/ Item Difficulty Graph

Notes on Figure 6

1. Person measures are given on the upper side in logits.
2. Item difficulties are given on the lower side in logits.
3. The mean ideal item difficulty for Connectedness is -1.10, for Availability is -0.43 and for Communication is -1.18.
4. The mean real item difficulty for Connectedness is 0.96, for Availability is 1.59 and for Communication is 0.44.
5. Refer to Table 3 for the full list of item difficulties.
6. Some harder items need to be added to the scale in future use to cover the higher measures.

The RUMM 2020 program also produces a Person Measure/Item Threshold graph (see Figure 7) which shows the item thresholds instead of item difficulties. The thresholds range from easy (about -3.6 logits) to hard (about +3.1 logits) and thus better cover the range of student measures. Nevertheless, in any future use of the scale, some harder items need to be added to better measure those students with high teacher-student relationships.

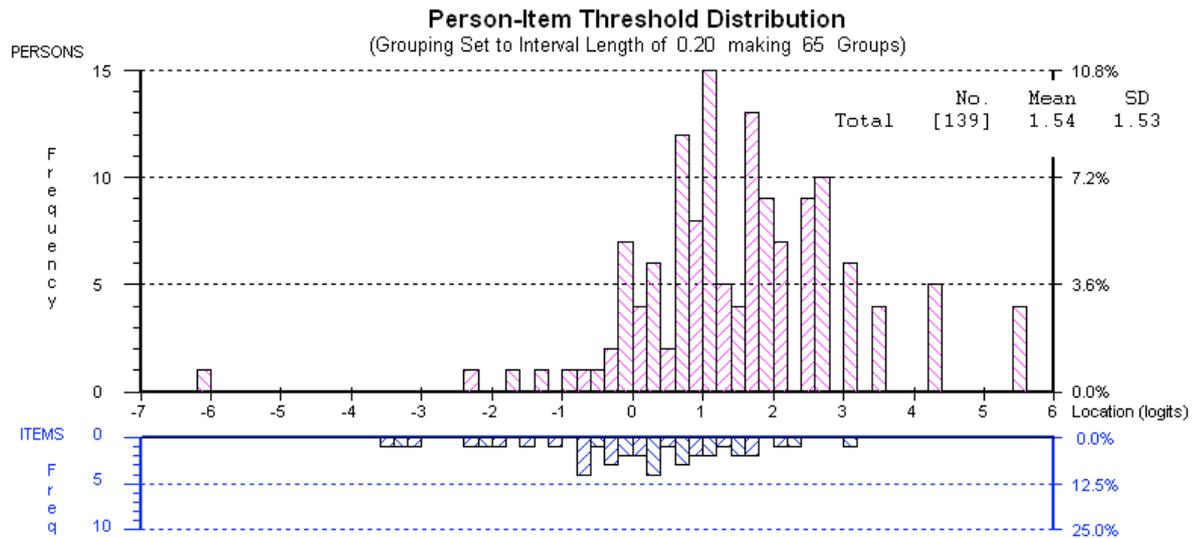


Figure 7 Person Measure/Item Threshold Graph

Notes on Figure 7

1. Person measures are given on the upper side in logits.
2. Item threshold are given on the lower side in logits.
3. The mean ideal item threshold for Connectedness is -1.10, for Availability is -0.43 and for Communication is -1.18.
4. The mean real item threshold for Connectedness is 0.96, for Availability is 1.35 and for Communication is 0.44.
5. Refer to Appendix C for the full list of item thresholds.

The Teacher-Student Relationship Scale: Student's View

The Rasch analysis has calibrated the student measures on the same scale as the item difficulties and produced a linear, unidimensional scale (see Table 3), for which the data have a good fit to the measurement model. Since it has now been shown that the scale data are reliable (there is good individual and global fit to the measurement model, the separation of measures is good in comparison to the errors and the students have answered the response categories consistently and logically), valid inferences can be made from the scale.

Items

For each item, the ideal perspective ('what I wish would happen') was easier than the actual behaviour ('what does happen'), as conceptualised at the beginning of the study.

Table 3

Item Wording and their Difficulties (Final Data Analysis)

Item no.	Item Wording	Response	
		What I "wish" would happen	This is what does happen
Connectedness			
1	My teacher likes me.	-1.68	+0.83
2	My teacher and I get along well together.	-1.79	+0.99
3	My teacher is interested in what I think and feel, and in what I do.	-0.74	+1.15
4	My teacher and I care about each other.	-0.19	+0.87
Availability			
5	I can go up to my teacher any time.	-0.60	+1.30
6	I can ask my teacher for help.	-1.12	+0.92
7	If my teacher is busy, I can still go and get help.	+0.42	+2.57
Communication Skills			
8	My teacher listens to me.	-1.47	+0.37
9	My teacher listens when I talk about personal/private things.	-0.36	+0.55
10	My teacher listens to me and helps me to feel better.	-1.71	+0.41

Notes on Table 3

1. Item difficulties are in logits.

The four easiest attitude items (what students wish to happen) are, and these are very easy:

1. My teacher and I get along well together (item 2, difficulty -1.79 logits);
2. My teacher listens to me and helps me to feel better (item 10, difficulty -1.71 logits);
3. My teacher likes me (item 1, difficulty -1.68 logits);
4. My teacher listens to me (item 8, difficulty -1.47 logits).

The four hardest attitude items (what students wish to happen) are, although these are still moderately easy, except for item 7 which is hard:

1. If my teacher is busy, I can still go and get help (item 7, difficulty +0.42 logits);
2. My teacher and I care about each other (item 4, difficulty -0.19 logits);
3. My teacher listens when I talk about personal/private things (item 9, difficulty -0.36 logits);
4. I can go up to my teacher any time (item 5, difficulty -0.60 logits).

The four easiest behaviour items (what actually does happen) are, although

these are still hard:

1. My teacher listens to me (item 8, difficulty +0.37 logits);
2. My teacher listens to me and helps me to feel better (item 10, difficulty +0.41 logits);
3. My teacher listens when I talk about personal/private things (item 9, difficulty +0.55 logits);
4. My teacher likes me (item 1, difficulty +0.83 logits).

The four hardest behaviour items (what actually does happen) are, and these are very hard:

1. If my teacher is busy, I can still go and get help (item 7, difficulty +2.57 logits);
2. I can go up to my teacher any time (item 5, difficulty +1.30 logits);
3. My teacher is interested in what I think and feel, and in what I do (item 3, difficulty +1.15 logits);
4. My teacher and I get along well together (item 2, difficulty +0.99 logits).

Persons

Each person's raw score has been converted to a student measure, expressed in logits. The student measures range from a lowest possible -6.01 logits to a maximum possible +5.49 logits. The lowest measures indicate a perception of a distant relationship while, conversely, the highest measures indicate a perception of a close relationship. The data on person measures is presented in Appendices D and E. Of the total 139 students who participated in the study, 20 students were measured at the lower end of the scale, indicating they perceived themselves to have a not-so-good relationship with their teacher. Twenty-nine students were measured at the higher end of the scale which indicates they perceived themselves to have a highly satisfactory relationship with their teacher.

Results

A Rasch measurement analysis was conducted with ten items, conceptually ordered from easy to hard, and answered in two perspectives ('what I wish would happen' and 'what actually happens') giving an effective scale of 20 items. The RUMM 2020 computer program (Andrich et al., 2005) was particularly helpful in conducting this analysis. It was concluded that a reliable linear, unidimensional scale

of Teacher-Student Relationships was created using student views in which the measures were calibrated on the same scale as the item difficulties. The reliability of the scale data was shown by:

1. Good global and person item fit to the measurement model;
2. Good individual fit to the measurement model;
3. The three category responses being answered in a consistent and logical way;
4. A good Person Separation Index indicating that the person measures were well separated in comparison to the errors.
5. A good item-trait interaction indicating the measurement of a unidimensional trait;
6. Reasonable targeting of the items against the person measures, although some harder items need to be added for any future use of the scale.

Since the scale data were shown to be reliable, the following valid inferences were drawn from the scale.

1. All attitude relationships ('what I wish would happen') were easier than the actual behaviour relationship.
2. Students found it very easy to wish that they could get along well with their teacher.
3. Students found it moderately easy to wish that they and their teacher care about each other.
4. Students found it moderately hard to say that their teacher actually listens to them.
5. Students found it very hard to say that their teacher could be approached for help when the teacher was busy.

The distribution of Teacher-Student Relationship Measures makes it possible to describe a relationship as perceived by the student. Students with low measures perceive that they have a not-so-good relationship with their teacher. Students with a high measure perceive that they have a highly satisfactory relationship with their teacher. A closer look at the responses given by the students within the three aspects of Connectedness, Availability and Communication Skills may indicate which aspects specifically are sound and which may need attention in order for the relationship to be further enhanced.

Conclusion and Implications

This study demonstrates that it is possible to create a linear measure of teacher-student relationships, based on a model involving three aspects, in order to better understand student's views of their relationships with teachers. A student's relationship with a teacher was defined in terms of 20 items forming a linear scale, created using a Rasch measurement model with data from 139 students who reported on their relationships with their teachers. Teacher-student relationship measures were calibrated from low to high on the same scale as the item difficulties that were calibrated from easy to hard. The linear measure supported the theoretical model of teachers' relationships with students as involving the three aspects of Connectedness, Availability and Communication to determine student self-reported self-views in two perspectives (ideal and actual). In addition the linear measure supported the structural model of teachers' relationships with students whereby attitudes influence behaviour, and whereby attitudes are easier than behaviour.

Implications from this research may be drawn for teachers and educational administrators, for policy makers and for those involved in future research.

For Teachers and Educational Administrators

For teachers to effectively monitor the development of their relationships with students, they need information about their relationships. Teachers are typically not encouraged or supported in this kind of self-reflection (Pianta, 1999). This study provides a tool that is easy to use, is not time consuming, and may be used to pinpoint areas of strength and need within individual relationships. This study demonstrates that students are able to provide teachers with valuable insight into what students expect from the relationship, and how students might perceive things to be. Given that such insight can guide teachers in improving the way they relate to their students, an implication from this study is that teachers and educational administrators should engage students in the assessment process by giving them the opportunity and the means to provide information about their relationships with teachers.

For Policy Makers

Recent school reform in the United States has added pressure to school stakeholders and policy makers by legislating detailed expectations for student performance and consequences for students, teachers, and schools who fail to meet those expectations (Klem & Connell, 2004). Similar legislative changes have been mooted here in Australia. Recent debate has covered such topics as the development of a National Curriculum to specifically raise literacy and numeracy standards across the country, and the introduction of merit pay or performance based salary for teachers (Department for Education Science and Training, 2007a, 2007b). Any changes that our policy makers make must guard against student achievement becoming the sole focus of attention. An educational system that determines its success by demonstrable evidence may direct the spotlight onto standards of academic achievement and direct attention away from social and emotional areas of development. As Hargreaves (2000) pointedly states:

If we are serious about standards, we must become serious about emotions too and look again at the organizational conditions and professional expectations that can increase emotional understanding between teachers and their students as a basis for learning. By focussing only on cognitive standards themselves, and the rational processes to achieve them, we may, ironically, be reinforcing structures and professional expectations that undermine the very emotional understanding that is foundational to achieving and sustaining those standards. (p. 825)

In the push to raise teaching standards and levels of literacy and numeracy here in Australia, policy makers must not overlook the importance of the social and emotional involvement of teachers and students in the teaching and learning process. As Pianta (1999) suggests “No amount of focus on academics, no matter how strong or exclusive, will substantially change the fact that the substrate of classroom life is social and emotional” (p. 170). Goleman (1995) challenges schools to educate the whole child, “bringing together mind and heart in the classroom” (p. xiv). In helping to maintain a balanced approach to determining the success of our education system here in Australia it is vital that when policy makers debate National Curriculum, they must focus on strengthening academic learning alongside social and emotional development. The teacher-student relationship must be recognised as relevant to the success of instruction and seen as a powerful resource in the classroom. Not only must our policy makers be aware of the importance of teacher-student relationships

with regard to student achievement and development, but they must also be committed to supporting teachers in harnessing this resource.

For Future Research

Whilst this study has shown it is possible to create a linear measure of teacher-student relationships to better understand students' views of their relationships with teachers, more needs to be done in this area. Future studies could expand on the Teachers' Relationships with Students Questionnaire: Student's View and build in additional stem items. Furthermore, future studies could incorporate additional aspects that impact on the shared relationship between teachers and students. Examples include class size, length of contact between class teacher and the class, the timetabling of specialised staff, and the use of humour in the classroom. Given that a limitation to the present study concerns the small sample size, future studies would do well to draw on a larger number of participants from a broader range of schools.

To conclude, this study contributes new knowledge to the body of information about teachers' relationships with students in primary school classrooms in Perth, Western Australia. Further research in this area is needed to expand our understanding of how good teacher-student relationships can be recognised and promoted. To use the words of Pianta (1999), "Relationships with teachers are an essential part of the classroom experience for all children and a potential resource for improving developmental outcomes" (p. 21). The more that is known about how to identify and build positive teacher-student relationships, the better use can be made of this resource in our schools and in our communities.

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Appendix A

Teachers' Relationships with Students Questionnaire (Student's View)

The child is asked to think about each statement in relation to their current classroom teacher, and to rate a response according to the response format below. The child is told that all responses will remain confidential.

Response Format

Almost always 4



Most of the time 3



Some of the time 2



Not at all 1



Item no.	Item wording	Response	
		This is what does happen	What I "Wish" would happen
Sub-group: Connectedness			
1-2	My teacher likes me.	_____	_____
3-4	My teacher and I get along well together.	_____	_____
5-6	My teacher is interested in what I think and feel, and in what I do.	_____	_____
7-8	My teacher and I care about each other.	_____	_____
Sub-group: Availability			
9-10	I can go up to my teacher any time.	_____	_____
11-12	I can ask my teacher for help.	_____	_____
13-14	If my teacher is busy, I can still go and get help.	_____	_____
Sub-group: Communication Skills			
15-16	My teacher listens to me.	_____	_____
17-18	My teacher listens when I talk about personal/private things.	_____	_____
19-20	My teacher listens to me and helps me to feel better.	_____	_____

Are there any comments you would like to make about you and your teacher?

Appendix B

Item Fit to the Measurement Model (Student Measure)

Item No.	Location	SE	Residual	df	Chi-square	Probability
Item 1	-1.68	0.21	0.80	125.35	2.40	0.28
Item 2	0.84	0.16	-0.26	125.35	1.47	0.46
Item 3	-1.79	0.22	-0.27	125.35	0.03	0.98
Item 4	0.99	0.14	-0.77	125.35	1.01	0.59
Item 5	-0.74	0.18	-0.62	125.35	0.82	0.65
Item 6	1.15	0.13	0.67	125.35	0.32	0.85
Item 7	-0.19	0.16	-1.34	125.35	3.82	0.12
Item 8	0.87	0.14	-1.51	125.35	2.52	0.26
Item 9	-0.60	0.18	-0.63	125.35	0.71	0.69
Item 10	1.30	0.14	1.44	125.35	0.82	0.66
Item 11	-1.12	0.21	-0.93	125.35	2.02	0.35
Item 12	0.20	0.16	0.85	125.35	0.88	0.63
Item 13	0.43	0.15	1.90	124.41	14.01	0.00
Item 14	2.57	0.15	0.82	125.35	2.04	0.34
Item 15	-1.47	0.23	-0.32	125.35	1.50	0.46
Item 16	0.37	0.15	-0.83	125.35	2.01	0.35
Item 17	-0.36	0.17	-0.65	125.35	0.58	0.74
Item 18	0.55	0.14	0.28	125.35	1.55	0.45
Item 19	-1.71	0.23	-0.68	125.35	2.68	0.24
Item 20	0.41	0.15	-1.14	125.35	3.81	0.13

Notes:

1. Location is item difficulty in logits.
2. SE is Standard Error.
3. Residual is the difference between actual value and expected value, calculated according to the measurement model.
4. df is degrees of freedom.
5. 19 out of 20 items fit the measurement model with a probability greater than 0.05.
6. All values are given to two decimal places because the errors are to two decimal places.

Appendix C

Item Thresholds for Student Measure

	THRESHOLDS		
	Mean	1	2
Item 1	-1.68	-3.40	0.13
Item 2	0.84	-0.62	2.29
Item 3	-1.80	-3.39	-0.20
Item 4	0.99	0.36	1.63
Item 5	-0.74	-2.14	0.65
Item 6	1.15	0.77	1.52
Item 7	-0.19	-0.64	0.27
Item 8	0.87	0.47	1.27
Item 9	-0.60	-1.42	0.21
Item 10	1.30	0.80	1.80
Item 11	-1.12	-1.83	-0.40
Item 12	0.19	-1.13	1.51
Item 13	0.43	-0.12	0.97
Item 14	2.57	2.06	3.08
Item 15	-1.47	-2.32	-0.61
Item 16	0.37	-0.38	1.12
Item 17	-0.36	-0.79	0.06
Item 18	0.55	0.32	0.78
Item 19	-1.71	-3.11	-0.30
Item 20	0.41	-0.30	1.12

Notes:

1. Thresholds are points between adjacent response categories where the odds are 1:1 of answering the adjacent categories.
2. Mean thresholds are the item difficulties in logits.
3. All values are given to two decimal places because the errors are to two decimal places.
4. The thresholds for each item are ordered in line with the ordering of the response categories.

Appendix D

Students with Lowest Teacher-Student Relationship Measures (N=20)

ID	Raw Score	Student Measure	SE	Residual
051	0	-6.01	-	-
050	6	-2.28	0.53	-0.97
079	8	-1.78	0.47	+0.72
063	10	-1.37	0.43	-0.13
049	13	-0.86	0.40	+2.06
069	14	-0.71	0.39	-0.24
059	16	-0.43	0.37	+1.40
093	17	-0.29	0.37	-0.91
061	17	-0.29	0.37	-0.41
137	18	-0.15	0.36	+1.48
023	18	-0.15	0.36	-0.63
102	19	-0.02	0.36	-2.49
070	19	-0.02	0.36	+0.92
080	19	-0.02	0.36	+0.02
091	19	-0.02	0.36	+0.69
067	19	-0.02	0.36	+0.01
120	20	+0.10	0.36	-0.58
100	20	+0.10	0.36	-0.59
095	20	+0.10	0.36	+0.92
021	20	+0.10	0.36	-2.16

Notes:

1. ID is student identification number.
2. Raw score is the total score on the 20 questionnaire items with three response categories 0, 1, 2 (minimum raw score is 0, maximum is 40).
3. Student measure is in logits (minimum linear measure is -6.01 logits, maximum is +5.49).
4. SE is standard error in logits.
5. Residual is the standardised difference between the actual score and the score estimated according to the measurement model.
6. All values are given to two decimal places because the errors are to two decimal places.

Appendix E

Students with Highest Teacher-Student Relationship Measures (N=29)

ID	Raw Score	Student Measure	SE	Residual
044	36	+2.72	0.56	-0.79
004	36	+2.72	0.56	-0.22
036	36	+2.72	0.56	-0.52
003	36	+2.72	0.56	+0.02
092	36	+2.72	0.56	-0.80
038	36	+2.72	0.56	-0.93
138	36	+2.72	0.56	-0.27
018	36	+2.72	0.56	-0.78
134	36	+2.72	0.56	+1.00
013	36	+2.72	0.56	-0.66
017	37	+3.06	0.63	-1.03
111	37	+3.06	0.63	-1.10
014	37	+3.06	0.63	-0.37
086	37	+3.06	0.63	-1.03
040	37	+3.06	0.63	-0.62
129	37	+3.06	0.63	+0.37
074	38	+3.53	0.75	-0.99
034	38	+3.53	0.75	-0.40
039	38	+3.53	0.75	-0.64
057	38	+3.53	0.75	-0.80
127	39	+4.28	1.02	-1.17
047	39	+4.28	1.02	-1.17
011	39	+4.28	1.02	-0.30
001	39	+4.28	1.02	-1.17
089	39	+4.28	1.02	-1.17
064	40	+5.49	-	-
041	40	+5.49	-	-
055	40	+5.49	-	-
077	40	+5.49	-	-

Notes:

1. ID is student identification number.
2. Raw score is the total score on the 20 questionnaire items with three response categories 0, 1, 2 (minimum raw score is 0, maximum is 40).

3. Student measure is in logits (minimum linear measure is -6.01 logits, maximum is +5.49).
4. SE is standard error in logits (RUMM does not estimate for maximum scores).
5. Residual is the standardised difference between the actual score and the score estimated according to the measurement model (RUMM does not estimate for maximum scores).
6. All values are given to two decimal places because the errors are to two decimal places.