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Associations between the Classroom Learning Environment and Student Engagement in Learning 1: A Rasch Model Approach

Abstract

This report is about one of two phases in an investigation into associations between student engagement in classroom learning and the classroom learning environment. Both phases applied the same instrumentation to the same sample. The difference between the phases was in the measurement approach applied. This report is about application of the Rasch model to analyse the data; the second report (Associations between the Classroom Learning Environment and Student Engagement in Learning 2: A Structural Equation Modeling Approach), is about Structural Equation Modeling application.

Student engagement in learning has become an important consideration in research into learning environments and the design of instruction. This study applied a novel model of engagement in classroom learning based on flow theory and bio-ecological frameworks. The objectives were to construct a composite measure of student engagement in classroom learning and the classroom learning environment. Then, to compare student scores for variables and groups of students (e.g. boys and girls). An 85-item scale was created and data from administering the scale to 1760 secondary school students were tested for fit to the Rasch rating scale measurement model. Data on engagement in classroom learning and the classroom learning environment were able to be plotted on one interval scale suggesting an underlying common construct. Also, there were statistically significant differences in overall student scores between country and city students, boys and girls, year cohorts, curriculum areas, and favourite and non-favourite subjects.

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Objectives

This study was part of a large-scale Australian Research Council project that investigated the participation and engagement of Western Australian secondary school students. It sought to collect data from students throughout Western Australia studying different subjects at different year levels. Specifically, to:
(a) Measure student engagement in classroom learning and elements of the classroom learning environment;
(b) Plot measures of engagement and learning environment variables on the same linear scale; and
(c) Examine the effect of student membership of groups (e.g. gender, year of study), on variance in engagement and learning environment scores.

Theoretical framework

The related phenomena of student engagement and learning environments have been the subject of much theorising and empirical investigation for many decades. The complexity of engagement was noted by Glanville and Wildhagen (2007, p. 1021), "… engagement is a general concept that includes many specific behaviours and attitudes" and it "… encompasses a range of behaviours and attitudes, with researchers and theorists applying different labels to these behaviours, such as participation, identification, attachment, motivation, and membership". Similarly, Fredricks, Blumenfeld and Paris (2004) noted the multiplicity of constructs presented in the literature and advanced the need for a multi-faceted conceptualisation.

One-way to address this complexity is through the application of bio-ecological frameworks. These have been used to study school engagement and participation by Marjoribanks (2006), Boon (2006) and Cavanagh, Kennish and Sturgess (2008). Bio-ecological models of intellectual development have distinctive characteristics including provision for the assessment of mechanisms called *proximal processes*. These are complex reciprocal interaction[s] between an active, evolving biophysical human organism and the persons, objects, and symbols in the immediate environment" (Bronfenbrenner & Ceci, 1994, p. 572). Characteristics of the person, the environment and particular developmental outcome(s) fuel or energise the *proximal* processes. *Distal environmental resources* affect the efficiency of the *proximal* processes. "The distal environment contains the resources that need to be imported into the proximal processes for the latter to work maximally" (Ceci, Rosenbaulum, DeBruyn & Lee, 1997, p. 312).

Another psychological theory that takes into account attributes of individuals and their environment is Flow Theory. Csikszentmihalyi (1990) reported that when people described optimal experiences (situations which are highly enjoyable), they often used the term *flow*. *Flow* refers to the "… spontaneous, seemingly effortless aspect of such experiences" (Csikszentmihalyi & Schneider, 2000, p. 97). Descriptions of *flow* experiences often refer to a balance between perceived high levels of skill and high levels of *challenge*. The task is demanding but the enjoyment of the experience also derives from having the *skills* necessary to complete the task (Massimini, Csikszentmihalyi & Carli, 1988).

Cavanagh, Kennish and Sturgess (2008) applied the bio-ecological approach to engagement in conjunction with Flow Theory to propose a model of student engagement in classroom learning. "S*tudent engagement in learning* is defined as a balance between the student's *capability for learning* and the *expectations of learning* in a particular learning environment - both *capability* and *expectations* are context specific" (Cavanagh, Kennish & Sturgess (2008, p. 9). The engagement sub-construct of *learning capabilities* is similar to the Flow Theory sub-construct of *skills*, and the engagement sub-construct of *expectations of learning* is similar to the Flow Theory sub-construct of *challenge*. These two engagement sub-constructs and their relation have been investigated qualitatively and quantitatively (see Cavanagh, 2009 & 2011a; Cavanagh & Kennish, 2009; Kennish & Cavanagh, 2011). The construct models for learning capabilities and expectations of learning are presented in the following tables.

Table 1
Learning capabilities construct model

	Self-esteem	Self-concept	Resilience	Self-regulation	Self-efficacy
More capability	*Has positive self image*	*Strives to be perfect*	*Unqualified Expectations of coping*	*Responsible for learning*	*Perseveres in the face of adversity*
	Confident decisions	*Motivated by self reflection*	*Can deal with failure*	*Improves own learning*	*Has determination*
	Has pride in self	*Self reflecting*	*Expects succes*	*Understands ov*	*Recognises contextual influences*
	Trusts self to act	*At ease comparing self with others*	*Overcomes small setbacks*	*Assesses own learning*	*Has expectations of self*
Less capability	*Sees worth in self*	*Compares self with others*	*Is aware of problems*	*Aware of learning*	*Makes effort*

(Cavanagh, 2011b, p. 105)

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Table 2
Expectations of learning construct model

	Explanation	Interpretation	Application	Perspective	Empathy
More demanding	*Sophisticated*	*Profound*	*Masterful*	*Insightful*	*Mature*
	In-depth	*Revealing*	*Skilled*	*Thorough*	*Sensitive*
	Developed	*Perceptive*	*Able*	*Considered*	*Aware*
	Intuitive	*Interpreted*	*Apprentice*	*Aware*	*Developing*
Less demanding	*Naive*	*Literal*	*Novice*	*Uncritical*	*Egocentric*

(Cavanagh, 2011b, p. 105)

The columns in each model are the elements of the sub-construct. Expectations of student learning comprise expectations the student will explain, interpret, apply, show perspective and show empathy. Five levels have been specified for each element ranging from less at the bottom to more at the top.

Classroom learning environments have been extensively investigated using multi-dimensional theoretical models and instruments. For example the *Questionnaire on Teacher Interaction* (QTI) (Wubbels & Levy, 1991; Wubbels, Créton & Hooymayers, 1985) elicits student perceptions of teacher communication style. *The Model for Interpersonal Teacher Behaviour* underpinning the instrument has an axial structure similar to the spokes in wheel in which the axes represent different dimensions of teacher behaviour and ratings of the teacher are plotted on these axes. More recently, the *What Is Happening In This Classroom Questionnaire* (WIHIC) (Aldridge & Fraser, 2000; Fraser, 1998) also employed a multi-dimensional structure to comprehensively profile student perceptions of their own learning, learning with classmates, and teacher instruction. While multi-dimensional models are highly appropriate for factor analytic, structural equation modeling and hierarchical linear modeling methods of data analysis, they are not necessarily suitable when assumptions of uni-dimensionality are made. The research questions and methods of this investigation assumed uni-dimensionality and thus the model of the learning environment and the instrumentation needed to meet this criteria. In 2004, Cavanagh and Waugh constructed a learning environment instrument to collect student self-report data on student educational values, formal learning outcomes, and the attitudes and behaviours of classmates, the teacher and parents. These data fitted the uni-dimensionality requirement of the Rasch model (Rasch, 1960). This instrument and the underlying model were selected for the current investigation.

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Methods

An 85-item student self-report paper and pencil instrument (see Appendix A) was created from previously developed scales (see Cavanagh & Waugh, 2004 [learning environment scale]; Kennish & Cavanagh, 2011 [engagement scale]). Engagement in classroom learning was measured by two sub-scales – Learning capabilities and Expectations of learning. Student perceptions of the classroom learning environment were measured by eight sub-scales - Self educational values, Self-learning outcomes, Classroom/peer learning attitudes and behaviours, Classroom/peer, support, Classroom/peer discussion, Classroom planning, Teacher support and expectations, and Parental involvement. The number of items and sample items within each sub-scale are presented in Table 3. The students responded on a three-point rating scale – strongly agree, agree and disagree.

Table 3
Groups of items

Sub-construct	Number of items	Sample item
Learning capabilities (Engagement)	12	I am clear about my strengths and weaknesses
Expectations of learning (Engagement)	15	In this class, I am expected to be critical of the views of others in a fair way
Self educational values	5	I gain satisfaction from learning new things
Self learning outcomes	9	My test scores are high
Classroom/peer learning at behaviours	11	We don't waste time in this class
Classroom/peer support	11	Students share problems with each other
Classroom/peer discussion	5	We talk about our test scores and grades
Classroom planning	3	We are involved in deciding how our progress will be assessed
Teacher support and expectat	9	The teacher sets high standards
Parental involvement	5	My parent(s) take an interest in my progress
Total	85	

Categorical items on whether or not the subject being reported was a 'favourite' subject, gender, year of schooling, and Aboriginality were included. The subject reported on (Mathematics, English, Science and Society and Environment), and the region of the school location were identifiable through the survey coding system applied prior to distribution.

Data were entered into IBM-SPSS for generation of descriptive statistics and into the Rasch Unidimensional Measurement Model (RUMM2030) (RUMM Laboratory, 2007) for Rasch model analyses. Data were coded '2' for strongly agree, '1' for agree and '0' for disagree.

RUMM2030 tests how well data from individual items fit the Rasch Rating Scale Model (Andrich, 1978a; Andrich, 1978b; Andrich, 1978c), by estimating statistics and generating displays. When data fit the Rasch model:

- The scale of items is a measure of a unidimensional construct (e.g. student perceptions of their engagement and of the learning environment);
- The respective difficulties the items presented to respondents are measured and plotted on one linear scale; and
- The affirmativeness of each respondent (person score) is measured, plotted on one linear scale, and available for valid between-group analyses (e.g. comparing genders).

The decision to use a Rasch model approach rather than traditional correlational methods was influenced by ongoing debate in psychometrics about the comparative merits of Item Response Theory/Rasch approaches and Classical Test Theory approaches. A major benefit of the Rasch model approach is the creation of linear scales (interval data), and the Rasch model requirement for

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invariance, so-called ‘person free’ and ‘item free’ measures. These properties enable comparisons of measures and statistical operations (e.g. Analysis of Variance,) to be undertaken with a high degree of confidence.

Data sources

Of the 4500 surveys distributed, 1760 (39%) were returned and processed. Sample characteristics are presented in Table 4. The stratified sampling process resulted in the respective sub-samples being representative of the statewide population.

Table 4
Sample characteristics

School location	Perth metropolitan 17 schools 1323 surveys (75%)		Rural/remote 6 schools 437 surveys (25%)	
Gender	Boys 802 (46%)		Girls 951 (54%)	
Subject	Favourite 354 (20.1%).		Non-favourite 1406 (79.9%)	
Year	Year 8 384 (21.8%)	Year 9 348 (19.8%)	Year 10 535 (30.4%)	Year 11 489 (27.8%)
Subject area	Mathematics 437 (24.8%)	English 451 (25.6%)	Science 434 (24.7%)	Society & Environ 438 (24.9%)

Results

Objective (a) – To measure student engagement in classroom learning and elements of the classroom learning environment

As was noted earlier, when data fit the Rasch model, a variety of criteria are met and these provide strong evidence of a measure being created. Importantly, the data are manipulated deductively to fit the model in contrast to the model being inductively manipulated to suit the data. The RUMM2030 analyses show the fit of data and ways for this to be improved. For each of the 85 items, RUMM2030 tested how well the data fitted the Rasch model.

For each item, RUMM2030, estimates the expected score for students with different levels of affirmativeness. The Item Characteristic Curve for Item 72 (*The teacher does not dominate us*), presented in Figure 1, plots expected scores ranging from 0 (disagree) to 2 (strongly agree) on the vertical axis. Calibrated student scores, measured in logits (the natural logarithm of the probability of student affirmation of the items), are plotted on the horizontal axis. The s-shaped ogive shows the relation when the data fit the model well. The ogive in Figure 1 is overlaid with ten points each showing the actual score for students with a particular level of affirmativeness. When the data fit the model well, the plot of actual scores should match the expected scores closely. For these data, the students with higher affirmativeness (to the right of the horizontal axis,) scored lower than expected, while those with lower affirmativeness scored higher than expected. These data do not fit the Rasch model well. This misfit can be measured by estimating a residual, the difference between the actual score and the score predicted by the model. For Item 72, the residual is 9.2 logits which is outside the RUMM2030 default value of ±2.5. Of the 85 original items, 60 had residuals < ±2.5; details of these items are presented in Table 5. Additionally, a Chi Square test is applied to examine the interaction between an item and the trait. The Chi Square results for the nine Teacher support and expectations items (Items 72 to 80) and the five Parental involvement items (Items 81 to 85) suggested these items were likely indicating a different trait from the other 71 items.

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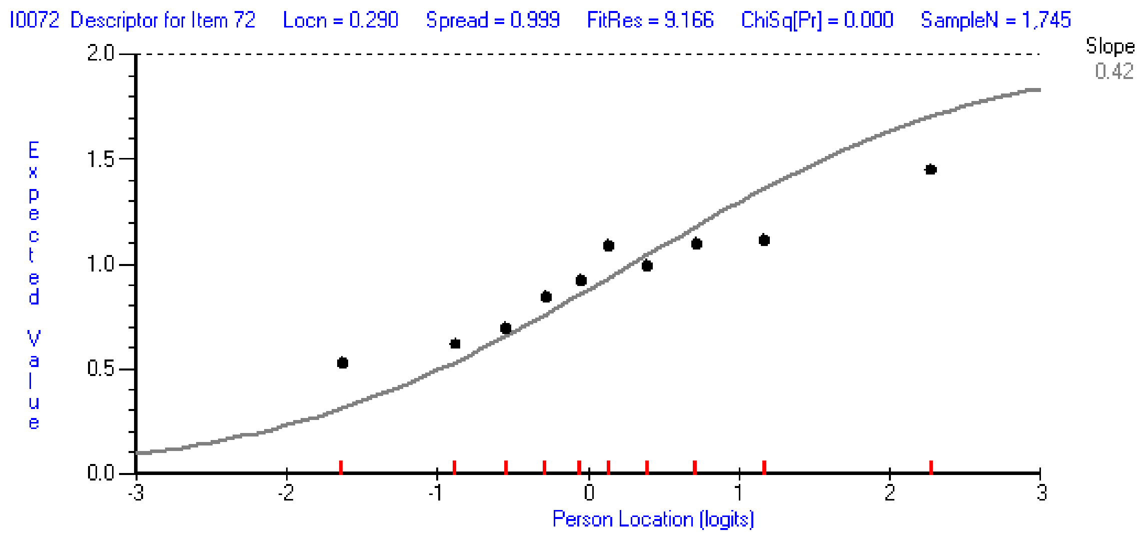

Figure 1 Item Characteristic Curve for Item 72 (Analysis name *n1759demo1*).

Table 5
Fitting and misfitting items

Sub-construct	Number of Items fitting	Items with misfitting data
Learning capabilities	10/12	Item 5 (I don't admit defeat easily) & Item 11 (I can easily identify what will be difficult)
Expectations of learning	15/15	
Self educational values	3/5	Item 29 (Finding new ways to do things is important to me) & Item 32 (I enjoy learning)
Self learning outcomes	8/9	Item 38 (The work is easy)
Classroom/peer learning at behaviours	7/11	Item 42 (Learning is really important in this class), Item 43 (I find new ways to learn in this class), Item 44 (We spend time thinking about how are going) & Item 49 (We expect our test scores and/or grades to be high)
Classroom/peer support	9/11	Item 53 (Students support each other) & Item 5 (Students always encourage each other to express ou
Classroom/peer discussion	5/5	
Classroom planning	3/3	
Teacher support and expectat	0/9	Items 72 to 80
Parental involvement	0/5	Items 81 to85
Total	60	

(Analysis name *n1759demo1*)

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Another useful output of RUMM2030 for rating scale analysis is the generation of Category Probability Curves that show the distribution of responses to each category in the three-point response scale for each item. The Category Probability Curves for Item 72 are presented in Figure 2.

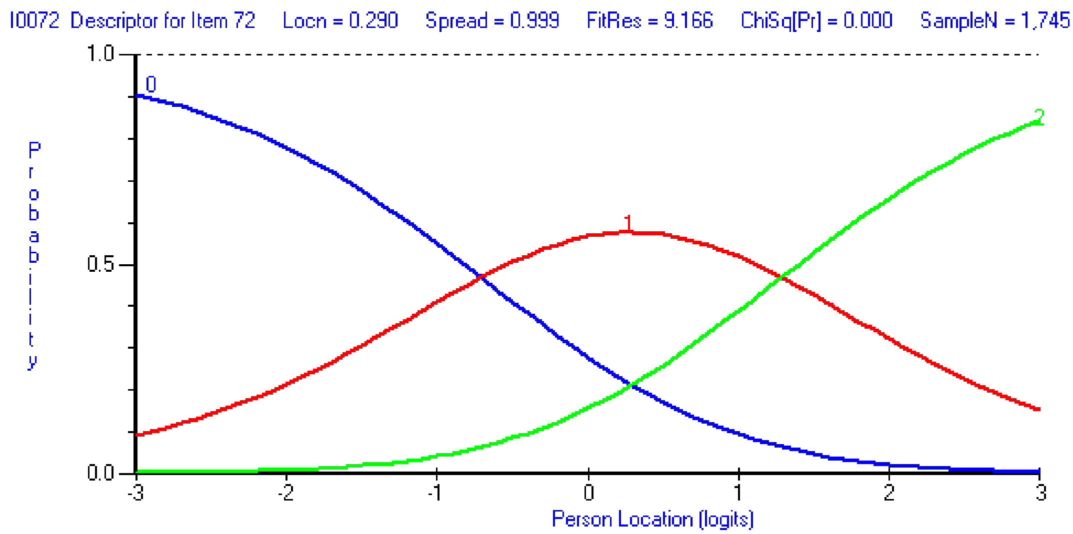

Figure 2 Category Probability Curves for Item 72 (Analysis name *n1759demo1*).

The vertical axis is the probability of a response category being selected and the horizontal axis is calibrated student affirmativeness scores as plotted in Figure 1. Curve 0, the disagree category, shows students with an affirmativeness score of -3.0 logits (a low score), had a high probability of selecting this category (p= 0.9). As the affirmativeness of the students increases, the probability of selecting the disagree category decreases to 0.00 for students with an affirmativeness score of +3.0 logits (a high score). Curve 1, the agree category, has a probability of 0.10 for students with an affirmativeness score of -3.0 logits, a probability of 0.6 for students with an affirmativeness score of +0.20 logits, and then decreases for students with higher scores. Curve 3, the strongly agree category is more likely to be selected by higher scoring students and the probability of this increases with increasing student scores. The two points at which there is an equal probability of selecting adjacent categories (-0.8 logits for disagree and agree, and +1.2 logits for agree and strongly agree) are termed thresholds. The sequence of threshold values shown in Figure 2 is evidence of students selecting the response categories in a logical and non-idiosyncratic manner. This pattern of responses was found in the data for all the items. The results of estimation of item residuals, item-trait interaction and thresholds inform decisions about the refinement of a measure. As was noted earlier, the residuals and item-trait interaction values suggest some of the items were not good indicators of the student trait indicated by the majority of the items. In particular, the nine Teacher support and expectations items (Items 72 to 80), and the five Parental involvement items (Items 81 to 85). These do not contribute to information about the constructs of interest as strongly as the other items. Data from Items 72 to 85 were put aside for further separate investigation as were data from another eleven items with poor fit to the model (see Table 4). The results of this investigation which centred on student perceptions of the teacher and their parents are reported in Cavanagh and Dellar (2012).

The refined scale comprised 60 items measuring the sub-constructs of Learning capabilities and Expectations of learning, Self educational values, Self learning outcomes, Classroom/peer learning

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attitudes and behaviours, Classroom/peer, support, Classroom/peer discussion, and Classroom planning. Data from all the items had an acceptable fit to the model, all thresholds were sequenced as required, and the proportion of variance in the calibrated student scores considered true (similar to Cronbach's Alpha), was very high (0.95). The proportion of variance in the data due to errors was low (5%). A Principal Components Factor Analysis of the residuals after the principal Rasch measure was extracted showed little structure in the loadings suggesting a lack of multi-dimensionality in the data (Analysis name *n1759demo2*).

Objective (b) – To plot measures of engagement and learning environment variables on the same linear scale

RUMM2030 estimates the difficulty the items presented to the students – some items are easy to affirm, others are more difficult. The item difficulties are measured in logits as were the student affirmativeness scores. In Figure 3, student scores and item difficulties for 60 items are plotted on the same logit scale (range of ±3.0 logits). The labels for the 25 engagement items are in bolded italics type.

The most difficult item for the students to affirm was a learning environment Item, Item 48 **-** Students do not stop others from working (+1.11 logits). The easiest item for the students to affirm was Item 6 from the engagement sub-scale **-** Big challenges bring out the best in me (-1.04 logits). In general, the 25 learning environment items were easier to affirm than the 33 learning environment items. It should be noted that the item difficulty scores are the mean score attained by averaging the two item thresholds and when the thresholds are taken into account, the range of item difficulties in Figure 2 is increased to 5.0 logits. The distribution of these difficulties matches the 6.0 logit range of student scores well.

Logits	Student locations	Item locations
3.0	×	
	×	
	××	
	×	
2.0	××	
	××××	
	××××	
	×××××	
	××××××	
1.0	××××××	41 48
	××××××××	45 69 71
	××××××××××	35 51
	××××××××××××	68 60 ***06*** 52 34 63 50 70
	×××××××××××	40 61 ***20*** 67 ***12*** 62 ***21*** 66
0.0	×××××××××××××××××××	47 ***23*** 64 59 56 65
	×××××××××××××××	***18*** ***24*** 57 54 33 46 ***15*** 37 58
	×××××××××××××	***02*** 39 ***27*** ***17*** 36 ***09*** ***03***
	×××××××××××××	***26*** ***13*** ***08*** ***14*** 31 ***19*** 30
	××××××××	***16*** ***22*** 28
-1.0	××××××××××	***25*** ***01*** ***04*** ***10***
	××××××	***07***
	××××××	
	×××	
	××	
-2.0	××	
	××	
	×	
-3.0		

Figure 3 Item map for engagement and learning environment items (Analysis name *n1759demo2*).

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The plotting of student scores and item difficulties on an interval scale with the unit of measurement being the logit, in conjunction with the good fit of data to the Rasch model, provides strong evidence that a 60-item measure has been created.

To further understand the distribution of items difficulties in Figure 3, item difficulties were averaged for each sub-construct (see Table 6). The most difficult sub-construct to affirm was Classroom planning (Items 69, 70 and 71). The easiest sub-construct to affirm was learning capabilities (Items 1, 2, 3, 4, 6, 7, 8, 9, 10, & 12).

Table 6
Mean item difficulties for sub-constructs – locations measured in logits

Sub-construct	Mean difficulty(logits)
Learning capabilities	-0.44
Expectations of learning	-0.32
Self educational values	-0.51
Self learning outcomes	0.23
Classroom/peer learning	0.53
Classroom/peer support	0.16
Classroom/peer discussion	0.26
Classroom planning	0.79

Objective (c) – To examine the effect of student membership of groups (e.g. gender, year of study), on variance in engagement and learning environment scores.

RUMM2030 plots student item scores for different groups of students in one Item Characteristic Curve display. The Item Characteristic Curve and the observed scores of boys and girls for Item 2 - I am pleased with myself, are presented in Figure 4.

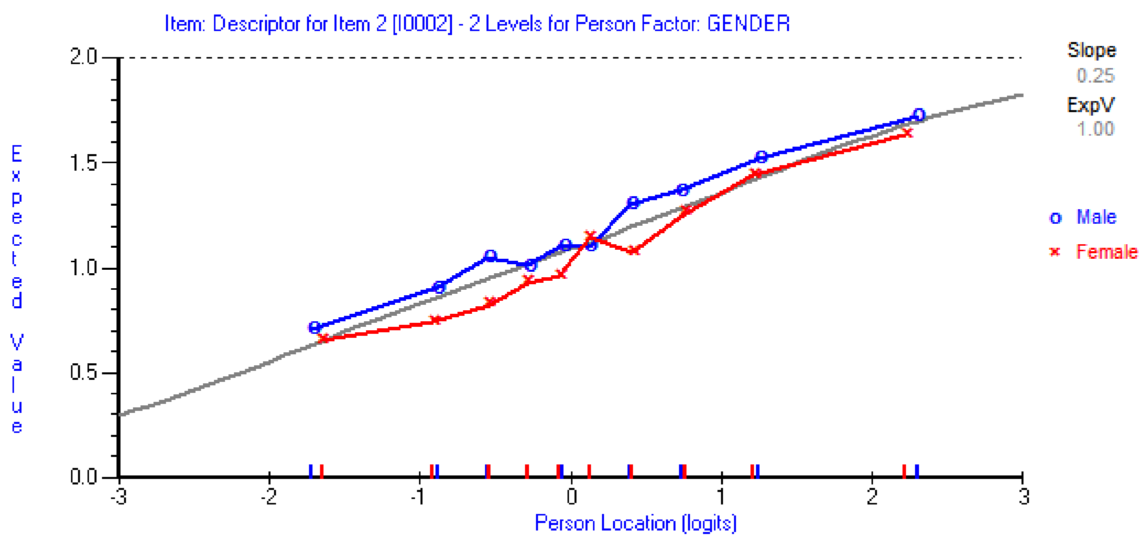

Figure 4 Item Characteristic Curve for Item 2 (Analysis name *n1759demo2*).

The scores for the males are consistently higher than for the females suggesting this item has a bias

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in favour of the boys – differential item functioning (DIF). One-way analysis of variance showed the difference was statistically significant (F= 21.5, p< 0.01). Of the 60 items, another seven showed DIF in favour of the boys (Items 3, 4, 6, 12, 13, 28 & 33), while four showed DIF in favour of the girls (Items 40, 45, 56 & 67). One method for dealing with item gender bias is to split the item's data to separate the girl's scores from the boy's scores and then to treat these as two separate items. This procedure was applied to the twelve items showing gender DIF and then student affirmativeness scores were re-estimated and tested for gender differences (Analysis name *n1759demo3)*. The distributions of male and female affirmativeness scores are shown in Figure 5. The difference was statistically significant (F = 6.65, p< 0.01).

There was minimal DIF for the other person factors of region of school location, Year cohort, favourite/not-favourite subject and Aboriginality. One-way Analysis of Variance was used to determine whether variance in these scores was attributable to membership of particular groups. Country students had higher scores than metropolitan students (F=4.84, p< 0.05); the highest scores were for Year 8 and in decreasing order, Year 11, Year 9, Year 10 (F=22.23, p< 0.01); favourite subjects scored higher than non-favourites (F=151.80, p< 0.01); and there was no statistically significant difference for Aboriginality or the subject studied (Analysis name *n1759demo3*).

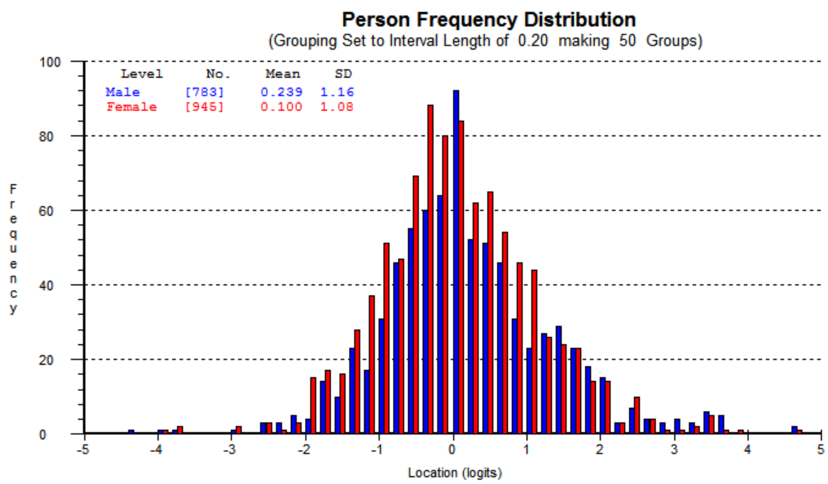

Figure 5 Person Frequency Distribution by gender (Analysis name *n1759demo3*).

Conclusion

Creation of one linear scale that measures two student engagement sub-constructs and six classroom learning environment sub-constructs provides a measurable and alternative perspective on the psycho-social classroom environment. The fit of data on this variety of sub-constructs to the Rasch model may well be due to the presence of a uni-dimensional or perhaps dominant construct. This is because measures of student engagement in classroom learning and the classroom learning environment, as were operationally defined and measured in this study and previous studies, were shown to constitute a single metric. The evidence for this was not based on correlations between variables as would be the case with traditional factor analytic and equation modeling approaches. Instead, the score of each student was calibrated with reference to the scale of items, a scale in which the items differed in the difficulty they presented to students. Similarly, the individual item difficulty estimates were made with reference to the distribution of student scores, a linear scale of student affirmativeness. The Item Map in Figure 3 displays these properties of the data. Fit of data to the Rasch model required these properties.

An extension of this study would be to cross-calibrate different learning environment measures on the assumption of an underlying student trait or set of traits (multiple calibrations). This would require reconsideration of multi-dimensional models of the learning environment and the current multivariate analytic methods.

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APPENDIX A: SURVEY OF STUDENT ENGAGEMENT IN CLASSROOM LEARNING

SURVEY OF STUDENT ENGAGEMENT IN CLASSROOM LEARNING

INFORMATION SHEET

Please detach this sheet from the questionnaire. You might want to keep it or take it home.

This questionnaire is part of a study about how secondary school students see their engagement in classroom learning. The researchers value your views and would be most grateful for your participation. We are studying connections between what is asked of you in your schoolwork, your abilities and skills, and aspects of your class and classroom.

Before you decide to participate, there some things you need to made aware of.

First, completing the questionnaire is voluntary. You do not have to complete it and can stop working on it any time.

Second, we do not want you to provide your name or the name of your teacher. It will be anonymous and your identity will not be available to anyone.

Third, if you or your parents have any concerns or matters requiring clarification, please contact Associate Professor Rob Cavanagh at Curtin University on 9266 2162 email R.Cavanagh@curtin.edu.au.

This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR 70/2009). The committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or by telephoning 9266 2786 or by emailing hrec@curtin.edu.au.

Thank you in anticipation of your help with our research.

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SURVEY OF STUDENT ENGAGEMENT IN CLASSROOM LEARNING

Office use only

School ………………………………………… Year ………

Student gender (tick box) ……………………………… Male ❑ Female ❑

Are you of Aboriginal or Torres Strait Islander Descent (tick bc Yes ❑ No ❑

INSTRUCTIONS

If you **strongly agree** with the statement, please tick 3	☑3	❑2	❑1
If you **agree** with the statement, please tick 2	❑3	☑2	❑1
If you **disagree** with the statement, please tick 1	❑3	❑2	☑1

PART A: How I see myself in this class

	In this class …	Strongly Agree	Agree	Disagree
1	I am OK	❑3	❑2	❑1
2	I am pleased with myself	❑3	❑2	❑1
3	I am confident about my ability to perform well	❑3	❑2	❑1
4	I can overcome small problems	❑3	❑2	❑1
5	I don't admit defeat easily	❑3	❑2	❑1
6	Big challenges bring out the best in me	❑3	❑2	❑1
7	I make an effort	❑3	❑2	❑1
8	I am clear about my strengths and weaknesses	❑3	❑2	❑1
9	Improvements in my learning come from me	❑3	❑2	❑1
10	I try when I need to	❑3	❑2	❑1
11	I can easily identify what will be difficult	❑3	❑2	❑1
12	I never give up	❑3	❑2	❑1

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PART B: What is expected of me

In this class, I am <u>expected</u> to…		Strongly	Agree	Disagree
13	Use my own ideas to explain what I've learnt	❑3	❑2	❑1
14	Connect different ideas together	❑3	❑2	❑1
15	Find new explanations for what I am taught	❑3	❑2	❑1
16	Show I know the work correctly	❑3	❑2	❑1
17	Show different ways of understanding the work	❑3	❑2	❑1
18	Find simple explanations for things that are very complex	❑3	❑2	❑1
19	Practice using what I've learnt	❑3	❑2	❑1
20	Use what I've learnt to do things outside of the class	❑3	❑2	❑1
21	Find new ways to use what I've learnt to solve problems outside of the class	❑3	❑2	❑1
22	Be positive towards learning about things that are new for me	❑3	❑2	❑1
23	Think about the views of the experts when I'm learning new thi	❑3	❑2	❑1
24	Be critical of the views of others in a fair way	❑3	❑2	❑1
25	Try to understand the views of others	❑3	❑2	❑1
26	Try to be unbiased in understanding the views of others	❑3	❑2	❑1
27	Show how I know others feel differently from me	❑3	❑2	❑1

PART C: Learning and You

Educational Values

28 I enjoy finding out how things work	❑3	❑2	❑1
29 Finding new ways to do things is important to me	❑3	❑2	❑1
30 I gain satisfaction from learning new things	❑3	❑2	❑1
31 I ask for help from my teachers when required	❑3	❑2	❑1
32 I enjoy learning	❑3	❑2	❑1

Learning Outcomes

33 I understand the work well	❑3	❑2	❑1
34 I gain high grades on assignments	❑3	❑2	❑1
35 My test scores are high	❑3	❑2	❑1
36 I do well at school	❑3	❑2	❑1
37 I am a successful student	❑3	❑2	❑1
38 The work is easy	❑3	❑2	❑1

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39 I perform to the best of my ability	❑3	❑2	❑1
40 I meet homework requirements	❑3	❑2	❑1
41 I start work as soon as I enter the room	❑3	❑2	❑1

Classroom Learning

42 Learning is really important in this class	❑3	❑2	❑1
43 I find new ways to learn in this class	❑3	❑2	❑1
44 We spend time thinking about how our studies are going	❑3	❑2	❑1
45 We don’t waste time in this class	❑3	❑2	❑1
46 Students learn from each other	❑3	❑2	❑1
47 I take notice of what my classmates have to say about our lear	❑3	❑2	❑1
48 Students do not stop others from working	❑3	❑2	❑1
49 We expect our test scores and/or grades to be high	❑3	❑2	❑1
50 Our work is marked quickly	❑3	❑2	❑1
51 We are rewarded for doing well	❑3	❑2	❑1
52 The top students in this class are respected by others	❑3	❑2	❑1

Classroom Support

53 Students support each other	❑3	❑2	❑1
54 Students are willing to help each other when problems arise	❑3	❑2	❑1
55 Students always encourage each other to express our opinions	❑3	❑2	❑1
56 Students share problems with each other	❑3	❑2	❑1
57 Students look forward to being together	❑3	❑2	❑1
58 Students make an effort to get on well with each other	❑3	❑2	❑1
59 Our classroom is a happy place	❑3	❑2	❑1
60 My views are supported by my classmates	❑3	❑2	❑1
61 Students are tolerant of one another	❑3	❑2	❑1
62 Students care for each other	❑3	❑2	❑1
63 Students are not nasty towards each other	❑3	❑2	❑1

Classroom Discussion

64 There is a lot of talk about important matters	❑3	❑2	❑1
65 We talk about our test scores and grades	❑3	❑2	❑1
66 We spend time discussing what should happen in this class	❑3	❑2	❑1

67 We have discussions about what we should be learning	❑3	❑2	❑1
68 We talk about our progress	❑3	❑2	❑1

Classroom Planning

69 We are involved in deciding how our progress will be assessec	❑3	❑2	❑1
70 We are given assessment tasks or tests when we are ready	❑3	❑2	❑1
71 We set the deadlines with the teacher for completing work	❑3	❑2	❑1

Your Teacher

72 The teacher does not dominate us	❑3	❑2	❑1
73 The teacher asks our advice	❑3	❑2	❑1
74 The teacher takes the side of students who are treated unfairl others	❑3	❑2	❑1
75 The teacher helps students who get into trouble around the sc	❑3	❑2	❑1
76 The teacher helps students with family problems	❑3	❑2	❑1
77 At times, the teacher seems more like a mum or dad than a tea	❑3	❑2	❑1
78 The teacher expects all students to be fully committed to their	❑3	❑2	❑1
79 The teacher sets high standards	❑3	❑2	❑1
80 The teacher has high expectations of us	❑3	❑2	❑1

Your Parent(s)

81 My parent(s) take an interest in my progress	❑3	❑2	❑1
82 My parent(s) are not critical of the teacher	❑3	❑2	❑1
83 My parent(s) are informed when I produce excellent work	❑3	❑2	❑1
84 My parent(s) are given frequent information on my progress	❑3	❑2	❑1
85 My parent(s) communicate with the teacher	❑3	❑2	❑1

Thank you for your time

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