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The engagement in classroom learning of Years Ten and Eleven Western Australian students

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The consideration of issues related to student engagement in classroom learning has taken on increasing importance in Western Australia since the passing of legislation to raise the school leaving age to 17 years, which came into effect in 2008. There are now more students retained at schools in Years Eleven and Twelve than previously. Engaging these students in learning is of the upmost importance for secondary schools.

This paper presents a hypothesised model of student engagement in classroom learning that is based on the principles of Flow Theory, i.e. a person achieves the state of flow when there is a match in high skills and high challenges. The hypothesised model proposes that student engagement is when there is a balance between student *learning capabilities* (skills) and the *expectations of student learning* (challenges). Each of these comprised sub-constructs, of which there were 11 in total. The research sought to determine which of the 11 sub-constructs that comprise the student engagement in classroom learning were the most difficult and which were easier to identify in Year Ten and Eleven students. It also sought to determine whether membership of different groups of students accounted for variance in the calibrated scores (these groups being gender; school year; subject; and whether favourite or least favourite subject).

The sample was 112 Year Ten and Eleven students from metropolitan and rural government schools in Western Australia. Each student was assigned a rating from zero to five by two researchers on each of the 11 sub-constructs. The Rasch Rating Scale Model was used for analysis of the quantitative data.

Firstly, the raters experienced differing levels of difficulty in identifying the respective sub-constructs in the students. That is, the 11 items in the instrument presented varying levels of difficulty of affirmation. Secondly, the engagement scores differed by gender (boys displaying lower levels of engagement) and whether favourite or least favourite subject was reported (favourite subjects displaying higher levels of engagement). The year of schooling of the student and the subject area (e.g. English, Mathematics, Science, and Society and Environment) did not account for variance in engagement scores. The implications of these findings are discussed.

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Introduction

This paper starts by outlining the importance of student engagement in classroom learning in Australia and then presents a theoretical model of student engagement in classroom learning. The research questions are followed by the methodology used and the results. The paper finishes with a discussion of the results in relation to classroom learning.

Background

The Western Australian parliament passed legislation in 2005 to raise the school leaving age to 16 years in 2006 and 17 years in 2008, which means that all young people in their 16th and 17th year must be in education, training or employment in Western Australia. As a result there are more students being enrolled at school in Years Eleven and Twelve than previously.

This change does not just apply to Western Australia, but is national trend. In May 2009 the Council of Australian Governments (COAG) agreed on a new Jobs and Training Compact for young Australians. Anyone under the age of 17 must be 'earning or learning' i.e. they must be in full-time school, training or work, or combination thereof. The compact is to be implemented by 2015. Indeed, some states and territories have raised the leaving age already (Queensland, Tasmania and South Australia to 17 years and Victoria to 16 years) whilst New South Wales have stated they will raise their leaving age to 17 years by 2010.

National research (Marks and Fleming, 1999) found that in the 1995 Year Nine cohort, 9% of students left school before the beginning of Year Eleven, and also that students who have low levels of achievement (literacy and numeracy) were more likely to leave school early. These findings indicate that the a significant proportion of students retained in Western Australian schools as a result of the change in legislation will have low levels of achievement.

With regard to academic performance, several studies have found that relationships exist between engagement and academic achievement and student attributes. For example, self-concept and aspirations (Finn and Rock, 1997; Marsh, 1992; National Centre for Education Statistics, 1995). Furthermore, Wellborn (1991), cited in Reeve, Jang, Carrell, Jeon, and Barch, (2004, p. 148), stated "… in school settings, engagement is important because it functions as a behavioural pathway by which students' motivational processes contribute to their subsequent learning and development". These findings suggest that student engagement may be associated with educational outcomes.

Since more students with low levels of achievement and possible lower engagement will remain in the WA education system, there is a need to more fully understand the nature and influences on student engagement in classroom learning. The starting point for gaining this understanding is development of theory about the engagement phenomenon.

This paper reports on part of the second phase in a large scale ARC Linkage project into *student engagement in classroom learning*. The first phase focused on defining a theoretical

model of *student engagement in classroom learning*. The second phase was to conduct face-to-face interviews from a representative sample of Western Australian secondary school students. The third phase is to administer a self-report rating scale instrument to a large number of students to enable instrument refinement and analysis of interactions between engagement variables. One of the aims of the project is to develop an instrument that can measure *student engagement in classroom learning* so that the impact of pedagogical changes and improvement in curriculum design can be quantified. This is of importance to administrators and teachers of engagement programs throughout Western Australia which have been set up in response to the raising of the leaving age.

Theoretical Framework

Flow Theory emerged from descriptions of optimal experiences (see Csikszentmihalyi 1990a &1990b; Hekter, Schmidt and Csikszentmihalyi, 2007; Massimini, Csikszentmihalyi and Carli, 1987). Schweinle, Meyer and Turner (2006, p. 272.) explained that "*Optimal experience*, or flow, occurs when a person perceives the challenges in a certain situation and his or her skills as balanced and above average".

Cavanagh, Kennish and Sturgess (2008) proposed that the concept of engagement in classroom learning could be explained by applying the basic tenets of Flow Theory. Cavanagh, et al. (2008, p. 7) applied this model to the notion of engagement and proposed that:

> "… students who are engaged within a particular situation will have a balance between the perceived level of the challenge being faced and their perceived capability (or skill) to meet the incumbent requirements".

In the classroom learning environment students skills were defined as *learning capabilities* and the classroom challenges were defined as *expectations of learning*. Figure 1 presents the hypothesised model of student engagement in classroom learning.

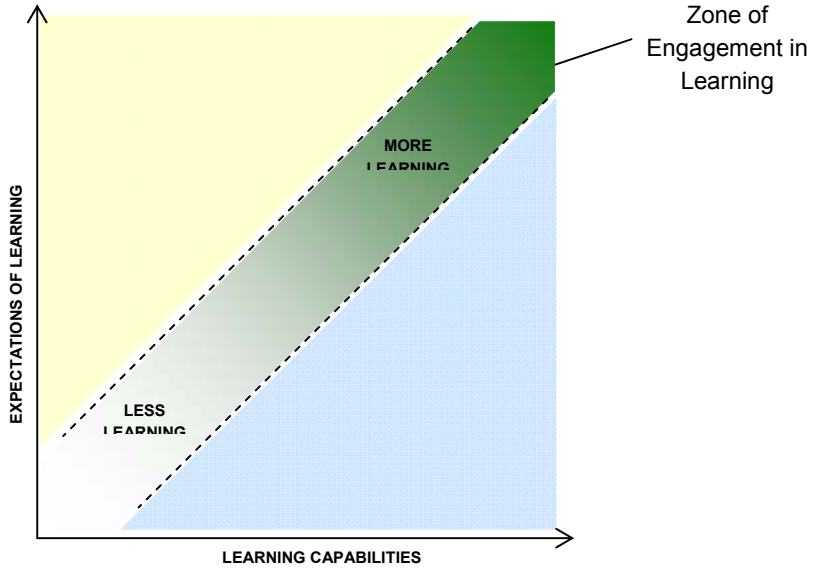


Figure 1. Hypothesised model of student engagement in classroom learning

(a) Learning capabilities

The learning capabilities that students bring to the classroom were operationally defined as *self-esteem, self-concept, resilience, self-regulation* and *self-efficacy.* Martin in 2007 described self-esteem and self-concept as the "expressive self". He argued that the reason why high levels of self-esteem and self-concept are viewed as worthy educational goals is as a consequence of the mediating effect they have on human behaviour. Resilience was found to be often identified in research on student engagement and participation. Howard and Johnson (1998) commented that the literature consistently characterised resilient children as having "…social competence, problem solving skills, mastery, autonomy and a sense of purpose and a future" (p. 1). Self-regulation and self-efficacy can be thought of in terms of the tools students use to learn, "Building meta-cognitive knowledge of oneself as a learner contributes to viewing oneself as an able learner, which influences not only success in learning, but also motivation to learn" (White and Frederiksen, 2005, p.212).

Sets of hierarchically ordered descriptors were written for each of the five sub-constructs, to indicate how 'more' of the sub-construct would be seen in a student and also how 'less' of the sub-construct would be seen. Two indicator statements were also written in behavioural terms for each descriptor. Table 1 presents the five descriptors and behavioural statements for *resilience*.

Table 1.

Hierarchical descriptors and behavioural statements for 'resilience'

Level of Sub-construct	***Descriptors***	***Behavioural Statements***
More resilience	*Has unqualified expectations of coping*	Expects he/she will always be OK Doesn't face any unfixable problems
↑	*Can deal with failure*	Things going wrong is not an issue for him/her Believes things will eventually work out well
↑	*Expects success*	Expects if he/she works at problems they will be solved Expect to eventually succeed
↑	*Overcomes small setbacks*	Considers overcoming small problems is possible for Can deal with small hassles
Less resilience	*Is aware of problems*	Accepts that a little difficulty is OK Is aware that things go wrong sometimes

The five sub-constructs, descriptors and behavioural statements for *learning capabilities* are presented in Appendix A.

(b) Expectations of student learning

Expectations of student learning was viewed in terms of expectations in learning for understanding. The framework used was the six facets of understanding proposed by Wiggins and McTighe in 2001. These are:

1. Can *explain*
2. Can *interpret*
3. Can *apply*
4. Has *perspective*
5. Can *empathise*
6. Has *self-knowledge*

The six facets were postulated to be sub-constructs of the general construct of *expectations of learning*. The Wiggins and McTighe (2001) framework contains five hierarchically ordered descriptors for each facet. Table 2 presents the descriptors for *expectations of 'application'*.

Table 2
Descriptors and behavioural expectations statements for 'application'

Level of Sub-construct	***Descriptors***	***Behavioural Statements***
Higher 'application'	*Masterful*	The student is expected to find new ways to use his/her knowledge and skills The student is expected to be flexible in how he/she uses knowledge and skills
↑	*Skilled*	The student is expected to use knowledge and skills to perform well in a range of situations The student is expected to use knowledge and skills to perform well in different situation
	Able	The student is expected to use skills to perform well in some situations The student is expected to uses knowledge to perform well in some situations
	Apprentice	The student is expected to use the same ways of doing things in different situations The student is expected to use routines that help get jobs done
Lower 'application	*Novice*	The student is expected to use what has been learnt with help from others The student is expected to follow instructions to complete tasks

Two indicator statements were written in terms of student behaviour for each of the descriptors. The six sub-constructs, descriptors and behavioural statements for *expectations of learning* are presented in Appendix B.

Research objectives

The research investigated the engagement in classroom learning of Year Ten and Eleven students in Western Australia. The research questions were:

1. Which aspects of student engagement in classroom learning were the most difficult to identify in the Year Ten and Eleven students, and which were the easiest to identify?
2. Is variance in the student engagement scores accounted for by membership of particular groups of students, (e.g. male or female, year of schooling, subject area studied and whether or not subject was a favourite)?

Methodology

Sample

The data were collected as part of a larger study on secondary school student engagement in classroom learning. The sample was 112 Year Ten and Eleven secondary students from government schools in metropolitan and rural areas of Western Australia. The sample characteristics are presented in Table 3 below.

Table 3
Sample characteristics

	Total Sample	Females	Males
All Respondents	n=112	n=59	n=53
Gender	%	%	%
Females	53	-	100
Males	47	100	-
School year			
Yr 10	48	54	42
Yr 11	52	46	58
Subject			
English	27	27	26
Maths	30	20	40
S&E	20	22	17
Science	24	31	17
Favourite subject			
Most	62	58	68
Least	38	42	32

Data Collection

The instruments of data collection were developed from the theoretical framework outlined above. One instrument was a researcher-completed rating scale instrument in which ratings were assigned using the framework presented in Appendices One and Two. The second instrument was a traditional; interview schedule which required students to provide qualitative information on their engagement.

Students were also asked to indicate which of the four core subjects (Mathematics, English, Society and the Environment and Science) were their most or least favourite. The researchers then selected one of these subjects as the focus of their interview. The students were asked to consider their responses only in relation to the nominated subject.

The two researchers assigned a rating for each of the eleven sub-constructs in the frameworks provided in Appendices One and Two. At the end of the interview, the raters compared their ratings, reviewing and resolving any differences in scores. Each of the sub-constructs was scored from 0 to 5, where 0 indicated minimal evidence of the sub-construct and 5 indicated a very high level of evidence of the sub-construct.

In addition to the rating process, the interviews were recorded to provide qualitative data to supplement the quantitative data.

Data Analysis

The data were entered into Excel and then imported into RUMM2020 (Andrich, Sheridan, Lyne & Luo, 2003). RUMM2020 applies the Rasch Rating Scale Model for data analysis (Andrich, 1978). A number of statistics were estimated.

First, summary test-fit-statistics were estimated to show the item person interaction, item-trait interaction and reliability indices.

Second an item-map was generated to show how well the distribution of student scores matched the distribution of item difficulties.

Third, individual item fit statistics to ascertain how well individual item data fitted the model

- Location - the degree to which students provided affirmation of the sub-construct measured in logits (logarythmic odds of answering positively).
- SE - the standard error of the location measured in logits.
- Residual - the difference between the actual response and the expected response according to the model. The closer to zero the residual, the better the fit to the model. Residuals less than ±2.5 (a default value used by RUMM2020) indicate the data fit the model.
- The Chi square test shows item-trait interaction. Probability values should be above the Bonferroni adjusted level.

Fourth, analysis of variance (ANOVA) was conducted to test whether variance in student scores accounted for by membership of particular groups (e.g. females and males). The F-Statistic and its level of significance were estimated ($p.<0.05$).

The qualitative data comprised students' statements about eleven aspects of their engagement. Since a record was also made of the rating assigned to each of these aspects, it was possible to reconcile statements with ratings. These statements were the used to qualify the quantitative results.

Research Results

The results are presented in three sections. Firstly, the summary fit statistics and an item map. Secondly, the individual item fit statistics. Thirdly, the results of the ANOVA.

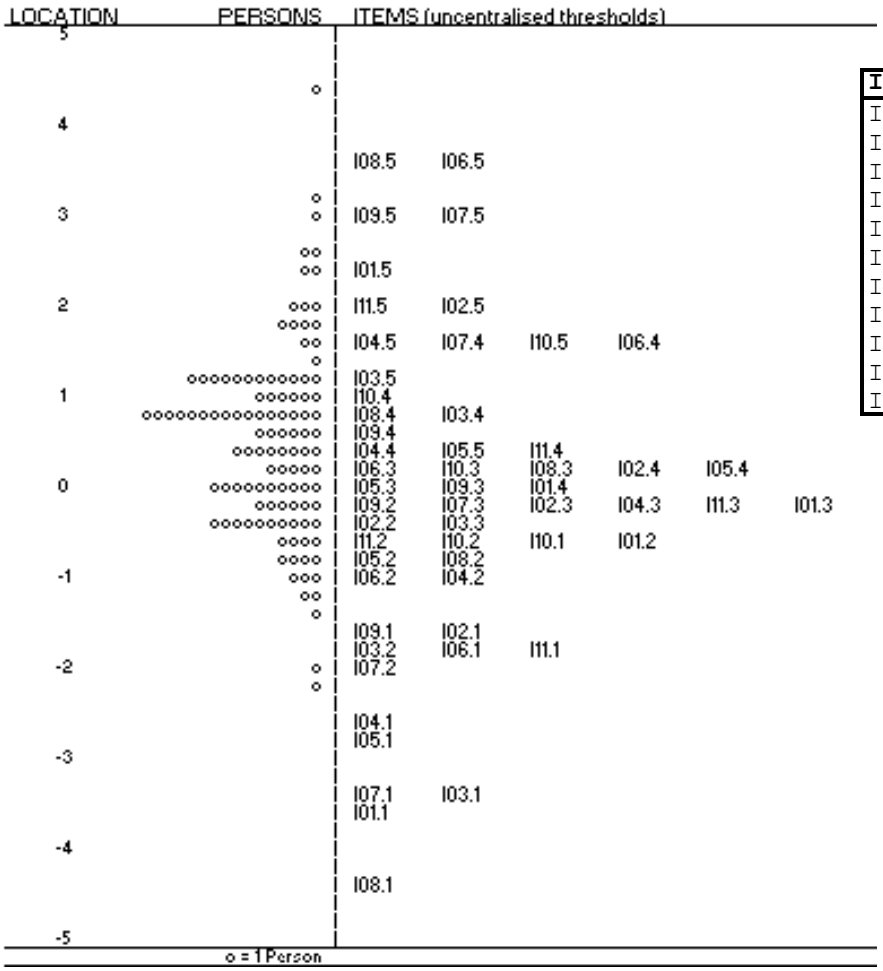
Overall fit of data to the Rasch Rating Scale Model.

The summary test-of-fit statistics were calculated by RUMM2020 (Andrich, Sheridan, Lyne & Luo, 2000) to examine the psychometric properties of the data. These are presented in Table 4. Firstly, the item-person interaction measures the extent to which the students have been rated in a logical and consistent manner. The fit residuals for both items and persons are within acceptable ranges for the mean scores and standard deviation (means should be close to zero and standard deviation should be close to 1), indicating a good overall data to model fit. Secondly, the item-trait interaction indicates the consistency of the item 'difficulties' across the range of different student engagement measures (the 11 sub-constructs) on the scale. The Chi Square probability value >0.05 suggests the data represents a uni-dimensional trait, thus the data fit the model well. Thirdly, the Separation Index indicates the degree to which locations of students spread across a continuum, i.e. students with higher locations were attracted higher scores on the items and those with lower locations attracted lower scores on the items. Ideally this index will be close to 1.0; in this case a separation index of 0.87 indicates that the power of the test-of-fit was excellent.

Table 4.
RUMM summary test-of-fit statistics – student engagement scale

ITEM-PERSON INTERACTION					
	ITEMS			PERSONS	
	Location	Fit Residual		Location	Fit Residual
Mean	0.00	0.44		0.61	-0.17
SD	0.39	0.80		1.06	1.19
ITEM-TRAIT INTERACTION			RELIABILITY INDICES		
Total Item Chi Squ	21.11		Separation Index	0.87	
Total Deg of Freedom	22.00		Cronbach Alpha	N/A	
Total Chi Squ Prob	0.51				
POWER OF TEST-OF-FIT					
Power is EXCELLENT					
[Based on SepIndex of 0.87]					

RUMM also produced an item map (see Figure Two) displaying location of item thresholds and also location of students plotted on the same scale. The plot on the left of the vertical line shows the distribution of the relative locations of students in logits and the plot on the right shows the distribution of item thresholds (uncentralised). In the item plot, the first two digits are the item number and the third digit after the decimal point is the threshold. The respective thresholds for the 11 items are distributed from ‘easy’ at the bottom to ‘hard’ at the top. The distribution of the relative ‘difficulty’ of the items closely matches the student distribution, indicating that the items present a range of difficulties that match the students’ differing abilities.



Item	Sub-construct
I01	Self-esteem
I02	Self concept
I03	Resilience
I04	Self-regulation
I05	Self-efficacy
I06	Explanation
I07	Interpretation
I08	Application
I09	Perspective
I10	Empathy
I11	Self-knowledge

Figure 2. RUMM item map

Examination of the item map shows how the individual items or sub-constructs were rated. Item I08 (Application) has the largest spread, with I08.1 placed at the lowest location of -4.5 and I08.5 placed at the highest location of 3.5.

Off all 11 items, item I10 (Empathy) is placed higher up, with I10.1 at a location of -0.6. This indicates that of the lowest levels expectations, empathy in learning was the most difficult for which to find evidence.

Difficulty of affirming student attributes

Individual item fit statistics were calculated and these are presented in Table 5.

Table 5
Individual item (sub-construct) fit statistics - in order of location

Item	Sub-construct	Location	SE	Residual	DF	Chi Sq	Prob
I03	Resilience	-0.60	0.10	-0.30	95.34	1.89	0.38
I05	Self-efficacy	-0.50	0.09	-0.50	95.34	2.18	0.33
I04	Self-regulation	-0.27	0.10	-0.70	95.34	1.80	0.40
I01	Self-esteem	-0.25	0.10	1.21	95.34	1.28	0.52
I07	Interpretation	-0.09	0.15	0.40	59.59	1.40	0.49
I08	Application	-0.02	0.11	1.32	93.64	4.43	0.10
I11	Self-knowledge	0.09	0.09	1.00	94.49	3.46	0.17
I02	Self concept	0.12	0.09	0.09	95.34	0.05	0.97
I10	Empathy	0.44	0.12	1.42	53.63	1.88	0.39
I09	Perspective	0.45	0.13	1.14	48.52	1.34	0.51
I06	Explanation	0.62	0.14	-0.10	60.44	1.36	0.50

The item difficulties were located within a range from -0.60 to +0.62 logits. This shows that the raters identified differing levels of the 11 sub-constructs in the students. The residuals were within the acceptable boundaries of +/- 2.5 (a default set by RUMM2020). All of the Chi-square probability values (Bonferroni adjusted) were acceptable indicating that the items measure *student engagement in classroom learning* very well.

The sub-construct (I03 Resilience) had the lowest location (-0.60), indicating that finding evidence of resilience in the students was easier for the raters than for the other sub-constructs. Evidence of resilience was gathered by asking students *"how do you cope, manage or get on when problems arise in class?"* The students offered problem solving solutions, such as asking the teacher or a fellow student for help, re-reading their notes or putting in extra study time to help with comprehension. Most students were positive about their ability to face problems and weren't too worried about not being able to deal with small setback, or even larger ones.

In the middle, close to zero was the sub-construct I08 Application, with a location of -0.02. Evidence of expectations of application in student learning was elicited by asking *"Are you expected to use what you have learnt? For example, to solve new problems or fix something."* Most students felt that they were expected to be able to repeat what had been taught in a lesson and some thought they would be expected to apply the learning in other situations. Very few students could demonstrate higher levels of application were expected of them, unless what was taught was vocational, such as writing job applications or mathematics for trades people.

The sub-construct (I06 Explanation) was the hardest to confirm, (Location of 0.62). Evidence of expectations of explanation in student learning was gathered by asking *"Are you expected to talk or write about what you have learnt?"* For evidence of low levels of explanation students could demonstrate that they were expected to use the words of others to explain things, however this was not often true, in many instances students stated that they were not expected to talk or write about what they had learnt, "we just copy out of the books,

there is no discussion". Some students provided further evidence by saying that they were expected to add some or lots of their own ideas to the things taught "we have to go away and do research on the computers". However, at the top end, very few students stated they were expected to show in-depth or sophisticated levels of explanation in the chosen subject. This appeared to be especially true when mathematics was discussed.

Examination of the locations show that the sub-constructs of student learning capabilities (I01 to I05) were easier to affirm than the sub-constructs of expectations of student learning (I06 to I11). It is hypothesised that this is because it is harder for a student to conceptualise the expectations that are put upon them than the capabilities they can demonstrate. Whilst conducting the interviews students were guided to not think about whether they did talk or write about what they learnt, but rather whether they were expected to talk or write about what they learnt.

Variance in engagement scores due to group memberships

School Year: When the data is examined by the person factor of school year, the relative mean scores for Year Ten and Year Eleven students are 0.716 and 0.508 respectively, as shown along with the frequency distribution for each of the school years in Figure 3. An analysis of variance (ANOVA) was conducted by RUMM2020, ($F= 1.07$; $p>0.05$) which found no evidence of a statistically significant difference between the ratings of the students' school year.

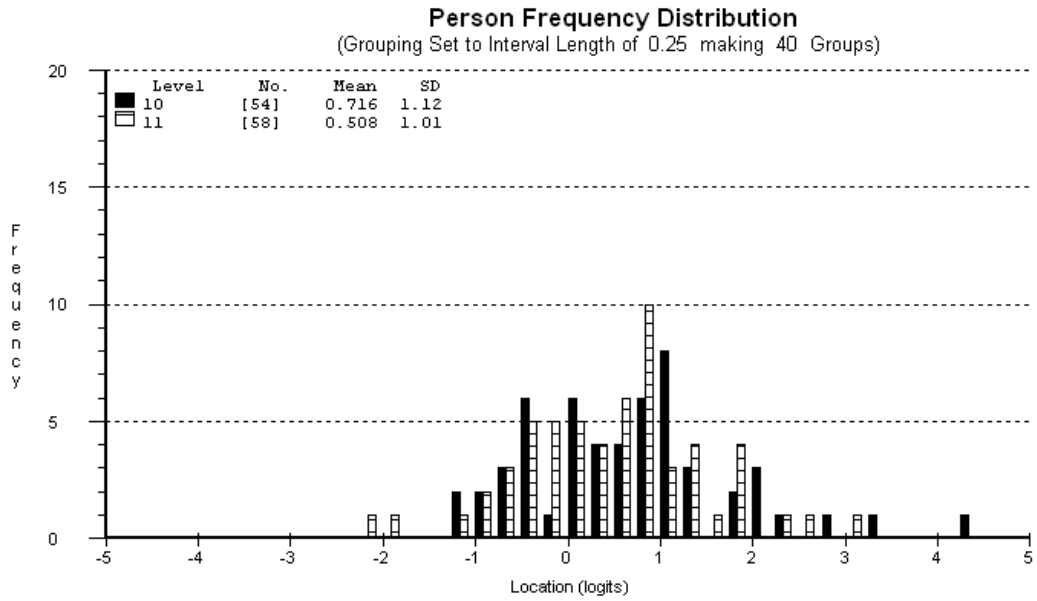


Figure 3. Person frequency distribution by school year

Gender: Figure 4 shows the Person Frequency Distribution by gender. The mean score for females is 0.89 and 0.28 for males. An ANOVA was conducted and the effect of gender was found to be statistically significant, ($F= 9.92$; $p<0.05$). Thus males were rated lower than females on the *Student Engagement in Classroom Learning* scale.

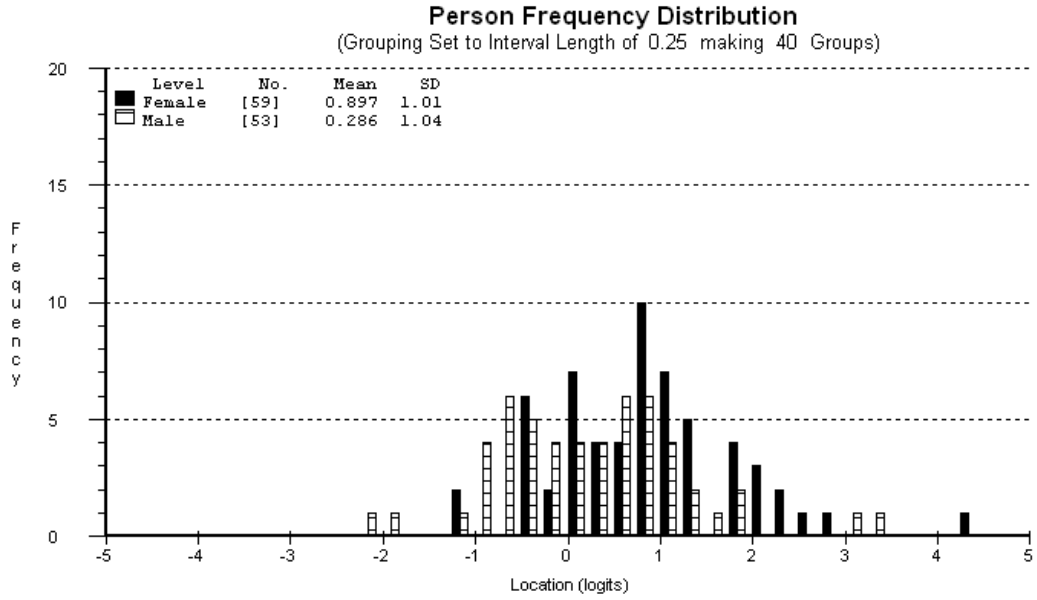


Figure 4. Person frequency distribution by gender

Subject: Figure 5 shows the frequency distributions for students by subject. The mean scores for three of the subjects, English, Science and S&E are close, (0.747, 0.763 and 0.791 respectively), whilst Maths has a much lower mean score of 0.204. The ANOVA conducted found that the difference was not statistically significant ($F = 2.12$; $p > 0.05$).

On consideration, the lower score for mathematics was understandable when the comments the students made were reviewed. Mathematics did prove more difficult to affirm for some of the sub-constructs; perspective, empathy and explanation in particular. These are three aspects of learning that are not often associated with the teaching and learning of mathematics.

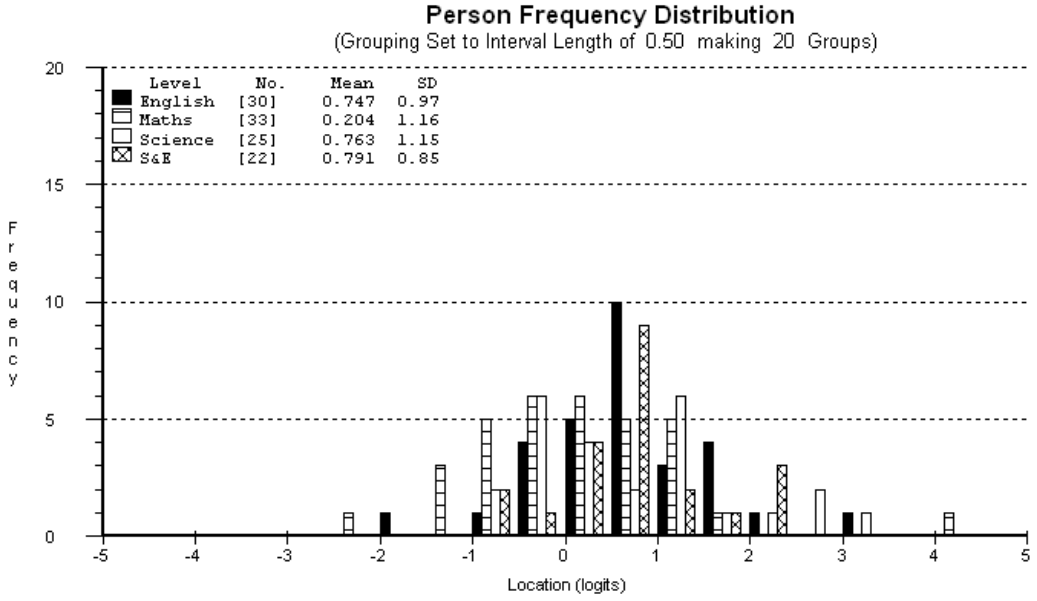


Figure 5. Person frequency distribution by subject

Favourite subject: The mean scores of students who were asked about their favourite subjects was 0.93 and 0.06 for those who were asked about the least favourite subject. The ANOVA was again conducted by RUMM2020 and it was found to be statistically significant ($F = 20.33$; $p < 0.05$). This difference is clearly shown in Figure 6, with the distribution of scores for non-favourite subjects lower than the distribution of scores for favourite subjects.

This difference between the scores of those discussing their favourite subject and those discussing their least favourite subject was expected, with much higher scores on the engagement scale for those rating their favourite subject.

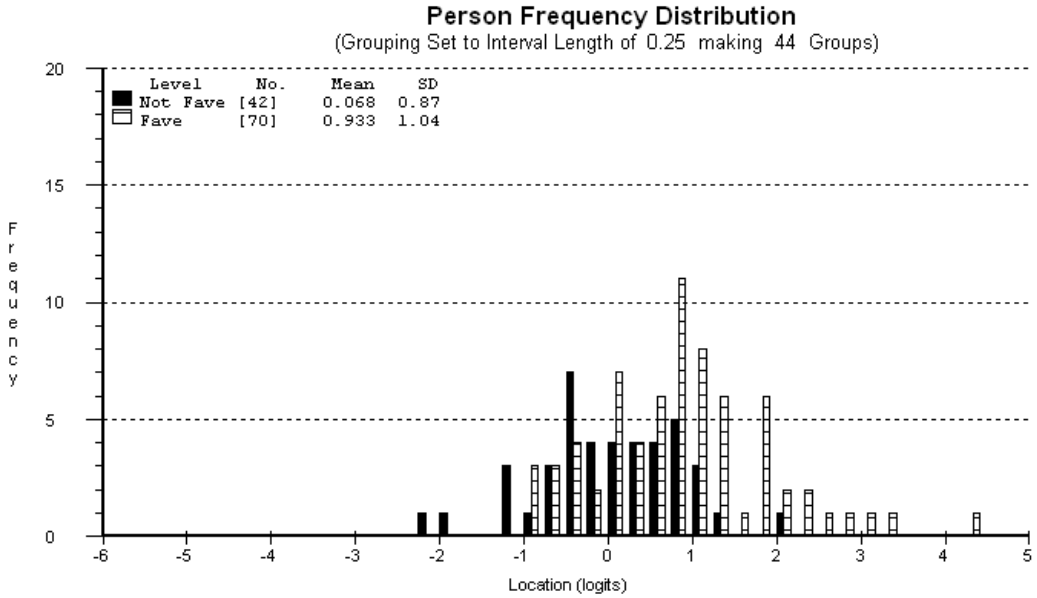


Figure 6. Person frequency distribution by favourite subject

Discussion

Firstly, all 11 sub-constructs were measured – the data on each sub-construct fitted the Model. Thus measures were obtained for all 11 aspects of engagement which could be taken as evidence of construct validity.

Secondly, the construct of student engagement was theorised as a balance between learning capabilities (five sub-constructs) and expectations of student learning (six sub-constructs). However when the difficulties of identifying the constituent sub-constructs in these two dimensions were estimated, the locations of the expectations of learning sub-constructs were higher than those for the learning capabilities sub-constructs. It might be concluded that the expectations of student learning were less than commensurate with the students' capability. This is a significant finding. Vygotsky (1978) proposed that the Zone of Proximal Development is the gap between the level at which the subject is being taught and the students' current development. "If the gap is too large the teaching will not be effective, if the gap is too small the learner will not be stretched enough to learn adequately" (Mooney, 2000, p. X).

Thirdly, within the two dimensions, no particular ordering of sub-constructs was postulated. Indeed Wiggins and McTighe (2001) were careful to point out that the facets were in no particular order. This is reflected in the order of sub-construct difficulties which does not

match that in either of the theoretical frameworks in Appendices A and B. Thus a developmental learning sequence across the sub-construct should not be assumed. For example, explanation does not necessarily precede interpretation.

Fourth, the finding on gender is significant. Males showed less evidence of engagement than females. This finding is supported by the literature, providing evidence of the validity of the model. Fullerton (2002, p. 31) studied 11,150 students in the *Longitudinal Surveys of Australian Youth* and found:

> "…gender was found to be a strong influence on student's engagement, with females showing significantly higher levels of engagement than males; in all school sectors, in coeducational as well as single-sex schools, and at all achievement levels".

Fifth, the notion of favourite subjects being more engaging than least favourite subjects was also examined. Subjects that were the student's favourite attracted higher levels of engagement than subjects that were the student's least favourite. Glanville and Wildhagen (2007) also found a relationship between student engagement and what they called 'academic interest'. "…academic interest is measured with the student's agreement that his or her classes are interesting and challenging, whether the student gets a feeling of satisfaction from doing what he or she is supposed to do in class and how often the student tries as hard as he or she can".

The age of students is closely related to their year of schooling. It appears that the engagement of students did not vary with age.

Differences between the four subject areas studied did not account for variance in the student engagement scores. Interestingly, Shernoff (2003) found that the type of instructional practices used (e.g. lecture, examination, coursework, group work) had more of an impact on engagement levels of students than the subject studied (when looking only at core subjects). The effect of instructional practices on engagement as defined in this study need further investigation.

Conclusion

This paper determined which of the 11 sub-constructs that comprise the student engagement in classroom learning scale were the most difficult and which were the easiest to identify in Year Ten and Eleven students. It also determined whether membership of different groups of student accounted for variance in calibrated scores.

Further research using alternative instruments could be conducted to triangulate these findings. For example, using a student-self-report instrument.

The research has shown the utility of Rasch Rating Scale Model for calibrating the 11 sub-constructs of the student engagement in classroom learning and also the identification of the significant variances between different student types.

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Appendix A: Framework of leaning capabilities

Learning capabilities	**Self-esteem**	**Self-concept**	**Resilience**	**Self-regulation**	**Self-efficacy**
MORE	*Has positive self image* Sees very little in self that needs to improve Is highly confident	*Strives to be perfect* Even though he/she knows he/she does very well, still looks for ways to improve Knows self very well	*Has unqualified expectations of coping* Expects he/she will always be OK Doesn't face any unfixable problems	*Takes responsibility for learning* Is in total control of own learning Is in charge of own learning	*Has perseverance in the face of adversity* Keeps trying when things go seriously wrong Never gives up
	Has confidence to make decisions Is confident to make choices about how to do things Is confident to make choices about what to do	*Motivated by self reflection* Thinking about self makes he/she feel good Thinking about self helps he/she do better	*Can deal with failure* Things going wrong is not an issue for him/her Believes things will eventually work out well	*Makes improvement in own learning* Builds on what he/she can do well Improves how he/she learns	*Has determination* Wants to overcome most difficulties Wants to succeed when things become hard
	Has pride in self Is proud of his/her achievements Thinks he/she is good compared to others	*Self reflecting* What he/she does shapes his/her view of myself Thinks about self when necessary	*Expects success* Expects if he/she works at problems they will be solved Expect to eventually succeed	*Understands own learning* Knows how to learn better Knows how he/she learns best	*Recognises contextual influences* Knows some situations present more difficulty than others Knows when and where he/she can succeed
	Trusts self to act Trusts self to do what is right for self Has faith in own ability	*At ease comparing self with others* How he/she feel about self comes from how others see him/her Is comfortable comparing self with others	*Overcomes small setbacks* Considers overcoming small problems is possible for Can deal with small hassles	*Assesses own learning* Thinks about mistakes Thinks about achievements	*Has expectations of self* Would like to succeed Believes success is a possibility
LESS	*Sees worth in self* Is happy with self Sees some good qualities in self	*Compares self with others* Compares self with others Checks own progress against that of others	*Is aware of problems* Accepts that a little difficulty is OK Is aware that things go wrong sometimes	*Awareness of learning* Is aware of mistakes Is aware of achievements	*Makes effort* Tries when necessary Makes an effort when required

Appendix B: Framework of expectations of learning for understanding

Expectations	Explanation	Interpretation	Application	Perspective	Empathy	Self-knowledge
MORE The student is expected to:	*Sophisticated* Bring together many ideas to explain something in a new way Develop original (new) explanations of what was taught	*Profound* Show a deep and very clear understanding of the of the work Find simple explanations for complicated things	*Masterful* Find new ways to use his/her knowledge and skills Be flexible in how he/she uses knowledge and skills	*Insightful* Make sure own feelings don't cloud judgements Carefully and fairly evaluate the views of others	*Mature* Be willing to see things the way others do Seek out views highly different from my own	*Wise* Make serious decisions based on knowing what has been learnt Makes serious decisions based on knowing what \he/she has understood
The student is expected to:	*In-depth* Understand the work in a way that is different from what was taught Find connections between different parts of what was learnt	*Revealing* Compare different ways of understanding the work Explain the differences between ways of understanding the work	*Skilled* Use knowledge and skills to perform well in a range of situations Use knowledge and skills to perform well in different situation	*Thorough* Be critical of the views of others in a fair way Balance own views against the views of others	*Sensitive* See things in ways similar to others Develop attitudes similar to others	*Circumspect* Has a clear understanding of both his/her strengths and weaknesses Clearly see the strengths and weaknesses of others
The student is expected to:	*Developed* Include a range of own ideas when explaining what was learnt Explain what was learnt using own words	*Perceptive* Correctly explain to others how work should be done Help others understand why what class are learning is important	*Able* Use skills to perform well in some situations Uses knowledge to perform well in some situations	*Considered* Understand the views of others Think carefully about the views of others	*Aware* Know that others feel differently from self Be aware that others see things differently from self	*Innocent* Think about what he/she knows Be aware of things he/she should know
The student is expected to:	*Intuitive* Explain what was learnt by including extra information Include some of own ideas when explaining what was learnt	*Interpreted* Show that he/she correctly understand the work Explain why what he/she has learnt is important	*Apprentice* Use the same ways of doing things in different situations Use routines that help get jobs done	*Aware* Show awareness of differences in what others value Reconsider own point of view after listening to others	*Developing* Force self to make sense of ideas that seem strange to me Discipline self to understand attitudes different to my own	*Thoughtful* Identify what he/she doesn't understand Spend time thinking about what he/she can and can't do
LESS The student is expected to:	*Naive* Use the words of others when explaining things Use the ideas of others when explaining things	*Literal* Repeat what has been told Repeat what has been read	*Novice* Use what has been learnt with help from others Follow instructions to complete tasks	*Uncritical* Not ignore points of view different from own Use own views to be critical of things or people	*Egocentric* Try to make sense of ideas that seem strange Try to understand attitudes different to own	*Unreflective* Accept that others can help him/her see what I need to know Let others tell him/her what he/she needs to know