

Report: 1st Validation Process and Outcomes for Dispositions (Summer 2014 to Spring 2017)

Construct Validation Work.

1. Summer 2014 – first set of pilot data; moved from 4 factors to 3 factors based on psychometric results
2. Final Revisions/ minor wording revisions + added 1 additional question (through faculty review process; dispositions sub-committee and fieldwork committee): Subject matter experts review and refinement
3. Collected another set of Pilot Data – SPRING 2015 for Student Teachers across programs

At the end of the Spring 2015 semester, the assessment committee and the fieldwork committee held separate (but related) conversations about the process of validating the field-based dispositions instrument. The goal was to collect data about student teachers’ overall pre-service ability to teach, to use as a criterion or reference point against which to correlate the dispositions measure.

Through conversations with both committees, the groups came to the same decision; they requested that we use data on file (select questions from the Pathwise observation instrument) that could match up with the dispositions instrument, and run a correlation between them to see if there is similarity between the measures. OR, run a regression using the Pathwise observation ratings as the outcome measure, and see if the dispositions are a good/ accurate predictor of Pathwise as an overall measure of pre-service teacher effectiveness.

The following is a summary of this work:

1. Ran correlations between Dispositions and Pathwise.

	Cat1.FairnessBelie	Cat2.PositivtyReflectivenes	Cat3.RespectResponsible	TOT Disposition
TOTPathwise	.197 84	.379* 84	.218* 84	.286* 84
Domain1 (Planning & Preparation)	.251* 92	.340* 92	.191 92	.283* 92
Domain2 (Class Environment)	.186 92	.357* 92	.170 92	.260* 92
Domain3 (Instruction)	.189 92	.306* 92	.185 92	.246* 92
Domain4 (Professional Responsibility)	.162 92	.407* 92	.308* 92	.318* 92

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

There are some significant correlations between some of the Pathwise Domains and the Dispositions (either as a whole, or one of the 3 categories). However, most correlations are low (less than .30). This indicates there is some similarities between the measures, especially Category 2 of the dispositions (positivity/ reflectiveness), which is significantly related to each of the Pathwise domains, showing the strongest positive relationship with Domain 4 (professional responsibility).

WE expect SOME overlap between pathwise and dispositions, but not 100%. These results confirm expectations that there is some agreement between these measures. However, a regression model that tests is pathwise is distinct from dispositions will help assess if they indeed measure different aspects of teaching.

The next step was to examine Dispositions by using Pathwise as an Outcome Variable (e.g. to use that as an “Overall” pre-service teaching rating).

2. Regression Analysis:

Pathwise = outcome variable, GPA + Dispositions = Predictor variables

$R^2 = .10$; $F = 4.785$, $p = .01$

The regression was significant, indicating that this equation worked, such that 10% of the variance of Pathwise was predicted by these two variables. A review of the standardized beta weights, only dispositions is significant. GPA basically drops out of the equation.

3. The next step was to run a regression analysis with Overall Pre-Service Teacher Effectiveness (based on either rating or ranking provided by Univ Sup) as the outcome variable, and Pathwise, Dispositions, and GPA as predictor variables.

Model: Fixed Effect Regression

Pre Service Teacher Effectiveness = Knowledge + Teaching Skill + Disposition

The overall regression equation is significant, with an $R^2 = .44$, $p < .001$. This indicates that the regression equation fits the data such that 44% of the variance of Pre Service Teacher Effectiveness is explained by the three variables in the model. See Table 1 for results. The standardized beta for teaching ability (.49) is almost twice the standardized beta for dispositions (.27), indicating that teaching ability has a greater impact on overall teacher effectiveness. Additionally, the knowledge measure used in this equation, cumulative GPA, is not a significant predictor of teacher effectiveness.

Table 1: Fixed Effects Regression Equation Coefficients

	B	SE B	B
Constant	-9.81	3.43	
Knowledge (GPA)	1.43	.93	.19
Observation Teaching Skill	1.24	.31	.49**
Disposition	.78	.34	.27*

Note. Adjusted $R^2 = .44^{**}$. * $p < .05$, ** $p < .001$. $n = 45$.

Checking assumptions. The average VIF for the predictors is 1.12, well below problem value of 10, and above .2 (Bowerman & O'Connell, 1990; Menard, 1995; Myers, 1990). Additionally, analysis of the variance proportions indicates that each predictor has over 90% of its variable loading onto a different dimension. These two sets of data indicate that there are no concerns about collinearity. The Durbin-Watson statistic yielded a value of 1.96 for this model, suggesting that the errors in the regression equation are independent; values between 1 and 3 satisfy this assumption, and close to 2 are best.

Assessing Internal Validity of Factors identified in the Dispositions Assessment

Class Dispositions Tool – Fall 2015

Category	Item Numbers
FAIRNESS & Growth Mindset/Grit -	1, 9, 10, 11
Respect and Responsibility	2, 3, 5, 7, 13
Positivity and Reflectiveness	4, 6, 8, 12

(Mapped to the Fall 2015 Dispositions Tool)

Overall Reliability of Class Dispositions Tool for Fall 2015 (N = 165)

$\alpha = .919$

If remove item 12, $\alpha = .924$.

SPRING 2017 (N = 161) – C&I only

Category Means and Reliabilities

Category	FALL 2015 N = 165		SPRING 2017 N = 161	
	Mean (SD)	Alpha	Mean (SD)	Alpha
Growth Mindset/Grit	3.86 (.83)	.847	4.42 (.58)	.824
Respect and Responsibility	4.05 (.74)	.794	4.58 (.51)	.746
Positivity and Reflectiveness	3.98 (.80)	.770	4.45 (.54)	.762

Item-level Means FALL 2015

Item	Mean (SD)
1. Alert and Engaged during class discussions or activities	4.13 (1.03)
2. Interacts with peers and teacher in a respectful manner	4.30 (.89)
3. Prepared for class with assignments and required class materials	3.95 (1.17)

4. Uses feedback in a positive manner to improve one's knowledge, skills and dispositions	3.99 (1.01)
5. Punctual and regularly attends class	4.41 (1.05)
6. Demonstrates an orientation for reflection after peer teaching or assignments	3.81 (.92)
7. Demonstrates personal responsibility for effective group work	3.90 (.92)
8. Demonstrates a positive professional attitude	4.07 (1.02)
9. Positively contributes to learning environment and diverse exchange of ideas	3.93 (.99)
10. Persists in activities and assignments even in the face of challenges	3.73 (.95)
11. Maintains high expectations for self	3.67 (1.03)
12. Demonstrates responsiveness to issues of race, class, gender, ethnicity, gender variance, or ability	3.70 (.90)
13. Communicates effectively through a focus on the message and how it is received	3.70 (.93)

ITEMS

FAIRNESS & Growth Mindset/Grit

- 1. Alert and Engaged during class discussions or activities
- 9. Positively contributes to learning environment and diverse exchange of ideas
- 10. Persists in activities and assignments even in the face of challenges
- 11. Maintains high expectations for self

Respect + Responsibility

- 2. Interacts with peers and teacher in a respectful manner
- 3. Prepared for class with assignments and required class materials
- 5. Punctual and regularly attends class
- 7. Demonstrates personal responsibility for effective group work
- 13. Communicates effectively through a focus on the message and how it is received

Positivity + Reflectiveness

- 4. Uses feedback in a positive manner to improve one's knowledge, skills and dispositions
- 6. Demonstrates an orientation for reflection after peer teaching or assignments
- 8. Demonstrates a positive professional attitude
- 12. Demonstrates responsiveness to issues of race, class, gender, ethnicity, gender variance, or ability

Rationale: History of the dispositions assessment tools

During Spring 2017, the RSA SOE Office of Assessment and Research worked with the Curriculum and Instruction program directors and the Office of School and Community Partnerships to implement data collection for assessing dispositions prior to student teaching.

The following report summarizes the results of this pilot and offers some recommendations for next steps.

1. The attached list of courses were selected to be used for data collection for pre-student teaching dispositions. In many instances, dispositions were assessed both in the university classroom (with a classroom validated disposition instrument), as well as in the field (with a field based validated instrument).
2. There are approximately 38 courses for which dispositions should be collected (for Classroom, or Class and Field). Out of 38, 12 of those courses were not offered this Spring. Of the remaining 26, 10 courses had no data submitted by July 2017 (39%) for the classroom instrument, and 4 did not have data submitted for the field instrument (15%).
3. Data Summary: For the data submitted, N = 175 teacher candidates were assessed in the classroom, and N =98 from the field (by a teacher mentor). The means on each of the three disposition categories (Fairness, Respect, and Positivity) were well above a 4.0 on a 5 point scale, indicating the teacher candidates are exhibiting the desired attitudes and behaviors that are expected for their roles. The means of the field-based dispositions are slightly higher than those for the classroom, but all are positive. See attached spreadsheet, 1st tab for detailed results by course.
4. On the attached spreadsheet, we have pulled out any teacher candidates who had a discrepancy between their classroom and field based disposition score greater than 1. To determine this, we compared the mean from the Classroom based instrument (e.g. on Fairness) with the mean from the Field based instrument. Anything with a mean more or less than 1 is pulled out for the faculty to review (see 2nd tab: Diff BW Class&Field).

Recommendations:

- a. There are many classes selected for data collection; you may want to consider reducing the number of classes for which dispositions are collected.
- b. This was the first semester of this new implementation, and the decisions were made and communicated late in the semester. Perhaps complete one more semester with this full set of data collection and re-visit if you want to keep all classes on list at the end of that semester.

DISPOSITION COURSES – updated 5/1/17

Classroom Dispositions	Fieldwork Dispositions	TESOL (26400, 26401 & 33465) & BILINGUAL (27013 & 27014)	
√	√	0804-500FW	Foundations of Bilingual & Multicultural Education
√		0804-521	Theories of Second Language Acquisition Socio Cultural
√	√	0804-602FW	TESOL II: Developing Literacy & Tech Skills in Content Areas
LITERACY (22695 MS)			
√		0802-600	Literacy & Research: Inquiry I
√	√	0802-750FW	Assessing & Addressing lit Needs I
√	√	0802-753FW	Practicum in Literacy I
LITERACY (31150, 31151 & 31152 CAGS)			
√		0802-601	Professional Seminar I
√	√	0802-750FW	Assessing & Addressing lit Needs I
√	√	0802-753FW	Practicum in Literacy I
EARLY CHILDHOOD SPECIAL ED (28905,28906,28907,28908)			
√	√	0810-600FW	Intro to Special Education
√		0814-650	Facing History
√	√	0820-620FW	Inclusive Early Childhood Special Ed
√		0820-788	Master Seminar
SPECIAL EDUCATION			
√	√	0810-600FW	Introduction to Special Ed
√	√	0836-305FW	The Child with Special Needs
√	√	0810-700FW	Foundations, Families, Cultures and Learning
√	√	0810-750FW	Methods of Instruction
ART EDUCATION (Grad)			
√		0803-525	Exploring the Role of Arts in Education
√	√	0803-509FW	Artistic Development and Creative Growth
√		0803-788	Masters Seminar in Arts Education
ART EDUCATION (UG)			
√		0803-203	Introduction to Art Education
√		0803-410	Instruction and Assessment in the Visual Arts
MUSIC EDUCATION			
√		0195-115	Keyboard Proficiency II
√		0199-150	Introduction to Music Education
√	√	0199-251	Music Education methods I: Classroom Instruments
√	√	0199-351	Music Education Methods III: Secondary
STEP CHILDHOOD			
√		0836-302	Perspectives on Teaching and Learning
√		0836-307	Intro to Philosophy of Education
√	√	0836-402FW	Social Studies and Critical Literacies
√		0807-788	Master's Seminar
CHILDHOOD (24639)			
√		0807-788	Master's Seminar: Inquiry in Teaching and Learning
√	√	0807-700FW	Social Studies and Critical lit in Childhood Ed
√		0807-601	School and Society
ADOLESCENCE STEP			
√		0836-222	Adolescent Development
√	√	0810-560FW	Managing Inclusive Environments
√	√	0809-511FW	Instruction and Assessment in English Ed.
√	√	0809-513FW	Instruction and Assessment in Mathematics
√	√	0809-517FW	Instruction and Assessment in Science
√	√	0809-518FW	Instruction and Assessment in Social Studies
ADOLESCENCE MA			
√	√	0809-603FW	Adolescent Experience
√	√	0810-560FW	Managing Inclusive Environment

√	√	0809-511FW	Instruction and Assessment in English Ed.
√	√	0809-513FW	Instruction and Assessment in Mathematics
√	√	0809-517FW	Instruction and Assessment in Science
√	√	0809-518FW	Instruction and Assessment in Social Studies

The following provides a summary of the Student Teachers Disposition Scores for Spring 2017 – by program and as a Unit. University supervisors provide ratings of each student teachers dispositions across 18 items that map to three core disposition categories: Fairness, Respect, and Positivity. The ratings are provided on a 1 (strongly disagree) to 5 (strongly agree) scale, when supervisors indicate the extent to which they agree or disagree with different behaviors that the candidates engage in.

Spring 2017 Student Teaching Disposition Data

PROGRAM	N	FAIRNESS		RESPECT		POSITIVITY	
		Mean	SD	Mean	SD	Mean	SD
CHILDHOOD STEP+MA	43	4.94	0.156	4.92	0.193	4.97	0.103
ADOL STEP+MA	28	4.56	0.408	4.51	0.453	4.57	0.480
SPECIAL ED Combined	9	4.69	0.530	4.69	0.460	4.76	0.397
TESOL MA+CAGS	6	4.43	0.686	4.38	0.707	4.50	0.518
TESOL non cert	7	4.94	0.111	4.98	0.047	5.00	0.000
PHYSICAL ED - Grad	6	4.77	0.294	4.58	0.408	4.73	0.350
PE UG+HPE Dual	14	4.73	0.365	4.60	0.688	4.77	0.341
ART BFA+MA	5	4.20	0.447	4.20	0.447	4.20	0.447
MUSIC	4	4.95	0.100	4.91	0.120	5.00	0.000
TOTAL	122	4.75	0.388	4.70	0.455	4.78	0.382

Overall, as a Unit, our student teachers were rated very positively in terms of engaging in the desired dispositional attitudes and behaviors. As a unit, the average student teacher was rated a 4.75 (out of 5) on Fairness, a 4.70 on Respect, and 4.78 on Positivity. By program, none of three areas were scores lower than 4.20, indicating strong and positivity evidence of dispositional tendencies.