Examining Innovation Usage: Construct Validation of the Usage Rating Profile – Assessment

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Introduction

Background

The Usage Rating Profile – Assessment (URP-A) was developed in order to understand the myriad factors that may influence teachers' adoption of school-based assessments in their classrooms. The URP-A was adapted from the Usage Rating Profile – Intervention (URP-IR), a measure designed to evaluate factors related to intervention usage. Prior research on the URP-IR supported a measure with six factors that included: Acceptability, Understanding, Feasibility, Home-school Collaboration, System Climate, and Systems Support (Briesch, Chafouleas, Neugebauer, & Riley-Tilman, in press). This prior evaluation of the URP-IR supported the psychometric validity of the measure and highlighted the importance of considering multiple factors related to innovation usage, as opposed to traditional unidimensional conceptualizations which only include treatment acceptability. However, it is unclear whether these psychometric properties hold when items reflect assessment usage as opposed to intervention usage.

Objective

The purpose of this study was to investigate the factor structure of the URP-A when used in conjunction with a behavioral assessment tool, Direct Behavior Rating – Single Item Scales (DBR-SIS). Given the increased interest in and use of behavioral assessments within multi-tiered systems of support, this research is both relevant and timely. Specifically, we examined the following research questions: 1) Is the factor structure of the URP-A consistent with the factor structure of the URP-IR? 2) Is the URP-A a reliable measure of assessment usage?

Method

Participants and Setting

- 283 public school teachers of grades 1-8.
- Participating teachers were employed by over 30 different schools, including rural, suburban, and urban districts.
- Public school settings were geographically located Connecticut, Rhode Island, New York, and Missouri.

Table 1: *Teacher Demographic Characteristics*

Characteristic	*n*	%
Gender		
Male	44	16
Female	239	84
Ethnicity		
Caucasian	273	96
African American	4	1
Other	6	2
Grade Taught		
First	31	11
Second	29	10
Third	13	5
Fourth	44	16
Fifth	50	17
Sixth	25	9
Seventh	41	14
Eighth	42	15
Multi-grade	8	3

Method

Measures

- *Usage Rating Profile- Assessment (*URP-A; Chafouleas, Briesch, Neugebauer Riley-Tillman, & McCoach, 2011*).*
  - The URP-A is a self-report measure for collecting information about the factors influencing use of an assessment methodology. The measure consists of 29 items to which participants respond regarding their level of agreement using a 6-point Likert scale (1 – strongly disagree to 6 – strongly agree).
- *Direct Behavior Rating – Single Item Scale* (DBR-SIS)
  - DBR-SIS reflects the teacher's perception of the proportion of time a student is observed engaged in a target behavior (academic engagement, respectful, disruptive) from 0 (never) to 10 (always). Students were rated twice daily for five days.

Procedures

- Participants completed the URP-A assessment following a two-week data collection period during the 2011-2012 or 2012-2013 school year, in which DBR-SIS ratings were completed on a random sample of approximately 10 students in their classroom.

Data Analysis

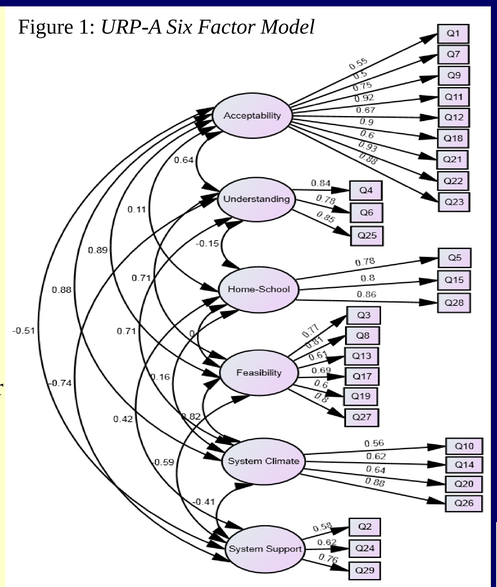
- To evaluate the factor structure of the URP-A, a confirmatory factor analysis was conducted using WLSMV estimation methods in MPLUS (Version 6.11). Reliability was evaluated by computing Cronbach's alpha for the subscales.

Results

Confirmatory Factor Analysis

- Standardized path coefficients for the final model are presented in Figure 1.
- One item (Q16; "Implementation of this assessment is well matched to what is expected in my job") was removed due to high modification indices.
  - This item previously loaded on the System Climate factor on the URP-IR.
- Variance explained for each item ranged from .25-.87.

Figure 1: *URP-A Six Factor Model*



Results

Fit Indices

- Model fit indices are presented in Table 2.
- Fit statistics suggest adequate model fit.

Table 2: *Goodness-of-fit indicators for the URP-A*

Model	χ^2	CFI	TLI	RMSEA	Decision
Six-factor model	1094.19*	.94	.93	.09	Acceptable

* $p < .01$

Reliability Analyses

- Results from the reliability analysis are presented in Table 3.
- All subscales except System Support evidenced adequate levels of internal consistency (>.70)

Table 3: *Reliability Statistics for the URP-A*

Subscale	Items	α
Acceptability	1, 7, 9*, 11, 12, 18, 21, 22, 23	.90
Understanding	4, 6, 25	.80
Home-School	5, 15, 28	.83
Feasibility	3, 8, 13, 17, 19*, 27	.83
System Climate	10, 14, 20, 26	.71
System Support	2, 24, 29	.63

Note. Items with an asterisk indicate items which have been reverse coded.

Summary and Conclusions

- Results from the present investigation support a six factor model for the URP-A.
  - These results suggest consistency in factor structure across the URP-IR and URP-A
- All factors except System Support demonstrated acceptable to high levels of internal consistency.
- Information from the URP-A may be useful in evaluating teacher perceptions of school-based assessments.
  - Perceptions of usability may impact fidelity and implementation of assessments; however, further research is needed to investigate the relationship between URP-A ratings and implementation.
- Future research should also examine the technical adequacy of the URP-A in the context of other school-based assessments.

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