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Automated Measurement Creation Templates for Music Assessment

Edward P. Asmus

University of Miami

Presented at the

Measurement and Evaluation Special Research Interest Group meeting at the

2004 MENC: National Association for Music Education Conference

Contact Information:

Edward P. Asmus, Ph.D., Associate Dean
University of Miami Frost School of Music
P.O. Box 248165
Coral Gables, FL 33124-7610
Phone: 305 284-2241
Fax: 305 284-6475
Ed.Asmus@miami.edu

Automated Measurement Creation Templates for Music Assessment

Three automated templates for developing music assessments will be presented. These templates provide tools for the rapid creation of virtually any form of paper and pencil measurement methodology commonly employed in music education. The templates use the automation and style capabilities of Microsoft Word (Word) to provide a powerful yet flexible environment for the creation of measurement devices. The three templates cover (1) cognitive learning items, (2) rating scales, and (3) observation/rubric forms.

Each template uses its own built-in toolbar to initiate any automated task (Figure 1). Each template includes preset styles for appropriate item/assessment-element formatting. Interactive dialog boxes are used by many of the routines to set parameters that allow the customization of the item/assessment-elements. Every attempt was made in the coding of routines that underlie the templates to make the measurement tool development process as efficient as possible. This required taking full advantage of Word's powerful formatting, style, automation, and human interface features.

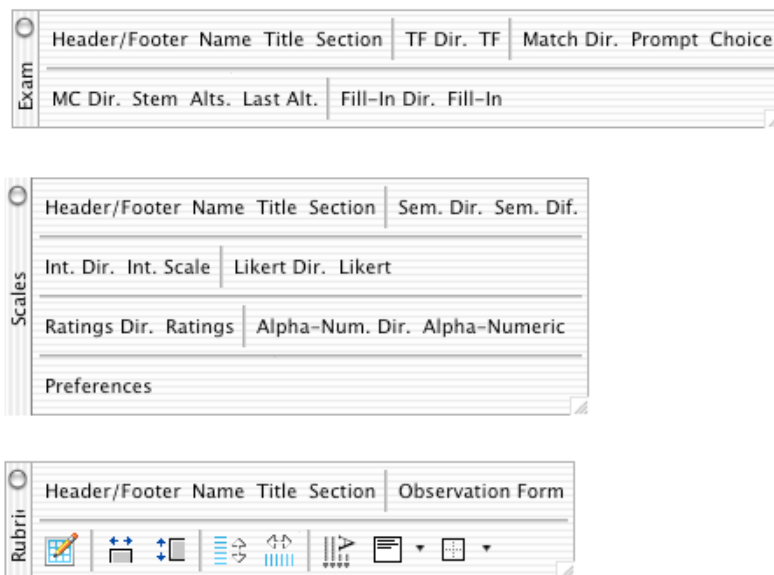


Figure 1. Template toolbars.

The image shows a 'Rating Scales Preferences' dialog box with four main sections:

- Semantic Differential:** Number of Categories: 7 (Default)
- Interval Scales:** Number of Intervals: 9 (Default), Reversed (checked). A dropdown menu shows 'Unfavorable; Neutral; Favorable'. Below are input fields for Level 1: 'Unfavorable', Level 2: 'Neutral', and Level 3: 'Favorable'. A preview bar shows 'Favorable Neutral Unfavorable'.
- Likert Type Scales:** Abbreviations (unchecked), Reversed (unchecked), Neutral Category (checked), Undecided Category (unchecked) (Default). A preview bar shows 'Strongly Agree Agree Neutral Disagree Strongly Disagree'.
- Rating Scales:** Reversed (unchecked), Neutral Category (unchecked), Undecided Category (checked) (Default). A dropdown menu shows 'Excellent; Good; Fair; Poor'. Below are input fields for Level 1: 'Excellent', Level 2: 'Good', Level 3: 'Fair', and Level 4: 'Poor'. A preview bar shows 'Excellent Good Fair Poor Undecided'.

On the right side, there is a section for **Alphabetic/Numeric Scales**:

- Use: Alphabetic (selected), Numeric (Default)
- Alphabetic Start: A, Alphabetic End: E
- Numeric Start: 1, Numeric End: 5
- Reversed (unchecked)
- Preview bar shows 'A B C D E'

At the bottom right are 'Cancel' and 'OK' buttons.

Figure 2. Rating Scales Preferences dialog box.

The cognitive learning assessment template automates the writing of the following item types: true-false, matching, fill-in the blank, and multiple-choice. Essay items can also be automatically formatted using the stem formatting option of the multiple-choice item type. The template can also insert directions for each of these item forms. By necessity these directions are quite general in nature, but they do provide a textual base that the measurement tool developer can edit to produce directions more focused on the particular musical learning at hand.

The rating scale template provides automation for five different rating scale types: (1) semantic differential, (2) Thurstone type interval scales, (3) Likert type scales, (4) rating scales, and (5) alphabetic or numeric scales. Each scale type allows the developer to insert customized prompts. The preferences dialog box (Figure 2) allows the reversal of those scales where such reversal is appropriate. For instance, “Excellent Good Fair Poor” can be automatically reversed to “Poor Fair Good Excellent.” In addition, “neutral” and “undecided” categories can be added to any of the Likert type or rating scales at the option of the developer. A Likert type scale with these options could be “SA A N D SD Undecided.” A number of built-in scale anchors can be selected for the interval and rating scales. If these do not meet the needs of the developer, custom scale anchors can be inserted. Any or all of the rating scale types can be included on any given assessment. In addition, generic directions for each scale type can be automatically inserted into the device being developed.

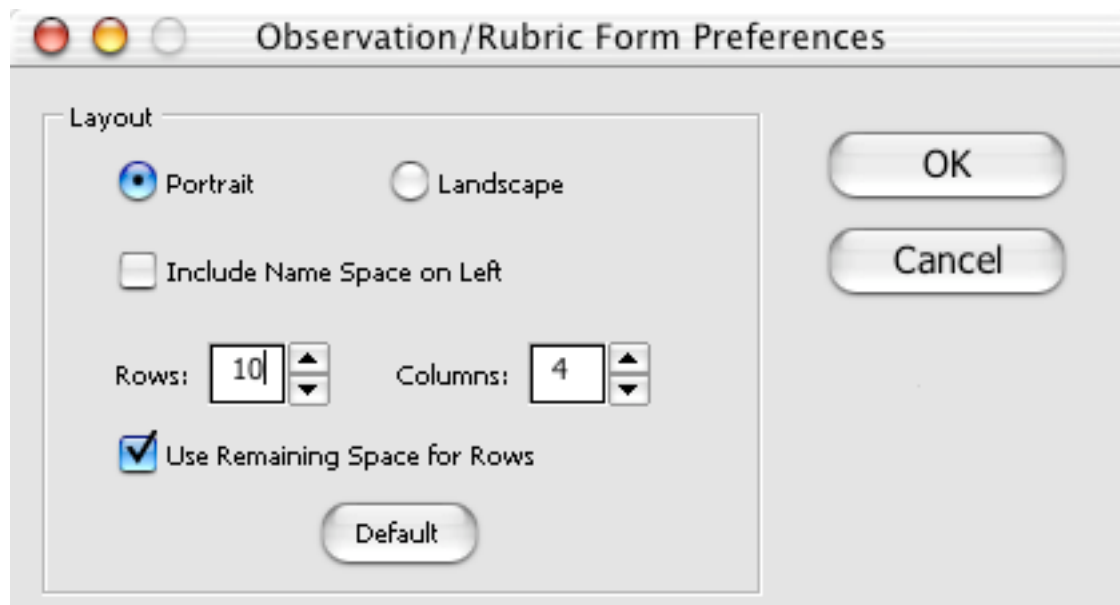


Figure 3. Observation/Rubric preferences dialog box.

The observation/rubric form template provides tools for the rapid development of musical performance task assessments. The developer is given a number of choices prior to the creation of the observation/rubric form (Figure 3). One is whether to include a space at the left of each rubric row for an individual student/subject's name. This option is provided so that multi-level multi-trait rubrics can be developed as well as the more common multi-trait over multi-student/subject observation forms. The developer also has control over how many columns/categories and the number of rows/students that are to be included. By default, the system calculates the column size based upon the entire width of the assessment form. One of the options is to have the system set the assessment form into landscape or wide orientation if desired. The developer has the option of selecting the remaining length of the page on which to base the row heights. Otherwise, the rows are set based on the type font and type size currently in use. The associated toolbar also provides complete flexibility in adjusting row height and column width, text orientation, and borders.

All three templates allow the measurement developer to quickly add headers and footers to the measurement device being prepared via a dialog box. The running head is inserted at the top-right header position under which is added "Page x of y." The footer uses the left most, centered, and right most positions with a border separator at the top. The developer can choose to insert customized text for each footer position, the current date, or copyright information of the format "Copyright © 2004." The copyright year is based on the current year. Of course, once this is all inserted into the measurement device it can be changed using traditional Word editing methods. In addition, a name blank can be inserted, centered titles in large bold-faced type can be formatted, and section headers that use white bold-faced text on a black background that span the entire page can be added with simply a click of the mouse.

The presentation will demonstrate the efficiency of these templates in producing musical assessments that are attractive and can include virtually any item/assessment-element type used in the field. During the presentation, a web site address will be provided where those in attendance can go and download these templates for their own use in measurement and evaluation.

Template Availability:

<http://www.music.miami.edu/research/templates/>