Scoring the Teachers' Attitudes Toward Information Technology (TAT v1.1) Questionnaire

Introduction

The Teachers" Attitudes Toward Information Technology Questionnaire (TAT v.1.1) gathers data on 10 separate indices from respondents. Eight of these ten subscales were newly constructed using semantic differential items taken from Zaichkowsky's (1985) Modified Personal Involvement Inventory, a context free 16-item semantic differential scale that focuses on "a person's perceived relevance of the object based on inherent needs, values, and interests" (p. 342). Two well-validated subscales from the Teachers' Attitudes Toward Computers Questionnaire (TAC) (Christensen and Knezek, 1996, 1997) are also included on the instrument for comparison purposes: a) Kay's semantic perception of computers (Kay, 1993) and b) D'Souza's (1992) classroom learning via E-mail. The following sections describe how to score each scale.

Zaichkowsky's (1985) Modified Personal Involvement Inventory

'Semantic items are typically hand coded with a number from 1-7, representing the particular space the respondent marked between the adjective pairs, then keypunched by data entry staff. An example semantic differential scale is listed in Figure 1.'

To me, Electronic Mail is:

1. important	___ ___ ___ ___ ___ ___ ___	unimportant
2. boring	___ ___ ___ ___ ___ ___ ___	interesting
3. relevant	___ ___ ___ ___ ___ ___ ___	irrelevant
4. exciting	___ ___ ___ ___ ___ ___ ___	unexciting
5. means nothings	___ ___ ___ ___ ___ ___ ___	means a lot
6. appealing	___ ___ ___ ___ ___ ___ ___	unappealing
7. fascinating	___ ___ ___ ___ ___ ___ ___	mundane
8. worthless	___ ___ ___ ___ ___ ___ ___	valuable
9. involving	___ ___ ___ ___ ___ ___ ___	uninvolving
10. not needed	___ ___ ___ ___ ___ ___ ___	needed

Figure 1. Sample Semantic Differential subscale from the TAT Questionnaire

The portion of the TAT based on Zaichkowsky includes semantic perception subscales on the following target items:

- E-mail for me

- E-mail for my students
- WWW for me
- WWW for my students
- Multimedia for me
- Multimedia for my students
- Computers for Professional Productivity
- Computers in the Classroom

Step-by Step Scoring Procedures:

1. ***Reverse the items negatively worded within each scale***

Four items in each Zaichkowsky subscale have the "negative" adjective in the left-hand or first position, while the other six have the "positive" adjective in the first position. This "alternate" design ensures that respondents do not simply place X in all the right-hand blanks for an object they don't like.

To ensure that this alternate positioning does not skew scores, the scoring process must include reversal of items negatively worded.

For ease in reading, we want to make sure that responses toward "positive" adjectives show high values, and that responses toward "negative" adjectives show low values.

The Zaichkowsky's scale reverses the following items: 1, 3, 4, 6, 7, 9

SPSS command example:

```
compute varx = 8 varx.
```
(where *x* is the variable that represents the item in the scale and where 8 is used for any 7-position Zaichkowsky's scale)

SPSS command application:

```
compute var1 = 8 – var1.

compute var3 = 8 – var3.

compute var4 = 8 – var4.

compute var6 = 8 – var6.

compute var7 = 8 – var7.

compute var9 = 8 – var9.

missing values var1 var3 var4 var6 var7 var9(8).
```

2. Generate an average score for each subscale

Add all 10 responses and divide by the number of items.

SPSS command example:

```
compute email = (var1+var2+ var3+ …+varn)/n.
```

Computer Attitude Measure (CAM) Scoring

Kay's (1993) Computer Attitude Measure has 10 adjective pairs with seven response blanks. Step-by-step procedures for scoring this scale are:

Step-by Step Scoring Procedures:

1. Translate each response (X) to a numerical value

Each blank on the response form represents a value from 1-7.

For example, an X in the 2nd blank from the left is valued at 2.

2. Generate an average score

Add all 10 values and divide by the number of items.

SPSS command example:

```
compute CAM = (var1+var2+ var3+ …+varn)/n.
```

SPSS command application:

```
compute CAM = (var1+var2+ var3+ var4+var5+ var6+ var7+var8+ var9+var10)/10.
```

Scoring D'Souza's E-mail for Classroom Learning Scale

D'Souza's (1992) scale has 10 statements each with the rating scale of 1-5:

1 = strongly disagree

2 = disagree

3 = undecided

4 = agree

5 = strongly agree

Step-by Step Scoring Procedures:

1. Generate an average score

Add all 10 responses and divide by the number of items.

SPSS command example:

```
compute D'Souza = (var1+var2+ var3+ …+varn)/n.
```

SPSS command application:

```
compute D'Souza = (var1+var2+var3+var4+var5+var6+var7+var8+var9+ var10 )/10.
```

Credits

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