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ABSTRACT

This symposium evolved from a research interest and the need to develop validity, reliability, and accountability measures to be used in the teacher education program at Delta State University, Mississippi. Researchers wanted to study student teacher self-efficacy and to establish a continuing database on the program's student teachers. The papers are: (1)"Overall Methodology and Results" (Reid Jones and Lauren Dent); (2) "Assessment of Elementary and Secondary School Student Teachers" (Kathleen Jenkins); (3) "Development of the Student Teacher Assessment Instrument (STAI). Reliability and Validity" (C. H. Cronin and K. B. Jenkins); (4) "Self-Efficacy, Student Teaching, and the Teacher Education Program" (Lynn J. House and Reid Jones); and (5) "Effective Assessment of the Student Teaching Program" (Lynn J. House and K. B. Jenkins). An appendix contains three developed scales. (Contains 27 references.) (SLD)

Assessing Performance and Self Efficacy of Student Teachers

A Symposium for the MidSouth Educational Research Association
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Organizer: Reid Jones
Delta State University

Contents

Assessing Performance and Self Efficacy of Student Teachers

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This symposium evolved both from a research interest and from the need to develop validity, reliability, and accountability measures to be used in our teacher education program. With regard to the first interest, several members of the College of Education (COE) at Delta State University (DSU) wanted to begin a continuing research collaboration on personality, demographic, and academic variables that influenced the effectiveness of teacher education students. Personality constructs such as Rotter's Locus of Control (1966) and Bandura's Self Efficacy (1977) were obvious candidates, both having a substantial P-12 research literature. There were similarities between these two concepts as illustrated in the examples of Figure 1.

Figure 1: Comparing Locus of Control (LOC) with Self Efficacy (SE) of Teachers

Personality Construct	Example item for P-12 Teacher	Degree of Specificity
Locus of Control (Internal) Rotter, 1966	"I believe that I can control the learning situation for my students". And "I expect to succeed when I have a difficult student".	More global. LOC pertains to generalized expectations in many areas of functioning, not just those related to teaching.
Self Efficacy (SE) Bandura, 1977	"I believe that I am able to make students enjoy coming to school, and that will produce desirable outcomes".	More specific. SE should be related to specific tasks and outcomes. Global SE should be avoided.

Figure 1 also demonstrates a key difference between the two constructs. LOC was defined as a "generalized expectancy" by Rotter (1966). In contrast, both Bandura (1997) and Pajares (1996) insist that SE must not be understood as a "global" personality construct. Rather, SE is related tasks and specific contexts. For example, a softball pitcher may have a very high sense of SE when she throws the ball and a very low SE when she is called on to hit one with a bat.

We elected to pursue Bandura's construct since the increased specificity of the items was more likely to indicate specific ways to improve our teacher education program. It should be noted that Tschannen-Moran, Hoy, and Hoy (1998) have cautioned that if SE measures become too specific, they risk losing substantial predictive validity for closely related behaviors and contexts. Still, the fact that SE was expected to and has been demonstrated to be more closely associated with specific behavioral variables and contexts was the deciding issue. This specificity would allow us to pinpoint appropriate modifications in our Teacher Education program.

An extensive and readable summary of the SE research literature on P-12 Teacher Self Efficacy is offered by Tschannen-Moran, Hoy, and Hoy (1998). Those authors pointed out that there is far more research on Teacher Efficacy than on student Student Teacher Efficacy. Henson (2001) provides another perspective on the research literature and updates some of the measurement issues. Finally, many other resources are available at Albert Bandura's website at www.emory.edu/EDUCATION/mfp/Bandura/Index.html.

The second interest that has led to this symposium was that the COE faculty wanted to establish a continuing database on our teacher education students. Demographic, academic, and teaching performance assessments of student teachers were among the variables initially included. Aside from the current research, the database should prove useful for program evaluation as well as for our upcoming NCATE and SACS reviews. Finally, the database should be useful in establishing whether or not there was validity and reliability of our internally developed student teaching assessment instruments.

The symposium continues with five parts. The first paper (Jones and Dent, 2003) describes the Methodology and the Overall Results for all student teachers in the study. The Methodology was used in all four of the papers that follow. The second paper (Jenkins, 2003)

compares Elementary and Secondary Student teachers on demographic and academic variables. The third paper (Cronin and Jenkins, 2003) describes the development of the Student Teacher Assessment Instrument (STAI) at Delta State. The same items are used in the student's self assessment, the cooperating teacher's assessment, and the supervising faculty's assessment. Evidence for reliability and validity were presented. Additionally, STAI differences between Elementary and Secondary Student Teachers were demonstrated. The fourth paper (House and Jones, 2003) focuses on assessing teaching self efficacy among student teachers. A set of SE items were derived that produced a maximal association with student teacher performance assessments on the STAI. Further, there was additional support for the differences proposed between Elementary and Secondary Education student teachers. The final paper (House and Jenkins, 2003) compares Elementary and Secondary Teacher Education with regard to all variables described in the database. Qualitative issues were also addressed. A replication of the results in the present symposium was reported to be in progress. Finally, the audience was asked to participate in an evaluation of database variables and to contribute to the expansion of the database.

Assessing Performance and Self Efficacy of Student Teachers: Methodology and Overall Results

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This paper presented the methodology for all studies reported in the symposium. The authors that follow usually referred to this paper rather than repeat parts of the paper. Further, it presents the descriptive statistics and overall results for the 70 teacher education students who participated.

Subjects: Seventy student teachers at a small (N = 4,000 students), rural, Southeastern university agreed to voluntarily participate in a research study designed to evaluate the performance assessments of student teaching as well as a range of personality, demographic and academic variables. Seventy of 74 student teachers (95%) signed informed consent statements. Forty-two students (60%) were Elementary Education majors and 28 students (40%) were Secondary Education majors. The average age was 24.44 years. The student teachers were a highly selected population, compared to the overall student body since 1) they were not admitted to the program unless they had at least a 2.5 overall Grade Point Average (GPA); 2) they had passed the required Praxis tests for their major; and 3) they were seniors. As a consequence of these selective issues, they were slightly above the university average on ACT-Composite, averaging 20.21 and far above the university overall GPA, averaging 3.19 of a possible 4.00.

Survey Instruments: Demographics were obtained from student teacher self-reports and included age, sex, ethnicity, and major (Elementary or Secondary Education). ACT-Composites and GPA were obtained from the university database on students.

Teacher Self Efficacy Instruments included the Short Form of the Teacher Self Efficacy Scale (Hoy and Woolfolk, 1993 coded as **STSE** in this study) and the Bandura Teacher Self Efficacy (Bandura, 1997 coded as **BTSE** in this study).

The STSE is a brief, ten item scale which is the end product of a rather extensive series of research studies based on teacher self efficacy (Hoy and Woolfolk, 1993). Each of the items is a self report rating from 1 ("Strongly Agree" to 6 ("Strongly Disagree"). A brief summary of the research behind this instrument is that it was derived from initial attempts to apply Bandura's self efficacy concept to teaching. Based on rudimentary work from the Rand Corporation, Gibson and Dembo (1984) developed a 30 item scale which they explained in terms of Bandura's Self Efficacy construct. Hoy and Woolfolk (1993) redefined two dimensions of the Gibson and Dembo Self Efficacy concept as Personal Teaching Efficacy (PTE) and General Teaching Efficacy (GTE). PTE was explained as an individual personality construct, similar to Bandura's proposed construct of Self Efficacy in the teaching situation. GTE was a global construct tied to the person's general beliefs about whether of not any teacher could be effective in a specific situation. In essence, it was a belief about the effectiveness of teaching, and not a belief about the efficacy of the individual teacher. The resulting STSE is based on five items for each of the two sub-scales (PTE and GTE). Hoy and Woolfolk (1993) reported Chronbach's alphas in the moderate range. The authors reported that the PTE had an alpha of .77 and the GTE had an alpha of .72. Validity evidence was not cited. The STSE is presented in APPENDIX A: Research Instruments.

The second measure of Teacher Self Efficacy was a 30 item measure developed by Albert Bandura (Bandura, undated). Each of the items is self rated in terms of what the teacher can do to change the situation from 1 ("Nothing") to 9 ("A Great Deal). Hoy (2000) reports that

although the Bandura instrument has high internal consistency (Chronbach's alphas ranged from .92 to .95), and it does correlate with other measures of Teacher Self Efficacy, very little other empirical research was available on this scale. She completed a factor analysis, but was unable to derive "interpretable" factors. However, it is difficult to deny that Bandura understands the construct of Teacher Self Efficacy. The Bandura scale was composed of six subscales (instructional efficacy, disciplinary efficacy, efficacy to increase parental involvement, efficacy to increase community involvement, and efficacy to promote a positive school environment).

The Bandura scale included six items that were clearly impossible for a student teacher to influence. These are shown in **Figure 2.** Hoy (2000) recommended that these items be dropped if the instrument was used with student teachers. In the present study, this was done, yielding the Bandura Student Teacher Self Efficacy Scale. The complete instrument is presented in APPENDIX A: Research Instruments.

Assessment of Student Teaching Instrument. Empirical measures of the effectiveness of student teaching were provided by the *Student Teacher Assessment Instrument* (STAI). The STAI was developed at Delta State University (see Cronin and Jenkins, 2003). Items that had been developed for use as the Georgia Teacher Assessment Instrument (GTAI) were modified and adopted by the Mississippi State Department of Education. The Mississippi Teacher Assessment Instrument (MTAI) was field tested, yielding significant measures of reliability, but without evidence of validity (Mississippi State Department of Education, 1992). The modified MTAI was adapted for use by the Office of Field Experience at Delta State University as the Student Teacher Assessment Instrument (STAI).

The STAI has 54 items which are rated from 1 ("Ineffective, unacceptable practice" to 4 ("outstanding, effective practice"). Six sub-scales include 1) Planning and Preparation, 2)

Figure 2: BANDURA'S STUDENT TEACHER SELF-EFFICACY SCALE

Student teacher rates self on a scale of 1 = "nothing" to 9 = "a great deal".

Instructional Self-Efficacy

1. How much can you do to get the instructional materials and equipment you need?
2. How much can you do to get through to the most difficult students?
3. How much can you do to keep students on task on difficult assignments?
4. How much can you do to increase students' memory of what they have been taught in previous lessons?
5. How much can you do to motivate students who show low interest in schoolwork?
6. How much can you do to get students to work together?
7. How much can you do to overcome the influence of adverse community conditions on student learning?
8. How much can you do to get children to do their homework?

Disciplinary Self-Efficacy

9. How much can you do to get children to follow classroom rules?
10. How much can you do to control disruptive behavior in the classroom?
11. How much can you do to prevent problem behavior on the school grounds?

Efficacy to Enlist Parental Involvement

12. How much can you do to get parent sot become involved in school activities?
13. How much can you assist parents in helping their children do well in school?
14. How much can you do to make parents feel comfortable coming to school?

Efficacy to Enlist Community Involvement

15. How much can you do to get community groups involved in working with schools?
16. How much can you do to get churches involved in working with the school?
17. How much can you do to get businesses involved with the school?
18. How much can you do to get local colleges and universities involved in working with the school?

Efficacy to Create a Positive School Climate

19. How much can you do to make the school a safe place?
20. How much can you do to make students enjoy coming to school?
21. How much can you do to get students to trust teachers?
22. How much can you do to reduce school dropout?
23. How much can you do to reduce school absenteeism?
24. How much can you do to get students to believe they can do well in schoolwork?

Items <u>Omitted</u> from the Original Bandura Teacher Self-Efficacy Scale

1. How much can you do to influence the decisions that are made in the school?
2. How much can you express your views freely on important school matters?
3. How much can you do to get the instructional materials and equipment you need?
4. How much can you do to influence the class sizes in your school?
5. How much can you help other teachers with their teaching skills?
6. How much can you do to enhance collaboration between teachers and the administration to make the school run effectively?

Communication and Interaction, 3) Teaching and Learning, 4) Managing the Learning Environment, 5) Management of Student Learning, and 6) Professionalism and Partnerships. The STAI was completed by the student teacher, the cooperating teachers and the faculty supervisor. Subscale number Six (Professionalism and Practice) was omitted ten times (two students, seven cooperating teachers, and one faculty supervisor). Rather than omit ten student teachers of the 70 in this study, the three STAI were computed based on the sum of the first five sub-scales. The STAI is presented in APPENDIX A: Research Instruments.

Procedure: At the last group meeting of student teachers before embarking on their field experience, students were asked to sign Informed Consent statements indicating their voluntary participation in the current research. Those (N=70) who consented provided self reports on background demographics, responded to the self efficacy scales, and agreed to allow the researchers to retrieve information on their academic records and performance ratings of their student teaching. Four student teachers declined to participate.

Overall Results

The overall results for the 70 student teachers are presented below. Results related to specific research questions (Elementary vs. Secondary comparison, Self Efficacy, and the STAI) were presented in the separate papers that follow. Also, results on subscales of the Research Instruments (BTSE, TSE, and STAI) were presented in the separate papers that follow.

Figure 3 presents the variables and their descriptions. Data on many other variables was accumulated, but will not be used until more student teachers are added to the database. To do so would have compromised an already fragile subject to variable ratio (70 subjects to eight variable = 1 to 8.75). Overall descriptive statistics are presented in **Table 1.**

Figure 2: Variable Descriptions (Jones and Dent)

Var	Var Name	Variable Description	Variable Codes
1	AGE	Age in Years	# Years
2	SEX	Sex	0=M; 1=F
3	ETHNIC	Ethnicity	1=W; 2=B
5	GPA	DSU Grade Point Average	0.00 to 4.00
9	EI/SEC	Elementary vs. Secondary Education	1=Elem; 2=Sec
45	BTSE-I	Bandura Teach Self Eff: Instructional	Range = 8 to 72
46	BTSE-D	Bandura Teach Self Eff: Discipline	Range = 3 to 27
47	BTSE-P	Bandura Teach Self Eff: Parent Involvement	Range = 3 to 27
48	BTSE-C	Bandura Teach Self Eff: Community Involvement	Range = 4 to36
49	BTSE-SC	Bandura Teach Self Eff: Positive School Climate	Range = 6 to 54
50	BTSE-T	Bandura Teacher Self Efficacy: Total	Range = 24 to 216
61	STSET	Short Teacher Self Efficacy (Hoy and Woolfolk)	Range = 6 to 60
113	S-STAI-P	Student STAI Planning and Preparation	Range = 8 to 32
114	S-STAI-C	Student STAI Communication and Interaction	Range = 7 to 28
115	S-STAI-TL	Student STAI Teaching and Learning	Range =15 to 60
116	S-STAI-E	Student STAI Managing the Learning Environment	Range = 8 to 32
117	S-STAI-SL	Student STAI Managing Student Learning	Range = 4 to 16
118	S-STAI-PP	Student STAI Professionalism/ Partnerships (Omitted in Results)	Range = 12 to 48
119	S-STAI-T	Student STAI Total Self Rating (Originally 54 to 216)	Range = 42 to 168
183	C-STAI-P	Cooperating Teacher STAI Planning and Preparation	Range = 8 to 32
184	C-STAI-C	Coop Teacher STAI Communication and Interaction	Range = 7 to 28
185	C-STAI-TL	Coop Teacher STAI Teaching and Learning	Range = 15 to 60
186	C-STAI-E	Coop Teacher STAI Managing Learning Environment	Range = 8 to 32
187	C-STAI-SL	Coop Teacher STAI Management of Student Learning	Range = 4 to 16
188	C-STAI-PP	Coop Teacher STAI Professionalism/Partnerships (Omitted in Results)	Range = 12 to 48
189	C-STAI-T	Coop Teacher STAI Total Rating (originally 54 to 216)	Range = 42 to 168
253	D-STAI-P	DSU Supervisor STAI Planning and Preparation	Range = 8 to 32
254	D-STAI-C	DSU Supervisor STAI Communication and Interaction	Range = 7 to 28
255	D-STAI-TL	DSU Supervisor STAI Teaching and Learning	Range = 15 to 60
256	D-STAI-E	DSU Supervisor STAI Managing the Learning Environment	Range = 8 to 32
257	D-STAI-SL	DSU Supervisor STAI Management of Student Learning	Range = 4 to 16
258	D-STAI-PP	DSU Supervisor STAI Professionalism /Partnerships (omitted in Results)	Range = 12 to 48
259	D-STAI-T	DSU Supervisor STAI Total Rating (originally 54 to 216)	Range = 42 to 168
280	ACT-C	ACT-Composite Score (Mean varies = about 20).	Standardized Score

Explanation of Coding Scheme for Variables

For the Bandura Scale:

B = Bandura

TSE = Teacher Self Efficacy

Sub-scales
I = Instructional
D = Discipline
P = Parent Involvement
C = Community Involvement
SC = Positive School Climate
T = Total Scale Score (add all sub-scales)

Thus, **BTSE-I** refers to the Instructional Sub-scale on the Bandura Teacher Self Efficacy Scale.

For the STAI (Student Teacher Assessment Instrument):

Raters
S = Student Self rating
C = Cooperating Teacher Rating
D = DSU faculty Supervisor Rating

Subscales
P = Planning and Preparation
C = Communication
TL = Teaching and Learning
E = Managing the Learning Environment
SL = Managing Student Learning
PP = Professionalism and Partnerships

Thus, **C-STAI-C** refers to the Cooperating Teacher's rating on the Communication sun-scale of the STAI.

Table 1
Descriptive Statistics for Student Teachers

Variable Name*	N	Mean	Standard Deviation
AGE	70	24.44	5.15
GPA	70	3.19	0.41
BTSET	70	166.99	25.32
STSET	70	28.20	6.84
S-TAI-T	70	158.24	9.75
C-STAI-T	56	159.52	9.28
D-STAI-T	58	157.81	9.91
ACT-C	63	20.21	3.09

*Please refer to Figure 3 for complete variable names.

By the end of the Fall Semester, 2003, there will be a new group of student teachers in the database, and the number of subjects will grow to about 150. Until that happens, we have tried to restrict analysis to the minimum number of variables.

Table 2 shows the reliability data for the Research Instruments obtained in the present study. Internal consistency, as measured by Chronbach's alpha and the average inter-item correlation is presented for all five research instruments.

Table 2

Reliability (Internal Consistency)

Research Instrument	**Chronbach's Alpha**	**Mean Inter-item Correlations**
B-TSE-T (**Bandura Teacher Self Eff Total**)	.94979	.45723
S-TSE-T (**Short Teacher Self Eff Total**)	.67024	.20897
S-STAI-T (**Student STAI-Total**)	.93432	.25344
C-STAI-T (**Cooperating Teacher STAI Total**)	.94486	.31561
D-STAI-T (**DSU Faculty STAI Total**)	.91981	.22112

The Short Teacher Self Efficacy Total has "adequate" internal consistency (alpha = .67024). The other four instruments all have "excellent" internal consistency (alpha = .92 or better).

Discussion

A collaborative study of self efficacy, academic, demographic, and personality variables was conducted at a small (N=4000) Southeastern, rural university. Student teachers were a highly selcted group, based on admissions criteria, passing standardized Praxis examinations, and overall GPA requirements. Research instruments were shown to have very high internal consistency. Evidence for validity of the research instruments has often not been reported in the research literature.

Three methodological issues were raised. First, it was decided to eliminate the Short TSE scale based on the Gibson and Dembo items (Hoy, 2000). While attractive for its brevity, this scale had much lower internal consistency than the other instruments used. Further, Hoy (2000) points out that despite yielding a consistent factor structure, one of the scale's factors ("General Teaching Efficacy") was a " ... general belief about the power of teaching" (page 7). This scale definition does not reflect expectancies about *personal* teaching efficacy and is thus, antithetical to Bandura's construct. Second, it was decided to modify the STAI, for the present research, to exclude the Professionalism and Planning Sub-scale. That sub-scale had been omitted ten times in the student teaching assessments of 70 subjects. Doing so allowed the researchers to "capture" more subjects. Third, the relatively small number of subjects in the first replication of this continuing study also dictated that we severely restrict the number of variables analyzed.

Assessment of Elementary and Secondary Student Teachers

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A thorough investigation of the variables that influence student teaching must address inherent differences that exist between elementary and secondary teacher education students. An elementary education major is frequently motivated by a desire to work with younger children in the formative stages of their education. A secondary education major is often intrigued by a particular content area, such as mathematics or literature. Their passion is in making that content accessible and interesting to teenagers. Some of the more obvious differences are summarized in **Figure 1.**

Figure 1
Issues that distinguish Elementary from Secondary Education Majors

Elementary Education Majors	Secondary Education Majors
1. More interest in working with young children than in content area	Fascination with communicating content area to teenagers
2. More experienced and comfortable with content at the elementary level	May have just learned content that will have to be communicated to secondary students
3. More homogeneous undergraduate curriculum	Very diverse undergraduate curricula
4. Often the first choice of undergraduate major	Often a secondary choice of major

Understanding these and other differences between elementary and secondary education majors should be incorporated into the design of a comprehensive assessment program. In order to better understand these issues in our College of Education (COE) and how they might influence other variables in student teaching, an empirical comparison of elementary and secondary student teachers was completed.

Method and Results

The **Method** and overall **Descriptive Statistics** for this research have been presented by Jones and Dent (2003). With only 70 subjects for the initial phase of this comparison between elementary and secondary student teachers, it was necessary to limit the number of variables as much as possible. Six variables appeared to be most important. They included the overall GPA (**GPA**), the Bandura (Student) Teacher Self Efficacy Scale Total score (**B-TSE-T**), the student self rating on the Student Teacher Assessment Index-Total (**S-STAI-T**), the Cooperating Teacher rating on the Student Teacher Assessment Index-Total (**C-STAI-T**), the Delta State Faculty Supervisor rating on the Student Teacher Assessment Index-Total (**D-STAI-T**), and the ACT Composite for the student teacher (**ACT-C**). Descriptive statistics on these variables for elementary and secondary student teachers are presented in **Table 1.**

Table 1
Comparison of Elementary and Secondary Student Teachers

Variable	**Elementary Education**		**Secondary Educatiom**	
	Mean	**SD**	**Mean**	**SD**
GPA	3.12	0.38	3.33	0.40
B-TSE-T	172.52	14.16	156.23	24.25
S-STAI-T	160.76	8.48	155.38	8.49
C-STAI-T	160.72	6.33	158.69	13.59
D-STAI-T	154.60	8.16	162.69	11.12
ACT-C	19.52	2.53	21.34	3.41

Inspection of Table 1 suggests two interesting possibilities. First, elementary student teachers rated themselves higher on the Bandura Teaching Self Efficacy Scale and gave themselves higher self ratings on the STAI. This occurred despite the fact that they had a slightly lower GPA, substantially lower student teaching ratings from supervising faculty, and lower ACT-C. Second, elementary student teachers appeared to be more homogeneous (lower SD) than did secondary student teachers.

When the two groups were compared using MANOVA, a significant overall difference was demonstrated [Wilk's Lambda = 0.602; $F(6,31) = 3.418$; $p < .01$]. Univariate F tests were then conducted, given that the overall vector of means was significantly different for elementary and secondary student teachers. Results of the univariate tests are shown in Table 2.

Table 2

Variable	F-Test Result	p
GPA	2.60	0.11
B-TSE-T	4.30	0.04*
S-STAI-T	3.43	0.07
C-STAI-T	0.38	0.54
D-STAI-T	6.54	0.01**
ACT-C	4.27	0.05*

Univariate tests confirmed that elementary student teachers rated themselves higher than did secondary student teachers on teacher self efficacy. They also approached significantly higher self ratings on the STAI. Other variables suggested stronger backgrounds among secondary student teachers. They had significantly ($p<.05$) higher ACT-C scores and significantly higher ($p<.01$) teaching ratings from supervising faculty.

Discussion

Results of the present research were limited by the relatively small number of subjects (elementary = 42; secondary=28). Further, the high degree of selection for admittance to student teaching severely restricted the range of variation. For example, the 2.5 GPA required for student teachers limited the range for that variable to 1.5 (2.5 to 4.0). Additionally, all student teachers had already passed all appropriate parts of the PRAXIS examinations prior to field experience.

Despite these limitations, three conclusions were warranted. First, elementary student teachers appeared to be a more homogeneous group with regard to the variables studied. Second, elementary student teachers rated themselves higher on teacher self efficacy and on teaching effectiveness. Third, at least two variables indicated that secondary students were more capable: ACT-C and supervisor ratings.

Development of the Student Teacher Assessment Instrument (STAI): Reliability and Validity

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A sound teacher education assessment provides feedback for program improvement and a bulwark for accountability. Such as assessment must allow flexibility for qualitative impressions while offering sufficient precision for empirical verification of the assessment process. The evolution of the Student Teacher Assessment Instrument (STAI) at Delta State University and empirical studies of reliability and validity for that instrument were the two goals of this presentation.

Origins of the STAI may be traced to the the Georgia Teacher Assessment Instrument. That scale was provisionaly adopted by the Mississippi State Department of Education. The Georgia instrument was based on 16 teaching competencies with 42 indicators that these competencies had been achieved. Initial testing of the Georgia instrument yielded some validity and reliability data in Mississippi Teacher Education programs. Consequently, the State Department of Education commissioned further development of a student teacher assessment instrument at public and private higher education units in the state. Those efforts were coordinated by the Mississippi Association of Colleges of Teacher Education (MACTE), with the Deans of those programs as representatives. Each teacher education program was mandated to develop a student teacher instrument that maintained some empirical basis for assessing the sixteen competencies. Flexibility was allowed regarding the 42 indicators (Mississippi State Department of Education, January, 1992).

At Mississippi State University, Meridian campus, a 30 item instrument was developed by Walker and Richardson (1993). That scale was used to longitudinally compare student teachers with first year teachers on the teacher competencies. Chronbach's alpha for the instrument was high (alpha = .9507). Significant changes were noted, although they were mixed. Some areas of competency showed improvement while others showed declines during these transition years. The authors argued that student teacher self ratings on the instrument were a form of "teacher efficacy".

At Delta State, a team of faculty from the College of Education (COE) developed the STAI. Ultimately, a 54 item survey instrument was developed, as shown in the APPENDIX for this symposium. Six sub-scales were developed, based on the competencies, shown in **Figure 1**.

Figure 1

STAI Subscale	**Number of Items**
Planning and Preparation (P)	8
Communication and Interaction (C)	7
Teaching for Learning (T)	15
Manages the Learning Environment (E)	8
Assessment of Student Learning (L)	4
Professionalism and Partnerships (P)*	12*

* As previously mentioned, this sub-scale was omitted from most Results.

The 54 items were presented to the student teacher (S) for self assessment, to the cooperating teacher (C) for assessment, and to the Delta State Faculty supervisor (D) for assessment. Further, the total (T) score on the 54 items was considered to be an overall assessment of student teaching. The present report was an initial empirical study of the reliability and validity for the STAI, based on 70 student teacher participants. As noted by Jones and Dent (2003), ten assessments were omitted on the final sub-scale, Professionalism. Withe the small N, we

decided to omit that scale from further analysis since we did not want to lose 10 subjects from overall comparisons. Consequently, the last sub-scale is omitted from all research on the STAI in this symposium. It will be included in replications as the number of subjects warrants.

Methods

The overall methodology and descriptive statistics have been presented by Jones and Dent (2003) and will only be summarized here. Seventy of 74 student teachers voluntarily participated in the research by providing background demographics, filling out surveys on teaching self-efficacy, and allowing the use academic records and the three STAI assessments. Survey forms were distributed at the final group meeting of student teachers prior to beginning their field experience. Academic records were retrieved, with permission, from the university Banner system for Information Technology Services.

Results

Overall results for the 70 student teachers were presented by Jones and Dent (2003). High levels of internal consistency (reliability) were demonstrated for all three STAI assessments of student teaching, as shown in **Table 1**.

Table 1
Chronbach's Alpha for STAI by Three Raters

Person Providing Rating	Chronbach's Alpha	Average Item Inter-correlation
Student Self rating on STAI	.9343	.2534
Cooperating Teacher on STAI	.9448	.3156
DSU Faculty Supervisor on STAI	.9198	.2211

These results showed strong internal consistency. The relatively low inter-item correlations were considered to be a good sign that the 54 items were not sampling the same issues over and over.

Chronbach's Alphas for the six STAI sub-scales are shown in **Table 2** for the three types of raters (student, cooperating teacher, and DSU supervising faculty).

Table 2

Chronbach's Alpha for STAI Sub-scales

Sub-scale	Student Rating	Cooperating Teacher	DSU Supervisor
STAI-P	.7651	.8014	.7619
STAI-C	.6840	.7255	.5276*
STAI-T	.8470	.8579	.7842
STAI-E	.7074	.8623	.8229
STAI-L	.7122	.7664	.8384
STAI-P*	.7436	.8476	.7748

*Usually, a Chronbach's alpha of at least .60 is required for confidence in a survey instrument.

Evidence for validity is often lacking in reports of survey instruments on teachers and student teachers (Tschannen-Moran and Hoy, 2001). In the present study, a Pearson r of +.42 ($p < .05$) was found between the ratings of cooperating teachers and DSU faculty supervisors. This was not construed as simple inter-rater reliability. Inter-rater reliability refers to consistency between two or more raters with the same qualifications and backgrounds (such as two School Psychologists providing consistent ratings on children's intelligence). In the present case, the two "expert judges" have very different backgrounds and experience. Thus, the ratings of faculty supervisor may be validated by the ratings of cooperating teachers in much the same way that IQ scores were originally validated with teacher ratings of intelligence.

Jenkins (2003) has shown overall differences in several variables between the elementary and secondary student teachers in the present sample. In light of her findings, we continued with comparisons of elementary and secondary student teachers on the sub-scales of the STAI. For student teacher self-ratings, a MANOVA revealed that elementary student teachers rated

themselves high on the five sub-scales (one was omitted) of the STAI [Wilk's Lambda = 0.7841; $F(5, 46) = 2.533$; $p < .05$]. Univariate F tests on the sub-scales revealed that elementary student teachers rated themselves higher on Communication ($p < .01$), accounting for most of that effect. Other univariate tests were non-significant.

No overall significant differences [Wilk's Lambda = .8610; $F(5, 45) = 1.452$] were found when comparing the ratings of Cooperating Teachers on the five STAI sub-scales for elementary and secondary student teachers.

The STAI ratings given by DSU Faculty Supervisors were significantly different for elementary and secondary student tecahers [Wilk's Lambda = .39411; $F(5, 48) = 14.944$; $p < .01$]. Univariate F tests showed significant differences for Planning ($F = 11.86$; $p < .01$), for Teaching ($F = 5.83$; $p < .05$), for Managing the Learning Environment ($F = 18.87$; $p < .01$), and for Managing Learning ($F = 54.96$; $p < .01$). In all cases, the means were higher for secondary teacher education student teachers, as rated by faculty supervisors. The lone non-significant sub-scale was Communication. Of note was the fact that the Chronbach's alpha identified the Supervisor ratings for the Communication domain as the only area where reliability might be an issue (see **Table 2**).

Discussion

In this initial study of the STAI, clear evidence was presented for reliability (internal consistency) and some evidence for validity. With only 70 student teachers in our first efforts, we were reasonably pleased, given the small N and the restriction of variation. As in the reports by Jones and Dent (2003), Jenkins (2003), and House and Jones (2003), a variety of measures indicate that elementary student teachers rate themselves higher than do secondary student teachers. The exact opposite pattern was noted among Delta State Supervising faculty. The lack

of stability for the **STAI-C** among Supervising faculty deserves further scrutiny. Cooperating Teachers did not have different ratings for these two groups.

As our database increases in size, it seems desirable to develop different STAI norms for elementary and secondary student teachers. A case could be made for developing totally different instruments for assessing student teachers at these two levels. However, there were also advantages for keeping the same assessment with two sets of norms. Future assessments must also consider the impact of our having re-designed the secondary teacher education curriculum to include more content on general teaching methods.

Self Efficacy, Student Teaching, and the Teacher Education Program

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Bandura's self efficacy is a construct that must be considered in both the motivation of the student teacher and the design of the teacher education program. In a general sense, Bandura (2003) explains the issues of self efficacy by saying

> "Perceived self-efficacy" is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes. They include cognitive, motivational, affective, and selection processes".

Self-efficacy as it relates to teachers is defined as the belief that one can bring about desired classroom outcomes even with students who are unmotivated or situations that are difficult (Tschennan-Moran and Hoy, 2001; Armour, et. al., 1976; Bandura, 1977).

The application of this construct in P-12 teaching has attracted research publications which date at least from Ashton (1982). Gibson and Dembo (1984) found that teachers with high self-efficacy persist longer with students who may struggle. Teacher self-efficacy influences persistence and resiliency when things do not go well (Ashton and Webb, 1986). Teachers' self-efficacy has been shown to have a positive relationship with student achievement (Moore and Esselman, 1992; Ross, 1992). Allinder (1994) found that teachers demonstrated a higher level of planning and organization when they had a strong sense of self-efficacy. Further, teachers with high levels of self-efficacy invest more in teaching, are better able to set appropriate goals, and have higher levels of aspiration (Allinder, 1994). Research has demonstrated that the self efficacy of teachers is associated with better performance for the individual teacher and for the

academic unit (the school) by assessing the "collective self efficacy" of teachers within that school (Tschannen-Moran and Hoy, 2001). The early self-efficacy research literature is well summarized by Tschannen-Moran, Hoy, and Hoy (1998).

Since those early efforts, self efficacy has been widely studied in teachers, but less so with student teachers. However, the degree to which student teachers believe that they can demonstrate an effective teaching response in their first major teaching role should be considered when evaluating the success of the teacher education program. The research literature on student teacher self efficacy, unfortunately, has been less than thorough. Walker and Richardson (1993) produced some early research based on the Mississippi Teacher Evaluation Instrument. They reported that there are significant longitudinal changes in self-efficacy from student teaching through the end of the first year of independent teaching. Fortman and Pontius (2000) found that student teaching increased self-efficacy, while in another study, Nietfield and Enders (2003) found that self-efficacy and feelings of hopefulness were linked in student teachers. Hoy (2000) has provided a recent summary and analysis on student teacher self efficacy. She reports that a student or novice teacher with high self efficacy will usually outperform peers during the first, stressful year of classroom experience. Further, working under supervision, the student teaching experience will generally enhance ratings of self efficacy. However, by the end of the first year of teaching there is a substantial decline in individual ratings of teaching self efficacy (Hoy, 2000).

In the present research, we elected to use a relatively new measure of teacher self efficacy developed by Bandura (undated). This thirty item scale was modified by Woolfolk- Hoy (1998) to exclude six items over which the student teacher had no control. The resulting scale and the omitted items appear in the APPENDIX. The research focused on 1) this measure of self

efficacy in student teachers; 2) on ratings of the student teaching experience by the student teacher, the cooperating teacher, and the supervising faculty member; and 3) on possible modifications of the teacher education program. Additionally, this research considered differences between elementary and secondary student teachers, as reported by Jenkins (2003).

Method

The overall methodology and descriptive statistics have been presented by Jones and Dent (2003). Seventy of 74 student teachers voluntarily participated in the research by providing background demographics, filling out surveys on teacher self efficacy, and allowing the use of student teacher assessments from the student teacher, the cooperating teacher, and the faculty supervisor. Survey forms were distributed at the final group meeting of student teachers prior to actual field experience. Academic records were retrieved, with permission, from the university Banner system for Information Technology Services.

Results

Overall results for the 70 student teachers were presented by Jones and Dent (2003). A high level of reliability (internal consistency) for the modified 24 item Bandura Student Teacher Self Efficacy Scale (B-TSE) was confirmed in the present report (Chronbach's alpha = 0.950). Internal consistency for even the shorter sub-scales on the Bandura instrument was very good, as shown in Table 1.

Table 1

Chronbach's alpha for the five Bandura Self Efficacy Subscales

Subscale	Number of Items	Chronbach's Alpha	Inter-Item Correlation
Instruction	8	.894	.520
Discipline	3	.841	.648
Parent Involvement	3	.824	.617
Community Involvement	4	.864	.640
Positive School Environment	6	.893	.602

Jenkins (2003) has already reported that elementary student teacher total scores on the Bandura scale (B-TSE-T) were significantly higher. Using a multivariate test, we took this a step further to determine which of the sub-scales might account for that difference. Comparing elementary and secondary student teachers on the six Bandura subtests, Wilk's Lambda was significant [Lambda = 0.755; $F(5, 55) = 3.57$; $p < .01$]. Means, univariate F's, and extreme area probabilities (eap) appear in Table 2.

Table 2
Comparing Elementary and Secondary Student Teachers on Bandura's SE Subscales

Subscale	Elementary Mean	Secondary Mean	F	eap
Instructional SE	57.21	52.35	4.44	0.04*
Disciplinary SE	21.73	21.65	0.01	0.93
Parent Involvement SE	20.37	18.65	2.87	0.10
Community SE	27.47	25.49	2.05	0.16
Positive School Climate SE	44.61	39.17	12.27	0.001*

Means for elementary student teachers are higher in every case. The longer subscales (Instructional SE, $p < .05$; and Positive Community Climate SE, $p < .01$) were significant. Two other subscales (Parent Involvement SE and Community Involvement SE) showed trends in the same direction.

Cronin (2003) has reported modest significant differences between elementary and secondary student teacher self ratings that also showed higher self ratings in elementary student teachers. In an attempt to study a brief set of items that yielded the maximum association between SE measures and Student Self Ratings on the Student Teacher Assessment Instrument (S-STAI), each of Bandura's 24 items were correlated with total S-STAI score). The content of these items might clarify the relationship between SE and S-STAI. Four of the Bandura items had a significant ($p < .05$) Pearson r. Three other items were close to significant ($p < .10$). These seven items and their Pearson r to total STAI scores are shown in **Figure 2**. The Bandura items all allowed responses from 1 ("nothing") to 9 ("a great deal").

Figure 2
Derived Scale for Predicting Total S-STAI

Pearson r	Bandura Item
.38*	How much can you do to promote learning when there is lack of support at home?
.36*	How much can you do to increase students' memory of what they have been taught in previous lessons?
.23	How much can you do to motivate students who show low interest in schoolwork?
.34*	How much can you do to overcome the influence of adverse community conditions on students' learning?
.34*	How much can you do to get community groups involved in working with the school?
.27	How much can you do to make students enjoy coming to school?
.25	How much can you do to get students to trust teachers?

The brief, derived scale showed promise, as Chronbach's alpha was .8899 with an average inter-item correlation of 0.55.

Discussion

When reviewing the findings, it is notable that elementary and secondary majors saw themselves differently. Several factors can possibly explain this variance. First, the elementary preparation program tends to focus more on pedagogical issues-what it takes to be successful in

areas such as planning, classroom management, and instructional delivery. On the other hand, the secondary program tends to be more concentrated on the broad range of required subject matter content with less time devoted to pedagogy. The questions we posed to respondents tended to be more closely linked to pedagogical skills than to specific subject area content.

Secondly, the elementary program of study provides greater opportunities for a sequence of field experiences that provides scaffolding for the levels of interaction expected from the student. Elementary students begin early in their program with simple observation and reflection activities during field experience and progress to micro-teaching in their classes, and then to mini-lessons in schools. The progression allows the elementary major the opportunity to gain confidence in the school setting with the "safety net" provided by the university instructor and classmates. The secondary field experiences are more limited and lack a strong sequence.

Third, the faculty with whom elementary majors interact tends to be extremely nurturing. This nurturing takes the form of a willingness to offer personal assistance with difficult assignments, great enthusiasm for student effort, extreme understanding and empathy for student problems, and high levels of praise for student work. This encouraging atmosphere contributes to a belief in a high level of personal competence for most program graduates. While the secondary faculty may also be concerned with students, they appear less empathetic in general toward student problems. In fairness, it must be acknowledged that the secondary faculty must be concerned with both the mastery and the ability to teach more demanding content areas such as Biology, English literature, and Mathematics, in addition to the mastery of pedagogical skills.

All of these factors suggest that the elementary student teachers will believe that they can bring about desired classroom outcomes, even with students who are unmotivated or situations that are difficult. The elementary student teachers could be expected to express a higher degree

of self-efficacy with regard to Instructional Self-Efficacy ($p < .05$) and self-efficacy to promote a Positive School Climate ($p < .01$).

It was also interesting to note that that the Bandura items which were most strongly associated with student self ratings of teaching in the STAI were overwhelmingly (six of seven items) within the Affective Domain (see Figure 2). Only the item refering to the student teacher's belief about influencing the students's memory of what they had learned in previous lessons could be considered within the Cognitive Domain. The other six items are more closely related to motivational and affective issues. The most obvious reason for this selection of important items is that the student teacher with high self-efficacy believes that they can have an impact on **motivating** students (parents, community) to perform more satisfactorily in their classes.

Additional study of self-efficacy in student teachers is needed to determine the relationship between success in student teaching, success as beginning teachers, and perceptions of self-efficacy. By the end of this term, we will have a second cohort of 70 student teachers on which to base our conclusions. .

Effective Assessment of Student Teaching Programs

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Data-driven decision-making is an integral part of determining what changes should be made within programs in the College of Education. Conducting research with student teachers and doing follow-up studies of teacher education graduates on issues such as self efficacy can provide important information for program improvement. Additionally, standards from accrediting bodies and expectations of the federal government clearly indicate that data is to be collected in both qualitative and quantitative studies and then used to inform decision-making for improvements in education programs.

The 2000 NCATE (National Council for Accreditation of Teacher Education) standards require that faculty use data to improve practice and must be engaged in on-going inquiry. NCATE standards also focus programmatic improvements on assessment data for both students and graduates of teacher education programs. Likewise, SACS (Southern Association of Colleges and Schools) standards also require improvements based on data from evaluation of programs. In using its new process for accrediting colleges, universities, and schools, SACS requires that substantive data be collected, evaluated, and then used for program/instructional improvement. New federal requirements as a result of No Child Left Behind legislation also seeks to hold Teacher Education programs more accountable for using solid research as a basis to demonstrate appropriate training for teachers.

In the current study, several variables showed a difference in elementary and secondary perceptions of self-efficacy. Specifically, elementary student teachers rated themselves significantly higher on both the Instruction subscale and the School Climate subscale. Additionally, elementary self-ratings on the Parent Involvement and Community Involvement subscales approached significance, despite the small N and restriction of range.

A number of reasons for these findings were possible. As reported by Jenkins (2003) elementary majors may feel more experienced and comfortable in their ability to function with elementary students and content, while secondary majors are learning more in-depth content within the context of teaching in schools populated by older, more advanced students. Additionally, the undergraduate program of study for elementary majors is more homogeneous than that of secondary majors.

Clearly, additional variables will be needed before this initial database can serve as a basis for data-driven decisions. As we add these variables, the database will support our case with accrediting agencies and provide a measure of accountability for federal legislation. Further, the database will continue to provide a vehicle for faculty research. Some of those possible research topics include

- examining the relationship between the self-efficacy of student teachers and that of cooperating teachers assigned as their mentors
- determining the role that the level of support received from cooperating teachers has on student teacher self efficacy
- looking at "collective self efficacy", considering the role of the principal
- studying how teacher self efficacy develops and what can be done in teacher preparation programs to foster it
- studying teacher self efficacy as it relates to teachers in different stages of their careers

Additionally, differences between assessment approaches for elementary and secondary student teachers should be studied. At present, our COE uses the same assessment for both groups. Yet we have shown here that the groups differ in their response to those assessments. Should we have different norms? Should we explore new instruments tailored to elementary and secondary teachers?

Replication of the study is currently underway with 70 additional student teachers. Results from this second cohort will be examined for consistency of findings and areas for further study. Additional variables will be identified after the second study is complete. Audience participants were asked to assist in determining other variables which may prove important for further study.

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Appendix

Short Teacher Efficacy Scale

Bandura Student Teacher Self-Efficacy Scale

Student Teacher Assessment Instrument (Domains and Indicators)

Teacher Efficacy Scale (Short Form)*

A number of statements about organizations, people, and teaching are presented below. The purpose is to gather information regarding the actual attitudes of educators concerning these statements. There are no correct or incorrect answers. We are interested only in your frank opinions. Your responses will remain confidential.

INSTRUCTIONS: Please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement.

KEY: 1=Strongly Agree 2=Moderately Agree 3=Agree slightly more than disagree 4=Disagree slightly more than agree 5=Moderately Disagree 6=Strongly Disagree

1. The amount a student can learn is primarily related to family background.	1 2 3 4 5 6
2. If students aren't disciplined at home, they aren't likely to accept any discipline.	1 2 3 4 5 6
3. When I really try, I can get through to most difficult students.	1 2 3 4 5 6
4. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.	1 2 3 4 5 6
5. If parents would do more for their children, I could do more.	1 2 3 4 5 6
6. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.	1 2 3 4 5 6
7. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.	1 2 3 4 5 6
8. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.	1 2 3 4 5 6
9. If I really try hard, I can get through to even the most difficult or unmotivated students.	1 2 3 4 5 6
10. When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment.	1 2 3 4 5 6

*In Hoy, W.K. & Woolfolk, A.E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal 93*, 356-372.

BANDURA'S STUDENT TEACHER SELF-EFFICACY SCALE

Student teacher rates self on a scale of 1 = "nothing" to 9 = "a great deal".

Instructional Self-Efficacy

1. How much can you do to get the instructional materials and equipment you need?
2. How much can you do to get through to the most difficult students?
3. How much can you do to keep students on task on difficult assignments?
4. How much can you do to increase students' memory of what they have been taught in previous lessons?
5. How much can you do to motivate students who show low interest in schoolwork?
6. How much can you do to get students to work together?
7. How much can you do to overcome the influence of adverse community conditions on student learning?
8. How much can you do to get children to do their homework?

Disciplinary Self-Efficacy

9. How much can you do to get children to follow classroom rules?
10. How much can you do to control disruptive behavior in the classroom?
11. How much can you do to prevent problem behavior on the school grounds?

Efficacy to Enlist Parental Involvement

12. How much can you do to get parent sot become involved in school activities?
13. How much can you assist parents in helping their children do well in school?
14. How much can you do to make parents feel comfortable coming to school?

Efficacy to Enlist Community Involvement

15. How much can you do to get community groups involved in working with schools?
16. How much can you do to get churches involved in working with the school?
17. How much can you do to get businesses involved with the school?
18. How much can you do to get local colleges and universities involved in working with the school?

Efficacy to Create a Positive School Climate

19. How much can you do to make the school a safe place?
20. How much can you do to make students enjoy coming to school?
21. How much can you do to get students to trust teachers?
22. How much can you do to reduce school dropout?
23. How much can you do to reduce school absenteeism?
24. How much can you do to get students to believe they can do well in schoolwork?

Items <u>Omitted</u> from the Original Bandura Teacher Self-Efficacy Scale

1. How much can you do to influence the decisions that are made in the school?
2. How much can you express your views freely on important school matters?
3. How much can you do to get the instructional materials and equipment you need?
4. How much can you do to influence the class sizes in your school?
5. How much can you help other teachers with their teaching skills?
6. How much can you do to enhance collaboration between teachers and the administration to make the school run effectively?

STUDENT TEACHER ASSESSMENT INSTRUMENT (STAI)

DELTA STATE UNIVERSITY

ELEMENTARY DOMAINS AND INDICATORS

DOMAIN I. PLANNING AND PREPARATION (PORTFOLIO)

1. Specifies or selects learner objectives for lessons.
2. Specifies or selects procedures for lessons.
3. Specifies or selects content materials and media for lessons.
4. Specifies or selects materials and procedures for assessing learner progress.
5. Uses information about students to plan and organize instruction to accommodate differences in developmental and individual needs.
6. Uses knowledge of students' needs, interests, and experiences.
7. Plans lessons that integrate knowledge from several subject areas.
8. Incorporates multiculturalism and diversity in lessons.

DOMAIN II. COMMUNICATION AND INTERACTION

9. Uses acceptable written, oral, and nonverbal communication with students.
10. Communicates high expectations for learning to all students.
11. Demonstrates communication skills which show sensitivity to diversity.
12. Listens to students and demonstrates interest in what they are saying by responding appropriately.
13. Builds and sustains a classroom climate of acceptance, encouraging creativity, inquisitiveness, and risk-taking.
14. Provides opportunities for students to cooperate, communicate, and interact with each other to enhance learning.
15. Establishes relationships with parents and guardians.

DOMAIN III. TEACHING FOR LEARNING

16. Displays knowledge of the subject being taught.
17. Projects enthusiasm for teaching and learning.
18. Uses knowledge of students' prior understandings and experiences to make instruction relevant and meaningful.
19. Uses a variety of appropriate teaching strategies.
20. Provides learning experiences that accommodate differences in developmental and individual needs.
21. Relates concepts using language that is understood by the students.
22. Gives directions appropriate for carrying out instructional activities and uses concrete examples to clarify when necessary.
23. Incorporates a variety of technology and resources into instruction.
24. Provides opportunities for students to apply concepts in problem-solving and critical thinking.
25. Uses questioning to identify misconceptions or confusion and to monitor student work.

26. Uses higher-order questions to engage students in original, creative, and evaluative thinking.
27. Uses community resources to enhance student learning.
28. Adjusts strategies in response to learner feedback and encourages students to expand on and support their responses.
29. Uses adequate wait time for responses in order to encourage high-level, reflective thinking.
30. Gives timely feedback on academic performance and discusses corrective procedures to be taken.

DOMAIN IV. MANAGES THE LEARNING ENVIRONMENT

31. Demonstrates fairness and supportiveness in order to achieve a positive, interactive learning environment.
32. Uses instructional time effectively.
33. Monitors students' participation and interpersonal interactions in learning activities.
34. Establishes efficient routines for procedural tasks and delegates to students.
35. Applies the principles of effective classroom management using a range of strategies to promote cooperation and learning.
36. Analyzes the classroom environment and makes adjustments to enhance social relationships, student motivation, and learning.
37. Utilizes individual and group responses to pace learning, proceed with new work, or reteach unclear parts of the lesson.
38. Attends to organizing time, space, activities, and materials to provide equitable engagement of students in productive tasks.

DOMAIN V. ASSESSMENT OF STUDENT LEARNING

39. Communicates assessment criteria and performance standards to the students.
40. Develops and uses a variety of formal and informal performance assessments.
41. Encourages students to assume responsibility for learning and to engage in self-evaluation.
42. Maintains records of student work and performance and communicates student progress to students, parents, guardians, and colleagues.

DOMAIN VI. PROFESSIONALISM AND PARTNERSHIPS

PERSONAL CHARACTERISTICS -- SUMMATIVE ASSESSMENT

EVALUATION QUESTIONNAIRE

EVALUATION QUESTIONNAIRE CHECKLIST

LESSON PLAN FORMAT

CLASS DESCRIPTION FORM

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