COGNITIVE AND AFFECTIVE DOMAIN LEARNING ASSESSMENT CHOICES

by

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Through the research and development of this paper, the researchers have gained valuable insights to augment and modify their personal student learning assessment schemas, and to provide leadership and mentorship for the faculty whom they supervise and work with.

ABSTRACT

Assessing university student learning is both an academic skill and an art form, with Bloom's Taxonomy of the cognitive domain perhaps the preeminent schema in use today. This research study sought to find out if Embry-Riddle faculty and students were aware of Bloom's affective domain, and to assess the degree of satisfaction with current student learning assessment. Using a descriptive research model, 61 faculty and students were surveyed and three classes were provided with an open model of assessment. The results indicated that both faculty and students were satisfied with ERAU student learning assessment, learned more productively with student-decided assessments, and knew far less about the affective domain. It was concluded that the research should be expanded, the survey instrument should be reworked, and faculty should receive learning assessment training.

INTRODUCTION

Background of the Problem

The assessment of university student learning outcome achievement is both an art and a science, with judicious applications of both necessary to achieve a "true" evaluation. At the end of the assessment process, both students and faculty should feel that the process has been fair and accurate. After a time, faculty develop their own schema of student learning, generally with little or no student input into their own grading formula. Both scientific and artful help exists in the education assessment literature and in the halls of academe, where faculty orientation manuals and such exist, especially to assist the newer faculty member.

The "taxonomy of educational objectives of Benjamin Bloom" is widely thought to consist of only the "cognitive" categories of knowledge, comprehension, application, analysis, synthesis, and evaluation. Many references allude to "Bloom's Taxonomy" as a cognitive taxonomy, when, in fact, an affective domain exists as well (major categories, 2002). Could the apparent lack of information and understanding regarding the affective domain of "Bloom's Taxonomy" result in a lack of Embry-Riddle Aeronautical University student grade assessment along affective domain lines? Would both faculty and students feel that student grade assessment is only practically done along more well-known cognitive lines? Is student assessment along affective domain categories practical and valid? Curious to obtain the answers to these and other similar student grade assessment questions, the researchers chose to conduct an original research study lasting six months, from January to June of 2002. They concentrated on a faculty and student sample from the Southwest Region of Embry-Riddle's Extended Campus.

Researchers' Work Settings and Roles

Doctor Ronald Clark is an Associate Professor of Aeronautical Science and a Regional Faculty Advisor (RFA) for the Southwest Region of Embry-Riddle's Extended Campus. He holds degrees in psychology, counseling and human development. He has been a college teacher since 1977, and has taught at community colleges, universities, and internationally. Since 1987, he has been a college professor for Embry-Riddle, teaching primarily at the graduate level. Since 1990, he has authored original research studies in adult learning theory, educational technology use in the classroom, and teaching basic life skills such as critical thinking, computing, speaking and writing.

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Statement of the Problem

The assessment of Embry-Riddle university student achievement of learning outcomes, course by course, is most probably being accomplished along the lines of only the cognitive domain of "Bloom's taxonomy". Affective domain assessment may be indicated by faculty and students. There may be student dissatisfaction with faculty-decided (no student participation) assessment components, and a "one size fits all" mentality may not be as effective and fair as more individualized assessment.

Limitations and Assumptions

Because of a lack of funding support for this research study, the sample size for both faculty and student samples was limited to n=20 and n=41, respectively. Additionally, the timeframe for data collection was limited to two consecutive ERAU Extended Campus terms of nine weeks each, or an overall total of five months. The geographical dispersion of the researchers between Las Vegas and Phoenix was somewhat helped by both researchers teaching in Las Vegas during the Spring II term, from March through May of 2002.

REVIEW OF RELEVANT LITERATURE AND RESEARCH

Assessment of Student Learning

According to Maki (2002), higher education institutions all too often view the assessment of student learning as a periodic activity, or compliance approach, driven by perhaps an impending accreditation visit. She contrasts this motive with that of institutional curiosity, which seeks to know which, how, what, when, students learn, and through which pedagogy and andragogy schemas. To assist institutions of higher learning in their student learning assessment planning, she developed an assessment guide that helps integrate assessment into institutional culture. Over time, the assessment of student learning is seen as becoming systematic and a part of organizational practice.

The American Association of Higher Education (AAHE) (2002) has formulated what they call nine principles of good practice for assessing student learning:

1. The assessment of student learning begins with educational values.
2. Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.
3. Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.
4. Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.
5. Assessment works best when it is ongoing not episodic.
6. Assessment fosters wider improvement when representatives from across the educational community are involved.
7. Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.
8. Assessment is most likely to lead to improvement when it is a part of a larger set of conditions that promote change.
9. Through assessment, educators meet responsibilities to students and to the public (AAHE, 2002, pp. 1-2)

The National Center for Fair & Open Testing (NCFOT) (2002), through their National Forum on Assessment, has published what they call the principles and indicators for student assessment systems, a seven step guide to the assessment of student learning:

1. The primary purpose of assessment is to improve student learning.
2. Assessment for other purposes supports student learning.
3. Assessment systems are fair to all students.
4. Professional collaboration and development support assessment.
5. The broad community participates in assessment development.
6. Communication about assessment is regular and clear
7. Assessment systems are regularly reviewed and improved (NCFOT, 2002, p. 1)

Anderson (2001) believes that the assessment of student learning should be tailored to student learning styles. He characterizes learning styles as to how we prefer to learn, specifically as to:

1. The type of information we receive (sensory vs. intuitive).
2. How we perceive information (visual vs. verbal).

3. How we organize information (inductive vs. deductive).
4. How we process information (actively vs. reflectively).
5. How we understand information (sequentially vs. globally).

Anderson goes on to classify the many dimensions of learning styles as:

reflective vs. impulsive
non-affective vs. affective
elaborative vs. shallow (repetitive) processing
scanning (visual) vs. focusing
field-independent vs. field-sensitive
analytical vs. relational
independent vs. dependent
participant vs. avoidant (Anderson, 2001, pp. 1-2)

He sees that learning styles are not bipolar clusters, but rather continuums, wherein learners are so much of this and so much of that, along individual learning style preferences. He cautions that educators should not force students to change their learning styles to adapt to assessment schemas, but, rather, that this happen the other way around.

In arguing for fair assessment practices, Suskie (2000) states that educators make their assessments and how they use the results of assessment as fair as possible for as many students as possible. Her call is for giving students equitable opportunities to demonstrate what they know. She lists what she calls "seven steps to fair assessment" as follows:

1. Have clearly stated learning outcomes and share them with your students.
2. Match your assessment to what you teach and vice versa.
3. Use many different measures and many different kinds of measures.
4. Help students learn how to do the assessment task.
5. Engage and encourage your students.
6. Interpret assessment rules appropriately.
7. Evaluate the outcomes of your assessments (Suskie, 2000, pp. 1-2

Mislevy, Steinberg, and Almond (2001) argue that advances in cognitive psychology and technology make it possible to improve educational assessment. They see more complex learning assessments through the use of simulation, interactivity, collaboration and constructed response techniques. In their "evidence-centered" assessment design, learning situations and students are analyzed with databasing technology, using an advanced cognitive psychology model.

Bloom's Taxonomy: Cognitive Domain

In 1948, a distinguished group of education testing psychologists, led by Benjamin Bloom, departed the American Psychological Association (APA) national convention with both a dissatisfaction with

the current state of the art of educational testing and assessment, and an excitement regarding their input to change this. Their subsequent collaboration over the next several years led to the development of what has become widely known as "Bloom's taxonomy", a comprehensive index of educational goals or outcomes (Bloom, Englehart, Furst, Hill & Krathwohl, 1956). While three domains (cognitive, affective, and psychomotor) were devised, only the first, or cognitive, domain, published in 1956, has received widespread acceptance and use.

Bloom's Taxonomy: Affective Domain

Following the popularity of the first Bloom, et al handbook in 1956, Krathwohl, Bloom and Masia (1964) published the second handbook of series: the affective domain. According to the authors, they were interested in assessing such things as student's "interests, attitudes, appreciations, values and emotional sets or biases" (p. 7). Their affective domain consists of five levels:

1.0: Receiving (attending)
- 1.1: Awareness
- 1.2: Willingness to receive
- 1.3: Controlled or selected attention

2.0: Responding
- 2.1: Acquiescence in responding
- 2.2: Willingness to respond
- 2.3: Satisfaction in response

3.0: Valuing
- 3.1: Acceptance of a value
- 3.2: Preference for a value
- 3.3: Commitment

4.0: Organization
- 4.1: Conceptualization of a value
- 4.2: Organization of a value system

5.0: Characterization by a value or value complex
- 5.1: Generalized set
- 5.2: Characterization (pp. 176-185)

As can be seen from the above list of affective descriptors, these are not commonly used words or assessment categories of current day educational assessment. As this research study will demonstrate, both faculty and student subjects did not really understand the words of the "Bloom's Taxonomy" affective domain, much less the domain itself.

Statement of the Research Questions

Are the faculty and student learning assessment preferences in the Southwest Region of Embry-Riddle Aeronautical University's Extended Campus the same or different? Are faculty and students comfortable with current student learning assessment practices? Do faculty and students understand (and prefer) the learning assessment categories of the Bloom's taxonomy affective domain?

RESEARCH METHODOLOGY

Research Design

The researchers decided on a descriptive model for this research project. Their assessment consisted of three parts: opening three undergraduate and graduate

What follows is a breakout of "old" and "new" course grading criteria and percentages:

MAS 515: Las Vegas Center: 13 graduate students

Old grading criteria:		New grading criteria:	
Research paper:	25%	Research paper:	30%
PPT presentation	15%	PPT presentation:	30%
Case Study:	15%	Project presentation:	30%
In class work:	10%	Class participation:	10%
Class participation:	10%		
Final exam:	25%		

This class seemed to enjoy their participation in the grading category and percentage decision. They seemed to put more effort into this course. They and the researcher felt that the class learned more.

MAS 605: Las Vegas Center: 12 graduate students

Old grading criteria:		New grading criteria:	
GRP Proposal:	50%	GRP Proposal:	100%
Open book take home final exam:	30%		
PPT presentation:	10%		
Class participation:	10%		

The researcher was surprised that the class chose 100% of their grade for the GRP Proposal, and had to administer several "no grade" descriptive and inferential statistics quizzes to augment his assessment, since the GRP Proposal does not contain any statistical applications. All of the GRP Proposals were turned in on time, with, in the researcher's estimation, an overall superior product. As one of the graduate students was influential in steering the 100% choice, he became the unnamed class leader, and the class environment and attitude was altered for the good in a very positive way.

MAS 604: Tucson Center: eight graduate students

Old grading criteria:		New grading criteria:	
Take home final exam:	25%	Take home final exam:	25%
Research paper:	60%	Research paper:	40%
PPT presentation:	10%	PPT presentation:	15%
Class participation:	5%	Class participation:	15%
		Current events presentation:	5%

Following the first class, there was a noticeable student empowerment evident. Current events presentation assignments were made and carried out well. It was apparent that the empowerment of the graduate students to choose their own grading criteria had a strong positive effect on the class.

Faculty Results

The 20 faculty surveyed indicated that they evaluated student learning using the following assessment tools and grade percentages:

(read: assessment tool: #/20: mean: SD: range (R))

Individually authored research paper:	1/20	m=25.45	SD= 8.5	R=10-40
Jointly authored research paper:	3/20	m=21.67	SD=14.4	R= 5-30
Oral final exam:	2.20	m=20	SD=0	R=10-30
Case study	8/20	m=20.62	SD=10.8	R= 5-35
Take home open book final exam:	9/20	m=27.2	SD=7.12	R=20-40
In class closed book midterm exam:	7/20	m=21.1	SD=8.6	R=10-30
In Class open book midterm exam:	7/20	m=22.9	SD=5.7	R=15-30
PowerPoint presentation of paper:	10/20	m=15.1	SD=7.07	R= 5-30
Verbal presentation of paper:	7/20	m=12.9	SD=6.36	R= 5-25
In class quizzes:	9/20	m=22	SD=18.46	R= 5-60
Other assessments:	(27)	m=18.14		R= 7-40

Article reviews/participation/homework
Class participation (6)
Closed book final (2)
Current assignment
Current topics
Group case study
Group oral presentation
Hands on practice project
Homework
In class closed book final (4)
Lab demos
Multimedia (not only PPT) presentation
Oral presentation
Presentation of project
Project paper
Take home midterm
Tech demonstration
Verbal debate

The following Likert Scale items were answered by the faculty as indicated:

12. Under the current ERAU academic rules, I can accurately evaluate all of my ERAU students.
Seventeen of 20 faculty answered item #12, with a mean response of 2.76, a SD of 1.89 and a range of 1-7.

13. Students can evaluate each other better than faculty can.
Seventeen of 20 faculty answered item #13, with a mean response of 5.117, a SD of 1.8, and a range of 1-7.

14. My ERAU course grades have been based on my students' awareness and attention during class.
Sixteen of 20 faculty answered item #14, with a mean response of 3.06, a SD of 1.12, and a range of 1-5.

15. My ERAU course grades have been based on my students' responding to instruction in class.
Sixteen of 20 faculty answered item #15, with a mean response of 3.16, a SD of 1.18, and a range of 1-5.

16. My ERAU course grades have been based on my students' value choices during class.
Fifteen of 20 faculty answered item #16, with a mean response of 4.47, a SD of 1.85, and a range of 2-7.

17. My ERAU course grades have been based on my students' organization of a value system during the course.
Fifteen of 20 faculty answered item #17, with a mean response of 4.6, a SD of 1.88, and a range of 2-7.

18. My ERAU course grades have been based on my students' development of value complexes in class.
Fifteen of 20 faculty answered item #18, with a mean response of 4.73, a SD of 1.83, and a range of 2-7.

In response to faculty survey item # 19: The single most correct part of my average ERAU course evaluation is the evaluation of the student's: _____, the 17 faculty responses were as follows:
Ability to logically analyze problems and choose an appropriate solution method
Ability to think as a decision-maker
Comprehension of new material
Demonstrated ability to do the course work
Define, analyze, decide and present
Exams
Grasp of concepts and procedures
Knowledge of the course material
Knowledge of the learning objectives
Learning and application
Objective knowledge
Opinion of the course value and instructor's ability to get the material across understandably

Perception of the presented material and application to their day-to-day endeavors
Show an understanding of meteorological concepts
Synthesis and application
Understanding of how to prepare for the FAA written exam
Understanding of the subject matter

Faculty survey item # 20 concerned the faculty academic evaluation of students at ERAU based on which of the following concepts that faculty felt they displayed in the classroom? (circle all that apply).

Analysis
Application
Characterization by a value or value complex
Comprehension
Evaluation
Knowledge
Organization
Receiving
Responding
Synthesis
Valuing

Item # 20 was answered by the faculty as follows:

Analysis:	16 yes	1 no
Application:	15 yes	2 no
Characterization by a value or value complex:	3 yes	14 no
Comprehension:	17 yes	0 no
Evaluation:	10 yes	7 no
Knowledge :	13 yes	4 no
Organization:	10 yes	7 no
Receiving:	3 yes	14 no
Responding:	10 yes	7 no
Synthesis:	10 yes	7 no
Valuing:	15 yes	2 no

21 comments can be found in Appendix C: Faculty Data.

Student Results

The 41 students surveyed indicated that they preferred to be evaluated with the following assessment tools and grade percentages:

(read: assessment tool: #/20: mean: SD: range (R))

Individually authored research paper:	38/41	m=38.02	SD= 20.45	R=10-100
Jointly authored research paper:	18/41	m=22.22	SD=12.27	R=10-40
Case study	16/41	m=19.69	SD= 9.91	R= 5-40
Oral final exam:	14/41	m=18.21	SD= 8.23	R=10-35
Take home open book final exam:	30/41	m=25	SD= 15.20	R=10-70

In class closed book midterm exam:	13/41	m=22.7	SD= 11.43	R= 5-40
In Class open book midterm exam:	21/41	m=24.29	SD=13.72	R= 5-70
PowerPoint presentation of paper:	34/41	m=19.85	SD=11.96	R= 5-60
Verbal presentation of paper:	23/41	m=17.39	SD= 1.83	R= 5-40
In class quizzes:	10/41	m=20	SD=10.8	R= 10-40
Other assessments:	(17)	m=13.44		R= 5-40

attendance (2)
class participation (5)
class participation/homework
class subject PPT briefing
closed book final exam
current events
final exam (2)
homework
participation
weekly class project
weekly current event topics

The following Likert Scale items were answered by the faculty as indicated:

10. I am academically evaluated fairly at ERAU.

All 41 students answered item #10, with a mean response of 1.9, a SD of 1.20, and a range of 1-7.

11. Students can evaluate each other better than faculty can.
All 41 students answered item #11, with a mean response of 1.95, a SD of 1.20, and a range of 1-7.

12. My ERAU course grades have been based on my awareness and attention during class.
Forty students answered item #12, with a mean response of 2.65, a SD of 1.25, and a range of 1-6.

13. My ERAU course grades have been based on my responding to instruction in class.
Forty students answered item #13, with a mean response of 2.63, a SD of 1.23, and a range of 1-6.

14. My ERAU course grades have been based on my value choices during class.
Forty students answered item #14, with a mean response of 3.41, a SD of 1.8, and a range of 1-7.

15. My ERAU course grades have been based on my organization of a value system during the course.
Forty students answered item #15, with a mean response of 3.43, a SD of 1.69, and a range of 1-7.

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16. My ERAU course grades have been based on my development of value complexes in class.
Forty students answered item #16, with a mean response of 3.21, a SD of 1.48, and a range of 1-7.

In response to item # 17: The single most correct part of my average

ERAU academic course evaluation is the evaluation of my : _____,

the 34 student responses were as follows:

application
attendance
communication skills (2)
development and value
GRP
knowledge (2)
meeting course objectives--learning the material
knowledge of course concepts
paper (4)
paper/briefs/test
paper with presentation (2)
participation (2)
presentation/research
research
research projects
responsiveness to the teacher's teaching methods
tests and research papers
test scores (2)
the effort I put into each class
the quality of material I present or turn in to class
work (2)
work completed
writing
writing skills

Student survey item # 18: My academic evaluation at ERAU has been based on which of the following concepts that I displayed in the classroom? (circle all that apply)

Analysis
Application
Characterization by a value or value complex
Comprehension

Evaluation
Knowledge
Organization
Receiving
Responding
Synthesis
Valuing

Item # 18 was answered by the students as follows:

Analysis: 26 yes 15 no
Application: 28 yes 13 no
Characterization by a value or value complex: 2 yes 39 no
Comprehension:
30 yes 11 no
Evaluation:
12 yes 29 no
Knowledge :
31 yes 10 no
Organization:
14 yes 27 no
Receiving:
9 yes 32 no
Responding:
21 yes 20 no
Synthesis:
5 yes 36 no
Valuing:
8 yes 33 no

Item # 19 comments can be found in

Appendix D: Student Data.

DISCUSSION

Re-assessing Course Grading Through Student Choice

In all three graduate classes, the student choice of grading criteria had a noticeable and positive effect on the overall class environment and in the quality and timeliness of the class work produced. Class leaders emerged and assisted the class in a positive way. It was apparent that the student buy-in for their own assessment was a powerful academic tool, and one which the researcher's intend to use in the future.

Faculty Results

The majority of the faculty surveyed indicated that they had not received training regarding the assessment of student learning. It was clear that several faculty misunderstood the intended use of the word "evaluation, so a skew exists in these results. Seven faculty indicated that other schools had "better" student learning assessment techniques or practices. Most agreed that ERAU has fair student learning assessment practices.

It appears that the faculty used a wide variety of student learning assessment techniques, with a variable percentage of the students' grades spread among several assessment techniques. Take home open book final exams received the largest grading percentage at 27.2%, followed by individually authored research papers at 25.45%, in-class open book midterm exams at 22.9%, and in-class quizzes at 22%. Not all faculty reported using all of the above listed assessment tools, so the data are skewed.

The faculty generally agreed that they can, under the current ERAU academic rules, accurately evaluate their students. They disagreed that students can evaluate themselves better than faculty can. On the affective Likert Scale items, the faculty generally agreed with their assessments based on "awareness" and "attention", but disagreed that they assess grades based upon students' "value choices", "organization of a value system", and "development of value complexes".

When asked about their academic evaluation of students based upon a mixture of Bloom's Taxonomy cognitive and affective domain key level words, they responded with 81% "yes" responses to cognitive domain key words, as compared to 40% "yes" responses to affective domain key words. While this is considered a significant difference, and a key finding of this research study, there appears to be a lack of understanding among the faculty as to affective domain level meaning.

Student Results

Only four of 41 students surveyed indicated that they had received "better" assessments of their academic learning than at ERAU. This is considered a significant research finding. It appears that the

students preferred a wide variety of student learning assessment techniques, with a variable percentage of their grades spread among several assessment techniques. Individually authored research papers received the largest grading percentage at 38%, followed by take home open book final exams at 25%, in-class open book midterm exams at 24.3%, in-class closed book midterm exams at 22.7%, jointly authored research papers at 22.2%, and verbal presentations of a paper at 20%.

The majority of the students surveyed felt that they were academically evaluated fairly at ERAU. Surprisingly, they strongly indicated that they could evaluate other students better than faculty can. The students somewhat agreed that they have been evaluated on their "awareness" and "attention", "responding to instruction", "value choices", "organization of a value system", and "development of value complexes". Their aggregate indications of affective domain evaluation, although weak at 3.065 on a Likert Scale of 7 choices, where "1" is "completely agree", are surprising, and may be due to misunderstanding, rather than positive choice.

The faculty and students differed somewhat in their choice of their core academic learning assessment "trait" upon which to be evaluated as is seen below:

Faculty	Students
Application	Responsiveness to the teachers's teaching methods
Attendance	Tests and research papers
Communication skills (2)	Test Scores (2)
Development and value	The effort I put into each class
GRP	The quality of material I present or turn in to class
Knowledge (2)	Work (2)
Meeting course objectives—learning the material	Work completed
Knowledge of course concepts	Writing
Paper (4)	Ability to logically analyze problems and choose an appropriate solution method
Paper/briefs/test	Ability to think as a decision maker
Paper with presentation (2)	Comprehension of new material
Participation (2)	Perception of the presented material and application to their day-to-day endeavors
Presentation/research	Show an understanding of meteorological concepts
Research	Synthesis and application
Research projects	Understanding of how to prepare for the FAA written exam
Demonstrated ability to do the coursework	Understanding of the subject matter
Define, analyze, decide and present Exams	
Grasp of concepts and procedures	
Knowledge of the course material	
Knowledge of the learning objectives	
Learning and application	
Objective knowledge	
Opinion of the course value and instructor's ability to get the material across understandably	
Writing skills	

When asked about their academic evaluation based upon a mixture of Bloom's Taxonomy cognitive and affective domain key level words, the students responded with 54% "yes" responses to cognitive domain key words, as compared to 26% "yes" responses to affective domain key words. While this is considered a significant difference, and a key finding of this research study, there appears to be a lack of understanding among the students as to both cognitive and affective domain level meaning.

CONCLUSIONS

The researchers concluded that both the faculty and students surveyed were more familiar with the cognitive domain of Bloom's taxonomy than the affective domain. It was apparent that empowering the students by allowing them to choose their learning assessment tools and percentages had a powerful positive effect on the class environment and the learning outcomes.

Both the faculty and students chose to evaluate student learning through many varied techniques, in accordance with the literature review. It was apparent that both the faculty and students surveyed were satisfied with the student learning assessment policies at ERAU. The faculty and students differed on whether students were better evaluators of student academic learning than faculty. While faculty indicated that they assess more within the cognitive domain, students tended to indicate that they were assessed along both domains.

It was apparent that the faculty and students differed and had many opinions regarding what the central precept of students' learning assessment is, or should be, anchored to. Faculty and students alike chose the cognitive domain over the affective domain by a wide margin, but their knowledge of the affective domain appears limited.

It was concluded that the survey instruments were invalid and unreliable for several areas of measurement and they should be revised extensively before further use.

RECOMMENDATIONS

The researchers recommend that ERAU provide faculty development to all Extended Campus faculty in student learning assessment, and that further research be conducted in this area, not only as a follow-on to this research study, but in expanded areas as well, including the use of Individual Evaluation Plans (IEPs). From the very positive effect noticed in the three classes which had student-chosen academic assessment, this technique should be studied further.

While most faculty and students surveyed were satisfied with their current ERAU academic assessment policies, the variety of assessment tools mentioned by both bears further study. It is recommended that the Extended Campus fund research on student learning assessment.

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APPENDIX A

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APPENDIX B

SURVEYS

Faculty Coursework Evaluation Survey

Embry-Riddle professors Ron Clark and Jay Price are working on a research project that looks at the evaluation of college student performance in course work. Our work will be largely based on this survey, which will be randomly administered to ERAU faculty. Your assistance in completing this survey will provide invaluable, anonymous data pertinent to this research topic.

Thank you for your time and help. If you would like an executive summary of our findings, please provide your name and address below (your personal information will not be used nor reflected in our report):

Name: _____

Address: _____

_____

Ronald Clark
Jay Price

Faculty Coursework Evaluation Survey

For items 1 through 9, either CIRCLE ONE OF THE ANSWERS provided or FILL IN THE BLANK.

1. Gender: Male Female
2. Age: _____
3. Non-teaching Occupation: _____
4. Courses you regularly teach at ERAU: _____

_____

_____

5. College Degrees held: _____

_____

6. Number of years teaching for ERAU _____
7. Years of formal teaching experience: _____
8. Have you ever studied student evaluations? Hours: _____

9. Do you teach for other colleges or universities? Yes No

10. If yes, do the other colleges or universities have better student evaluation criteria or policies? Please comment: _____

11. Choose the type and value of evaluation method(s) you feel are best for the courses you teach (example: research paper: 50%; final exam: 40%; PPT: 10%)

A. Individually authored research paper: % _____

B. Jointly authored research paper % _____

C. Case Study % _____

D. Oral final exam % _____

E. Take home open book final exam: % _____

F. In class closed book midterm % _____

G. In class open book midterm % _____

H. PowerPoint presentation of paper % _____

I. Verbal presentation of paper % _____

J. _____ Quizzes in class % _____

K. Other (specify) _____ % _____

L. Other (specify) _____ % _____

M. Other (specify) _____ % _____

N. Other (specify) _____ % _____

O. Other (specify) _____ % _____

For statements 12 through 18, CIRCLE A NUMBER from 1 to 7 that BEST DESCRIBES your opinion or experience.

Completely Agree 1 2 3 4 5 6 7 Completely Disagree

12. Under the current ERAU academic rules, I can accurately evaluate all of my ERAU students. 1 2 3 4 5 6 7

13. Students can evaluate each other better than faculty can. . 1 2 3 4 5 6 7

Completely Agree 1 2 3 4 5 6 7 Completely Disagree

14. My ERAU course grades have been based on my students' awareness and attention during class. 1 2 3 4 5 6 7

15. My ERAU course grades have been based on my students' responding to instruction in class. 1 2 3 4 5 6 7

16. My ERAU course grades have been based on my students' value choices during class. 1 2 3 4 5 6 7

17. My ERAU course grades have been based on my students' organization of a value system during the course. 1 2 3 4 5 6 7

18. My ERAU course grades have been based on my students' development of value complexes in class. 1 2 3 4 5 6 7

19. The single most correct part of my average ERAU course evaluation is the

evaluation of the student's: _____

20. My academic evaluation of students at ERAU has been based on which of the following concepts that I felt they displayed in the classroom? (circle all that apply).

Analysis

Application

Characterization by a value or value complex

Comprehension

Evaluation

Knowledge

Organization

Receiving Responding

Synthesis

Valuing

21. Please feel free to explain your choice of any item above, or to comment on any other part of evaluating students as an ERAU instructor: _____

_____

_____

_____

_____

_____

_____

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_____

_____

Student Coursework Evaluation Survey

Embry-Riddle professors Ron Clark and Jay Price are working on a research project that looks at the evaluation of college student performance in course work. Our work will be largely based on this survey, which will be randomly administered to ERAU students. Your assistance in completing this survey will provide invaluable, anonymous data pertinent to this research topic.

Thank you for your time and help. If you would like an executive summary of our findings, please provide your name and address below (your personal information will not be used nor reflected in our report):

Name: _____

Address: _____

_____

Ronald Clark
Jay Price

Student Coursework Evaluation Survey

For items 1 through 8, either CIRCLE ONE OF THE ANSWERS provided or FILL IN THE BLANK.

1. Gender: Male Female
2. Age: _____
3. Occupation: _____
4. ERAU degree program enrolled in: _____
5. College Degrees held: _____

_____

6. Other colleges or universities attended: _____

_____

7. Did other colleges or universities evaluate your academic performance better than ERAU currently does? Yes No
8. If you answered question # 7 yes, how were you evaluated more favorably?

Please be very specific. _____

_____

_____

9 Choose the type and value of evaluation method(s) you feel are best for the courses that you take (example: research paper: 50%; final exam: 40%; PPT: 10%), etc.

A. Individually authored research paper: % _____

B. Jointly authored research paper % _____

C. Case Study % _____

D. Oral final exam % _____

E. Take home open book final exam: % _____

F. In class closed book midterm % _____

G. In class open book midterm % _____

H. PowerPoint presentation of paper % _____

I. Verbal presentation of paper % _____

J. _____ Quizzes in class % _____

K. Other (specify) _____ % _____

L. Other (specify) _____ % _____

M. Other (specify) _____ % _____

N. Other (specify) _____ % _____

O. Other (specify) _____ % _____

For statements 10 through 16, CIRCLE A NUMBER from 1 to 7 that BEST DESCRIBES your opinion or experience.

Completely Agree						Completely Disagree
1	2	3	4	5	6	7

10. I am academically evaluated fairly at ERAU. 1 2 3 4 5 6 7

11. Students can evaluate each other better than faculty can. 1 2 3 4 5 6 7

Completely Agree						Completely Disagree
1	2	3	4	5	6	7

12. My ERAU course grades have been based on my awareness and attention during class. 1 2 3 4 5 6 7

13. My ERAU course grades have been based on my responding to instruction in class. 1 2 3 4 5 6 7

14. My ERAU course grades have been based on my value choices during class. 1 2 3 4 5 6 7

15. My ERAU course grades have been based on my organization of a value system during the course. 1 2 3 4 5 6 7

Faculty responses to Survey Item #19

Ability to logically analyze problems and choose an appropriate solution method
Ability to think as a decision-maker
Comprehension of new material
Demonstrated ability to do the course work
Define, analyze, decide and present
Exams
Grasp of concepts and procedures
Knowledge of the course material
Knowledge of the learning objectives
Learning and application
Objective knowledge
Opinion of the course value and instructor's ability to get the material across understandably
Perception of the presented material and application to their day-to-day endeavors
Show an understanding of meteorological concepts
Synthesis and application
Understanding of how to prepare for the FAA written exam
Understanding of the subject matter

Faculty Responses to Survey Item # 21

Evaluating math and science is easy. At the undergraduate level, I am satisfied if the student can pick the appropriate methodology from those I present and apply it logically. This is about B+ level performance. I reserve an A for someone who that really requires some synthesis, just to see who can do it. I don't penalize someone who tries to apply the standard techniques to this problem, and consequently does not achieve a complete solution. This problem serves to "separate the men from the boys," if you will excuse the non-gender-neutral reference.

I perceive three general areas of difficulty when evaluating student's learning: 1. student personality and demeanor, 2. the impact of previous experience and learning, and 3. attendance vs effort.

I do not understand what you mean by the terms "value system", value complexes", "Value choices", and "valuing". Are these in Bloom's affective domain? If they are, can they be evaluated? How? The concept of andragogy is useful in the adult classroom. Students bring their own views and values and experiences to the classroom. Using andragogy, adults learn when they see a need. Using pedagogy, children are taught and are told what to learn.

Students need to learn how to evaluate, synthesize and apply information.

There has to be flexibility for individual instructors to evaluate students in a manner which is conducive to both the student and instructor. As widely varying as classes are, there are just as many methods for evaluating the student. I try to incorporate as many methods of evaluation as possible in order to capture as clear of a picture as possible of the student's knowledge level as well as their commitment to learning.

999 out of 1,000 surveys have "Strongly Disagree" to the left and "Strongly Agree" to the right. Terms in question 20 need to be better defined. What is a value system? Different things to different people.

In the courses I instruct, the end objective is not the same as that of traditional college courses. Conversely, the evaluation as to whether the end objective has been achieved or not, too must be in a form different from that which is traditionally utilized to evaluate the understanding of pertinent learning objectives. That is to say, the TRUE evaluation of success in the AMT program of study will be the results of the FAA written exams and the oral and practical exam given by the Designated Mechanic Examiner (DME), and issuance of an Airframe and Powerplant (A&P) Certificate. Therefore, my goal as the instructor/ evaluator is to ensure that the students are grasping the knowledge required to overcome test anxiety, fear of public speaking and the ability to perform the practical projects which will be required of them by the DME. That is the basis of my evaluation process, to give the students the skills to help themselves pass the ultimate examination/evaluation. To date, the success has been quite good, only 1 failure out of 62 students to date (excludes current students and those who have not yet taken their FAA exams). It should be noted that the 1 failure did pass the exam on the next testing. Therefore, I believe that the current method of evaluation that I use is working quite well.

APPENDIX D

STUDENT DATA

Student Occupations

airline pilot
Industrial hygiene technician
aircraft mechanic
pilot/scheduler
USAF EWO
USAF
USAF Logistics
pilot
F-15 crew chief
flight engineer
pilot
USAF
USAF pilot
USAF
aircraft mechanic
USAF UAV pilot
security
pilot
shipping/receiving/ANG
student
operations agent
USAF
USAF pilot
airline captain
airport operations coordinator
maintenance officer
USAF weapons officer
sales manager
USAF fighter pilot
USAF officer
pilot
public safety officer

Student Indications of "Better" Student Evaluation at Other Colleges/Universities

It was just very specific numerical grades at SD (and a few other statistics). It gives you a better idea of exactly where you stand in relation to peers.

A wider range of skills were tested with a higher workload. Also, evaluation was more frequent rather than having most of the evaluations come at the end of the class.

They were more concerned about giving academic credit where due. Not about making money.

Most classes were math class evaluation were cut and dry. For the type classes I've taken with ERAU I feel the evaluation process is favorable.

Student Responses to Survey Question # 17

application
attendance
communication skills (2)
development and value
GRP
knowledge (2)
meeting course objectives–learning the material
knowledge of course concepts
paper (4)
paper/briefs/test
paper with presentation (2)
participation (2)
presentation/research
research
research projects
responsiveness to the teacher's teaching methods
tests and research papers
test scores (2)
the effort I put into each class
the quality of material I present or turn in to class
work (2)
work completed
writing
writing skills

Student Responses to Survey Question # 19

I didn't understand what was meant by value choice, system or complex on previous page.

I do not know if the extended campus is different from the main campuses, but I would guess the courses are a little more relaxed. Otherwise I have enjoyed my
time at ERAU-I just think that the grades come entirely too easy.

As this is my first course, I am not able to evaluate the grading process. However, I feel that I have learned quite a bit and will come out of this class knowing and understanding more.

ERAU has been great for my college education goals. I have time to do my job as an airline first officer and pursue my college education.

Being a student that has struggled in school and studies, I find that ERAU's intense subject matter is a great way to learn without distractions of learning useful information.

What is a value complex?

I feel that I have been evaluated by ERAU on how well I do presentations along with how well my final papers are. I feel this is an appropriate evaluation of how we (students) are to be judged. This is how the corporate world will be judging us.