Teaching Characteristics, Learning Styles and the Adult Learner: A Keesler Perspective

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A paper presented at the
Faculty Symposium on Teaching Effectiveness

April 1993

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INTRODUCTION

This study emerged as a natural outgrowth of quarterly faculty meetings conducted in accordance with suggestions contained in the Faculty Academic Orientation Manual (FOAM). On a routine basis topics of interest would be discussed regarding the institution and the latest administrative changes in general to an area of specific concern in particular. These special interest areas would cover such topics as assessment and grading policies, faculty responsibilities, course evaluation and teaching techniques.

In time it became readily apparent that student input reflecting their attitudes on some of these teaching characteristics would give clearer meaning and importance to these dimensions. It was also believed that we needed to discover what learning styles were dominant to these adult learners at this military training complex. Accordingly, a relatively straightforward inventory of learning style was incorporated in a survey questionnaire investigating a cluster of learning components, instructor characteristics and student preferences for both teaching method and learning mode. The survey was distributed to all active students enrolled at the Keesler Resident Center during the February - March 1993 time frame.

With the aforementioned purpose and considerations in mind, four major goals, or phases, for the study were outlined:

1. Phase 1 of the study involved the development of a survey questionnaire to provide information concerning the instructional system with selected aspects of the system investigated from a student point of view. This questionnaire was designed to obtain respondents' ratings of (a) some relevant learning components and instructor characteristics specified in the FOAM and (b) student preferences for designated learning methods and teaching methods. In addition, the questionnaire sought certain biographical information, as well as information pertaining to perceptual learning styles and opinions about disparate instructor traits.

2. Phase 2 involved the collection of survey responses from the totally active ERAU Keesler population determined to have informed awareness of areas under investigation.

3. Phase 3 consisted of descriptive statistical analyses of the questionnaire response data.

4. And Phase 4 called for an initial comparative analysis of findings within each part of the survey and some selective analysis from the composite ratings of the survey.

INSTRUMENT DEVELOPMENT

The data-gathering instrument in this study was entitled the "Instructional System Audit" (ISA). This questionnaire was divided into eight parts. Table 1 portrays the overall composition of the Instructional System Audit by explaining the contents in each of the seven separate parts, all variables involved and the number of items and type scale loading on each segment.

Part I: Biographical Data

Part I was designed to provide background information on such factors as the respondent's rank, age, sex, marital status, flying status and specialty area. The nine items in this section were selected based on their potential usefulness in organizing and understanding the data obtained in the remainder of the questionnaire. Item seven in this part was used to isolate those respondents who had at least two or more course offerings from this institution.

Part II: Learning Components

Part II of the ISA was designed to obtain information on six selected learning components drawn partially from the ERAU Student Survey Form and partially from the FOAM. The respondents rated (on a Likert scale) in degree of importance, the course syllabus, handouts and supplemental material, test and/or quizzes, text used, pace of material covered and special efforts they put into the course.

Part III: Instructor Characteristics

Part III of the ISA sought feedback on nine items from a time perspective using the Likert scale; i.e., considering all ERAU instructors how often were they...available for consultation, mode objectives clear, helped on progress, sensed needs, used class time well, were well prepared for class, were enthusiastic, made you think and made you work.

Part IV: Preferred Learning Mode

Part IV of the ISA was designed to have the respondent prioritize five methods of presenting instructional information. These five learning modes were drawn from the FOAM and the ERAU student was asked to place them in increasing order of importance.

Selections included lecture methods, dialogue, teaching interview, panel discussion and dramatization.

Part V: Teaching Methods

This part of the ISA asked the respondent to rate an a Likert scale of relative importance of ability to learn eight teaching methods; i.e., programmed or computer assisted instruction; slides, films or video cassettes; audio cassettes or tapes; questioning methods; guided discussion methods; practical exercises; simulations and case study methods.

Part VI: Perceptual Learning Style Inventory

Part VI was incorporated in the survey to attain a measure of a major component in the learning process. The Perceptual Learning Style Inventory was used because of its straightforward approach and ease of administration. It was adapted from the work of James and Galbraith (1985) with respondents asked to check a list of thirty-four strategies or techniques that help them to learn. The meaning and specification of these learning styles is at Table 3. The inventory was modified slightly to update terminology such as records with compact disc and to add several strategies such that each learning style was supported by an equal number of learning techniques. This approach was consistent for all learning styles with the exception of the olfactory style which had only four learning techniques in support of its orientation.

Parts VII and VIII: Opinion...Instructor Teaching Methods - Positive/Negative Traits

Parts VII and VIII, the last portion of the ISA questionnaire asked the respondents for their personal opinions concerning instructor teaching methods they liked the most about their best ERAU instructors and the traits they disliked the most about their less effective ERAU instructor's teaching methods. The final research question on the ISA asked for student opinions regarding instructor actions that could maximize student learning.

PROCEDURES AND RESULTS

The ISA questionnaire was administered to all actively enrolled enlisted and officer personnel at the Keesler Air Force Base Resident Center of Embry-Riddle Aeronautical University during the period 23 February to 19 March 93. All participants were assured anonymity in their responses. Of the questionnaire returns received, a total of 38 (81.%) contained usable data falling within the scope of this study. However, due to a reproduction error associated with most blank questionnaires, elements "b" and "d" in Part V: (Importance of Teaching Methods) were deemed unusable and were not incorporated in the data analysis phase of the ISA survey.

Descriptive statistical information concerning Part I: Biographical Data and related population characteristics can be found in Table 2. From a total population of 38 students, it can be seen that 23 are in the graduate program and 15 are in the undergraduate program. While all undergraduate students are in the enlisted grade only 4 (17%) of them are in the graduate program. The mean age for all students was 29.1 years with most (68%) being married and equal proportions (16%) being single and divorced respectively. Thirteen percent of this group were female and 21 % were rated. The average overall GPA for this population was 3.7 and since there was a restrictive range among scores, this variable as well as the sex and flying status variables were not employed in any follow-on data comparative analyses. Also, there were many diverse Air Force Specialty Codes (AFSCs) represented in this population.

Learning Components

Chi Square statistical analysis was performed on composite ratings assigned by respondents to the six items in Part II of the ISA. When comparing the actual distribution with the expected distribution at the .05 level there was no significant difference (see Table 6). So we fail to reject the claim that actual response frequencies agree with the expected rates. However, when the importance of course syllabus data were treated by means of a Kruskal-Wallis nonparametric analysis of variance by ranks, the statistic H = 8.89 compared to the critical value of chi-square of 7.82 (.05 level) indicated a clear rejection at the .05 level of the hypothesis of equality of mean course syllabus importance for the four groups of military grades. Groups were differentiated into the following military grades - senior airmen/staff sergeants, technical/master sergeants, lieutenants and captains/majors. It appears these separate groups of military grades view the importance of the course syllabus
independently. Enlisted grades tend to put more importance in the course syllabus than officer grade personnel. Table 7 reflects a summary of composite ratings and shows interestingly that "course syllabus" ranked as the most important learning component while "test/quizzes" were judged the least important items in this category.

Instructor Characteristics

Part III of the ISA contained nine instructor characteristics which were rated on a timeliness or responsiveness basis. A chi-square test was done on composite scores in this segment. The differences between the actual observed values and the theoretically expected values were tested at the .05 level with no statistically significant result. The factual data are found in Table 6. A summary of composite ratings found in Table 7 shows that respondents valued most highly the instructor characteristic - "available for consultation" followed by their being "well

prepared for each class". Oddly, the least responsive characteristics in this segment were instructor's relative lack of sensitivity in "sensing when students needed help" and in "making them work".

Preferred Teaching Method

Respondents were asked to rank five methods of presenting information in Part IV of the ISA. When these rankings were tested by chi-square, it was found that these methods were not uniformly distributed (α=.05). Remarkably, the χ^2=42.61 is significant at the .001 level (see Table 6). It strongly appears that respondents prefer one learning method over another. Table 7 summary data tends to indicate that the preferred teaching method among the five given is the dialogue approach - "interaction between two persons (one may be instructor)". It is directly related to and consistent with a learning style finding in Part VI.

Importance of Teaching Methods

Another chi-square test was applied to data contained in Part V of the ISA. This was a measure of relative importance of different teaching methods in terms of student ability to learn. The test statistic here was well beyond the critical value needed to show significance at the .001 level (see Table 6). Here again the teaching method choices do not appear to be selected with equal frequencies by respondents. From Table 7 summary data it is appropriate to indicate that the most important teaching method chosen was the case study approach while the least important respondent selection was programmed or the computer assisted instruction teaching method.

Learning Style

Part VI of the ISA involved respondent choice of learning strategies related to learning style. A chi-square analysis was performed on composite ratings to the six separate learning styles within this section. The resultant ratings are not equally distributed among the different learning styles and this was significant at the .001 level (see Table 6). The summary of composite ratings manifest in Table 7 shows that the dominant learning styles deemed most important to respondents in this setting are the interactive mode followed by the print learning style. After ruling out the haptic and olfactory styles for cause (see Table 7), the least important dominant learning styles were aural and kinesthetic.

Opinions...Instructor Teaching Methods

The final set of analyses in this study was performed on respondents' responses to the questions about their likes and dislikes concerning past ERAU instructor teaching methods. A

summary of their opinions in Parts VII and VIII are presented (see Table 8). Since the results gained in the last section were, for the most part, duplicative in nature, they were subsumed under Part VII and partialed-out as most effective and least effective instructor teaching methods by graduate and under graduate program. The top three responses for results obtained in each category are summarized in Table 8.

Among the graduate respondents, over half (61%) felt that the most effective teaching method was the use of real-world examples and current events to support learning objectives. The second most effective method (43%) was the use of the classroom as an open forum for continuous "interaction" with the student follower by the third most effective method (30%) which indicated a need for the instructor to be accessible and possessing a sensibility to students who needed additional review and clarification of learning outcomes. The least effective methods highlighted by graduate respondents were (a) boring lecturers with no "interaction", a one-way communicative process (26%), (b) limited real-world scenarios (17%), and (c) a failure to explain lesson objectives (13%). Thus, graduate students appear to prefer teaching methods that are practical, interactive and diagnostic/remedial in order to assure attainment of desired learning outcomes.

Not surprisingly, undergraduate opinion was relatively congruent with graduate opinion. The most effective teaching methods were (a) teachers that demonstrated their competency and subject matter expertise (40%), (b) teachers that used practical applications (33%), and (c) teachers that were genuinely concerned about the student and help with learning (26%).

The least effective instructor teaching methods for the undergraduates were (a) teaching over the heads of students (26%), (b) teachers who are too demanding (20%), and (c) teacher lack of ability to communicate learning on an understandable level (13%). Therefore, the undergraduate students appear to prefer teaching methods that are competently presented, practically oriented and focused in a way that students understand outcomes by a teacher who helps them learn.

It thus would appear that both graduate and undergraduate students essentially share the same general characteristics regarding instructor teaching methods. They both favor strongly an "interaction" component in terms of a two-way communication process that clarifies learning outcomes and they share a keen interest in using practical, real-world examples to support learning objectives. To an extent they share a desire for frequent and facilitative teacher accessibility with undergraduates demanding more structure in the classroom while graduates seek more dialogue.

SOME INITIAL CONCLUSIONS

Several initial conclusions were drawn based on these preliminary analyses. These conclusions are presented as tentative recommendations and are meant to be suggestive of the potential policy implications of the data.

The first conclusion is that different military grades place different emphases on the degree of importance of the course syllabus in their training program. Enlisted grades tend to put much more importance in the course syllabus which reflects course goals and expected course outcomes. Officer personnel are not as much in need of the structure intrinsic to the course syllabus as enlisted ranks are. Since all of the officers are in the graduate program, the finding can be stated as a fundamental difference between graduate and undergraduate learning -- one gets clearly more structure than the other.

A second possible conclusion is that considered as a group, Keesler students prefer the dialogue method of presenting instructional information. The ISA defined the dialogue method as the interaction between two persons, one of whom may be an instructor. It is important to note that this conclusion is directly related to the most dominant learning style found at Keesler - the interactive style.

The third conclusion is in the area of preferred teaching methods in terms of student ability to learn. Here, the case study method was the clear choice. As a learning experience from a real-life situation, the case study method was also related to other important findings in learning style and in the opinions deemed significant at the end of the ISA.

Closely connected to our second and third conclusions is a fourth conclusion that the dominant perceptual learning style of Keesler students is the interactive style marked by the strong perceptual elements of students who like to use other people as sounding boards and who enjoy question/answer sessions or small group discussions. The print learning style and the visual learning style are worth mentioning because they account for 26% and 20% of all student responses to the Perceptual Learning Style Inventory (PLSI). When the print style and visual style are placed in combination with the interactive style for all Keesler respondents, they account for 76% of all learning strategies in the inventory. Therefore, teaching methods at Keesler ought to employ the learning strategies that make up the interactive, print and visual learning styles reflected in the PLSI.

The fifth conclusion comes from student opinions on instructor teaching methods and are clearly related to the aforementioned results. Graduate students appear to prefer teaching methods that are real-world based, interactive in style and diagnostic for

remediation in order to attain learning outcomes. Undergraduates appear to prefer teaching methods that reflect instructor subject matter mastery, the use of practical applications and techniques genuinely helpful to student attainment of learning objectives.

The last and most obvious conclusion is that continued use should be made of the database obtained in this study and means developed to compare the results locally over time as well as with other sites and regions within the greater Embry-Riddle community. The analyses performed in this study were of necessity primarily descriptive and limited in scope. A number and variety of additional analyses are needed to provide greater insight into classroom effectiveness methods and techniques for the adult learner.

Discussion

The results of this study suggest that the ERAU faculty at Keesler should seriously consider student feedback gathered from the ISA and summarized in the initial conclusions section of this report. Despite the fact that some instructors and researchers question the reliability of student ratings, there seems to be real value in placing credibility in what the recipient of the learning process has to say relevant to learning components and teaching aspects of graduate and undergraduate programs.

Several characteristics have been consistently identified as compromising effective teaching, at least in terms of approach or style. The findings in this study were comparable to those summarized over 20 years ago by Hildebrand and Wilson (1970) and Evel (1970). Effective teaching attributes were: (1) clarity of organization, interpretation and explanation; (2) encouragement of class discussion and presentation of diverse points of view; (3) stimulation of students' interest, motivation and thinking; (4) manifestation of attentiveness to and interest in students; and (5) manifestation of enthusiasm.

Action strategies, teaching activities in which the learners are physically as intellectually active, have been recognized as effective with adult learners. The ISA included such techniques as case studies, simulations and practical exercises. After assessing many reports on the effectiveness of these strategies, McKeachie (1974) and Knowles (1970) concluded that, systematically applied, they are superior to passive approaches.

McKeachie (1974) and Knowles (1970) also relate the positive effects occurring from an interaction strategy for adult learners and learning style. Adults differ widely in learning style and interactive strategies ((??can??)) capitalize on the strengths of many learning styles (Seamon and Fallenz, 1989), and Hoffer (1986).

James and Galbraith (1985) and see the implications of perceptual learning styles to be numerous and diverse. Learning styles can be seen as providing a means for possibly reaching every learner and for making the quality of the instructional learning process more effective and efficient. Also, practitioners can find learning style knowledge useful in program planning, counseling, and instructing process.

Conclusion

1. Enlisted grades place greater importance than officer grades in the course syllabus which reflects course goals and expected course outcomes. (Structures of subject matter, objects and learning hierarchies are much more important to enlisted ranks.)

2. As a group, Keesler students' preferred learning mode was the dialogue method. (ISA definition...the interaction between two persons, one of whom may be an instructor.)

3. In terms of ability to learn, students' preferred teaching method was the case study method. (ISA...real-life situation.)

4. The dominant perceptual learning style of Keesler students is the interactive style marked by strong perceptual elements of students who liked to use other people as sounding boards and who enjoy question/answer sessions or small group discussion.

5. Graduate students prefer teaching methods that are real-world based, interactive in style and diagnostic/remedial. Undergraduate students prefer teaching methods that reflect teacher subject-matter mastery, the use of practical applications and techniques helpful to attainment of learning outcomes.

6. Data base should be used on a continuing basis. Results compared over time both locally and possibly with other sites/regions within greater Embry-Riddle Community.

The author wishes to express his sincere appreciation to Mr. Randy Verret for his invaluable contribution to word processing and survey administration efforts associated with this report.

TABLE 1
COMPOSITION OF THE
INSTRUCTIONAL SYSTEM AUDIT

PART I	Student Biographical Data	[9 Items]	
	Name (optional)	Marital Status	
	Rank, Age, Sex	Flying Status	
	Program of Study	Occupational Specialty	
PART II	Learning Components	[6 Items/7 - pt Scale]	
	Course Syllabus	Test/Quizzes	Student Effort
	Supplemental Material	Text Used	Course Pace
PART III	Instructional Characteristics	[9 Items/7 - pt Scale]	
	Availability for Consultation	Sensed Student Needs	Enthusiasm
	Clarifying Course Objectives	Used Class Time	Made Students Think
	Actively Helpful	Prepared for Class	Made Students Work
PART IV	Preferred Learning Mode	[5 Items/prioritize]	
	Lecture Method	Teaching Interview	Dramatization
	Dialogue	Panel Discussion	
PART V	Teaching Methods	[8 Items/7 - pt Scale]	
	Programmed Instruction and CAI	Guided Discussion	
	Slides, Films & Video	Practice Exercises	
	Tapes & Audio	Simulations	
	Questioning	Case Study	
PART VI	Perceptual Learning Style Inventory	[34 Items/7 - styles]	
	Visual	Interactive	Haptic (Touch)
	Aural	Kinesthetic	Olfactory (Taste/Smell)
	Print		
PART VII	Opinion...Instructor Teaching Methods		
	Positive/Negative Traits		
PART VIII	Opinion...Instructor Actions That Maximize Student Learning		

TABLE 2
SPECIFICATION OF LEARNING STYLE

STRONG PERCEPTUAL COMPONENTS	WEAK PERCEPTUAL COMPONENTS
INTERACTIVE	
- Others are used as sounding boards	- Prefers to work alone
- Enjoys question/answer sessions or small group discussions	- Small group/discussion activity not helpful
PRINT	
- Easily remembers what is read	- Important concepts grasped only after several readings
- Learning is better after seeing it or writing it	- Words on the page seem to run together
VISUAL	
- Needs a "picture" in mind to "see" what others are communicating	- Difficult to "picture" things as displays change
- Creates visual images while thinking	- Visual representations as graphs/tables are confusing
AURAL	
- "Hears" what others say	- Audio information requires printed work comprehension
- Remembers ideas that are verbalized	- Difficult to remember information from lecturer
KINESTHETIC	
- Learns better when moving while learning	- Movement is distracting while learning
HAPTIC	
- "Hands on" or touching experiences important to learning	- Difficult to distinguish the feel of different items
OLFACTORY	
- Able to associate/identify smells with a mental image	- Hard to distinguish smells which detract from learning

Note: Adapted from "Perceptual Learning Styles: Implications and Techniques for the Practitioner", by W.B. James and M.W. Galbraith, Lifelong Learning (January 1985).

TABLE 3
SPECIFICATION OF LEARNING STYLE
(N=38)

		N	%
	Dominant Learning Style [84.2%]*		
1.	**Interactive**		
	Graduates	9	
	Undergraduates	5	
		14	36.8
2.	**Print**		
	Graduates	4	
	Undergraduates	6	
		10	26.3
3.	**Visual**		
	Graduates	4	
	Undergraduates	1	
		5	13.2
4.	**Kinesthetic**		
	Graduates	1	
	Undergraduates	1	
		2	5.3
5.	**Aural**		
	Graduates	1	
	Undergraduates	0	
		1	2.6
	Dual-Dominant Learning Style [13.2%]*		
6.	**Interactive/Print**		
	Graduates	3	
	Undergraduates	0	
		3	7.9
7.	**Print/Visual**		
	Graduates	1	
	Undergraduates	0	
		1	2.6
8.	**Print/Kinesthetic**		
	Graduates	0	
	Undergraduates	1	
		1	2.6
	Non-Dominant Learning Style [2.2%]*		
6.	**No Preference**		
	Graduates	0	
	Undergraduates	1	
		1	2.6

*[] Categorical Totals

TABLE 4
POPULATION CHARACTERISTICS
(N=38)

Graduate Students (N=23)

Officer Rank (N=19)

O2	-	6
O3	-	11
O4	-	2

Enlisted Rank (N=4)

E4	-	1
E5	-	1
E6	-	1
E7	-	1

Undergraduate Students (N=15)

E4	-	6
E5	-	3
E6	-	5
E7	-	1

Marital Status (N)

Single	6
Divorced	6
Married	26

Sex (N)

Female	5
Male	33

Flying Status (N)

Rated	8
Non-Rated	30

GPA

Undergraduate	3.64
Graduate	3.74

TABLE 5
PERCENTAGE OF STUDENT RESPONSES TO LEARNING STRATEGIES RELATED TO LEARNING STYLES ON THE PERCEPTUAL LEARNING STYLE INVENTORY

Learning Styles Strategies to Learning Styles	Responses %	Total %
A. Interactive Style		
3. Group discussion	10	
10. Panel discussion	3	
17. Question and answer sets	10	30
24. Interviews	3	
31. Debating	4	
B. Print Style		
4. Reading assignments	6	
11. Written reports	5	
18. Independent reading	4	26
25. Writing	4	
32. Taking notes	7	
C. Visual Style		
1. Films/video cassettes	6	
8. Television programs	4	
15. Slides	2	20
22. Graphs/tables/charts	5	
29. Photographs	3	
D. Aural Style		
2. Information type lecture	7	
9. Audiocasssettes	*	
16. Compact discs	0	9
23. Recitation by others	2	
30. Radio programs	*	
E. Kinesthetic Style (Motion)		
5. Role-play	4	
12. Body movement	1	
19. Physical motion	*	8
26. Physical games	1	
33. Non-verbal gestures	2	
F. Haptic Style (Touch)		
6. Project construction	2	
13. Draw/paint	*	
20. Model building	3	5
27. Touching	*	
34. Sculpturing	0	
G. Olfactory Style (Taste/Smell)		
7. Odor discrimination	*	
14. Tasting	*	
21. Sense of smell	0	*
28. Aroma	0	

* Less than 1%

TABLE 6
COMPARISON OF ACTUAL RESPONDENT DISTRIBUTION WITH EXPECTED DISTRIBUTION COMPOSITE RATINGS AMONG VARIABLES IN SEPARATE PARTS OF ISA

Chi-Square	Part II[2] Learning Components	Part III Instructor Characteristics	Part IV Preferred Teaching Methods	Part V[3] Importance of Teaching Methods	Part VI[4] Learning Style
Test Static	3.28	5.46	42.61	23.20	29.13
Critical Value[1]	11.07	15.51	9.48	11.07	11.07
Degrees of Freedom	5	8	4	5	5
Level of Significance $p<.001$	$p>.05$	$p>.05$	$p<.001$	$p<.001$	-

[1] Significant at .05 level.
[2] Kruskal-Wallis Test on course syllabus ($H = 8.89$, $\chi^2 = 7.82$, $df = 3$) $p<.05$
[3] Elements b and d removed - data deemed unusable.
[4] Olfactory Learning Style removed - inadequate cell size.

TABLE 7
SUMMARY OF STUDENT ASSIGNED PRIORITIES FROM COMPOSITE RATINGS IN SEPARAPERTS OF THE INSTRUCTIONAL SYSTEM AUDIT

Part II	Part III	Part IV	Part V	Part VI
Learning Components	Instructional Characteristic	Preferred Teaching Methods	Importance of Teaching Method	Learning Style
Most Important	Most Important	Most Important	Most Important	Most Important
- Course Syllabus - Putting special effort into course	- Were available for consultation when they said they would be - Were well prepared for each class	- Dialogue	- Case Study - Simulation	- Interactive - Print
Least Important	Least Important	Least Important	Least Important	Least Important[a]
- Test and quizzes - Test used	- Sensed when students needed help - Made me work	- Dramatization	- Tapes and audiocassette - Programmed or computer assisted instruction	- Aural - Kinesthetic

[a] Haptic and Olfactory Styles were removed as possibilities since no student selected them as a dominant learning style.

TABLE 8
SUMMARY OF RESPONDENT'S OPINIONS IN PART VII AND PART VIII[1] - TOP THREE

GRADUATES

Most Effective Instructor Teaching Methods Methods	Least Effective Instructor Teaching
1. Uses real-world examples and current events to support learning objectives.	1. Boring lectures with one-way communications and no interaction.
2. Classroom in an open forum for continuous "intervention" with students.	2. Limited real-world scenarios.
3. Accessible and willing to answer questions, review and clarify outcomes.	3. Fail to explain lesson objective, "...continuing on when a point was lost."

UNDERGRADUATES

Most Effective Instructor Teaching Methods Methods	Least Effective Instructor Teaching
1. Competent and knowledgeable in subject area	1. Teacher over the heads of students. "Teachers that talk and do not teach."
2. Teaches by using practical applications	2. Unrealistic expectations - too demanding
3. Students interest are at heart - set them at ease - speaks at their level - genuinely helpful to them	3. Lack of communication skills, knows theory but not application; repeats text.

[1] Since Part VIII resulted in duplicate entries with Part VII, elements were subsumed under the two categories stated above.

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APPENDIX

INSTRUCTIONAL SYSTEM AUDIT

INSTRUCTIONAL SYSTEM AUDIT

INSTRUCTIONAL SYSTEM AUDIT

Please take a few minutes to complete this survey and answer the following questions as honestly and accurately as you can.

Your input will be used to assess the effectiveness of our instructional delivery system, the learning styles of the adult learner, and also serve as a means to continually improve our undergraduate and graduate course offerings.

Thank you for your cooperation. Feel free to add any other helpful comments regarding any issue not covered in the instrument on the last page herein.

INSTRUCTIONAL SYSTEM AUDIT

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
KEESLER RESIDENT POPULATION

PART I

1. Name(optional):_____ 2. Rank:_____ (E1–05)

3. Program: Graduate _____
Undergraduate _____ 4. Age:_____

5. Married: Yes___ No___ 6. Sex: M___ F___
Divorced: Yes___ No___
Separated: Yes___ No___ 8. Rated:_____
Number of Children: _____ Nonrated:___

7. Is this your first course at ERAU? Yes___ No___.
If so, answer with respect to previous experience with other than ERAU instructors.

9. AFSC:_____

PART II HOW IMPORTANT IS EACH OF THE FOLLOWING LEARNING COMPONENTS...?

		MODERATELY IMPORTANT OR LESS			QUITE IMPORTANT			EXTREMELY IMPORTANT
a.	Course syllabus (Course goals and expected course outcome)..	(1)	(2)	(3)	(4)	(5)	(6)	(7)
b.	Handouts and supplemental material.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
c.	Test and/or quizzes.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
d.	Text used.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
e.	Putting special effort into a course.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
f.	Pace of material covered.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)

PART III ALL THINGS CONSIDERED, HOW OFTEN IS IT TRUE THAT YOUR ERAU INSTRUCTORS...?

		NEVER		SOMETIMES		OFTEN		ALWAYS
a.	Were available for consultation when they said they would be.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
b.	Made course objectives clear.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
c.	Were actively helpful about your progress...	(1)	(2)	(3)	(4)	(5)	(6)	(7)
d.	Sensed when students needed help.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
e.	Used class time well.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
f.	Were well prepared for each class.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
g.	Were enthusiastic about the subject.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
h.	Made me really think about the subject.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
i.	Made me work.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)

PART IV AS A LEARNING MODE, HOW WOULD YOU RANK THE FOLLOWING METHODS OF PRESENTING INSTRUCTIONAL INFORMATION. PUT IN ORDER OF PRIORITY 1 --> 5 WITH 1 BEING OF GREATEST VALUE.

_____ LECTURE METHODS...formal/semiformal presentation by instructor.
_____ DIALOGUE...Interaction between two persons(one may be instructor).
_____ TEACHING INTERVIEW...Question and answer session between instructor and a visiting "expert."
_____ PANEL DISCUSSION...Interaction between two or more "experts."
_____ DRAMATIZATION...Skits, short plays, role-playing on part of instructor.

PART V HOW IMPORTANT IS EACH OF THE FOLLOWING TEACHING METHODS IN TERMS OF YOUR ABILITY TO LEARN...?

		MODERATELY IMPORTANT OR LESS			QUITE IMPORTANT			EXTREMELY IMPORTANT
a.	Programmed instruction or computer assisted instruction.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
b.	Slides, films and video cassettes.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
c.	Tapes and audio cassettes.....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
d.	Questioning (Instructor lead).....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
e.	Guided Discussion..... (Instructor controlled interaction with student)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
f.	Practical Exercises..... (To attain learning objectives)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
g.	Simulations..... (Student role playing, interacting with actual equipment)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
h.	Case Study..... (Learning experience from a real-life situation)	(1)	(2)	(3)	(4)	(5)	(6)	(7)

PART VI

Perceptual Learning Style Inventory*

INVENTORY. Check those strategies or techniques that you think help you learn the best.

1. ___films/videocassettes
2. ___information-type lecture
3. ___group discussion
4. ___reading assignments
5. ___participation in role-playing activities
6. ___project consultant
7. ___odor discrimination
8. ___television programs
9. ___audiocassettes
10. ___part of panel discussion
11. ___written reports
12. ___body movements
13. ___drawing or painting
14. ___tasting
15. ___slides
16. ___compact discs
17. ___questions and answer sessions
18. ___independent reading
19. ___physical motion activities
20. ___model building
21. ___scented materials (scratch & sniff)
22. ___graphs, tables and charts
23. ___recitations by others
24. ___interviews
25. ___writing
26. ___participant in physical games
27. ___touching objects
28. ___environmental aromas
29. ___photographs
30. ___radio programs
31. ___debating
32. ___taking notes
33. ___non-verbal gestures
34. ___sculpturing

*Adapted from "Perceptual Learning Styles: Implications and Techniques for the Practioner," by Wayne B. Jones and Michael W. Galbraith, Lifelong Learning (January 1985).

PART VII PLEASE LIST THREE THINGS YOU LIKED MOST ABOUT YOUR BEST INSTRUCTOR'S TEACHING METHODS...

LIKES

1. _____
2. _____
3. _____

PLEASE LIST THREE THINGS YOU DISLIKED MOST ABOUT YOUR LESS EFFECTIVE INSTRUCTOR'S TEACHING METHODS...

DISLIKES

1. _____
2. _____
3. _____

PART VIII WHAT COULD AN INSTRUCTOR DO TO HELP YOU EXPAND YOUR LEARNING EFFECTIVENESS?

_____
_____
_____
_____
_____

THANK YOU FOR THE FEEDBACK