Validation of the USF Student/Faculty Teaching Effectiveness Survey

A Presentation to The California Association for Institutional Research (CAIR)

by

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Our Charge

Our task force was charged with implementing an online system of teaching evaluation, following the recommendations in *Online Evaluation of Teaching Means, Methods, and Constructs: A Report to the Provost and President of USFFA*

- *http://www.usffa.net/discussion-feedback/task-force-reports (6/28/12 revised)*

Your Exposure

- Is it used for Personnel Decision Making
  - If used in and P&T decisions the answer is YES
- Common Disclaimer: Use of other things in conjunction with teaching evaluations!
- Supreme Court Precedent
- Need for validation
- SIOP Principles of Validation

Construct Development 2010-2013

- Theory and Research Driven
- Off the Shelf vs. Home Grown
- Understanding Evaluation Systems
  - R.A. Arreola workshop
- Choose the constructs that are meaningful to your institution
- Choose or write items that align with your constructs

Survey Constructs

Instructional Design

The following questions refer to Instructional Design – the planning, structure, and organization of the course.

Instructional Practices

The second set of questions refer to Instructional Practices – what students experience when they attend class, and the effectiveness of teaching methods used in class.

Student Engagement

The third set of questions relate to Student Engagement – the active exchange and involvement of instructor and students in the course.

Student Learning

The fourth set of questions relate to Student Learning – the increase in students' knowledge and abilities, and whether the learned skills are transferable to other subjects.

Exploratory Factor Analysis
Fall 2013

- Survey was built around **four constructs of Teaching Effectiveness,** based on faculty survey and the literature: *Instructional Design, Instructional Practices, Student Engagement, and Student Learning*
  - 36 items across the four constructs
- Students received emails with link to their courses to evaluate
- Utilized eXplorance' Blue as the survey tool
- Fall 2013 Beta Test was presented in random order
  - Questions did not factor into constructs as hoped

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Teaching Effectiveness Survey for [Course Subject and Number]

Instructional Design

The following questions refer to Instructional Design —the planning, structure, and organization of the course.

Please indicate your level of agreement or disagreement with the following items.

Questions pertaining to [S$NAME]

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	Comments
1. The learning outcomes for this course were clearly stated.	○	○	○	○	○	○	
2. Student responsibilities in this course were clearly defined.	○	○	○	○	○	○	
3. The course schedule was clearly laid out.	○	○	○	○	○	○	
4. Criteria for assessing performance in this course were clearly stated.	○	○	○	○	○	○	

Please click "NEXT" or ► to continue...

Save | Previous | Next | Submit

Progress 20%

Mobile Version | Standard Version

Our Goals

- **Reliability** - a measure is said to have high **reliability** if it produces consistent results under similar conditions.
- **Construct** – the extent to which operationalization's of a construct actually measures what it intends to measure.
- **Efficiency** – the ability to achieve reliability and validity while maximizing response rates with the least number of items.

Exploratory/Confirmatory Analysis
Spring 2014

- Split-half Sample (N=~4780)
- Exploratory Factor Analysis (N=~2390):
  - Items aligned with constructs with definition
  - Initial item set: 36 items, 4 factors
- Item reduction:
  - Item and scale reliability analysis
  - 27 items, 4 factors

Confirmatory Factor Analysis
Spring 2014

- Confirmatory Factor Analysis (CFA)Item reduction (N=~2390):
  - Initial model: 27 items, 4 factors
  - Model comparisons
  - Final model: 13 items, 4 factors
- Hierarchical Model Analysis: 2nd order factor
  - 2nd order factor model
  - Model comparison

Transition to Blue

- The new survey was developed to capture USF values
- The new survey provides a measure of constructs of teaching effectiveness
- Clean Break
- The Provost and Faculty Associations have agreed to form an ad hoc committee to review and provide guidance to Peer Review Committees on Blue results
- Faculty are encouraged to consider only the four constructs in planning their classes, beginning in Spring 2015

Moving Forward

- Go LIVE spring 2015
  - Continue to test experimental items
- Continue CFA
- Validation on sub-groups (gender, ethnicity, etc.)
- Develop instrument norms


Thank You
Questions?

Spring 2014 Beta Test Finalized Questionnaire in Construct Order (No Reverse Coded Questions)

The survey questions below are written to address some aspect of teaching effectiveness. They are written syntactically to align with the following specific response set:

1. Strongly disagree
2. Disagree
3. Somewhat disagree
4. Somewhat agree
5. Agree
6. Strongly agree

This response set is designed to eliminate any neutral point and to force the respondent to make a choice in a specific perceptual direction (negative or positive) with three directional levels of magnitude each in those perceptions.

Overlap of survey questions from one construct to another is acceptable if the survey questions are addressing conceptually separate intent related to the specific construct, e.g., item 1 under Instructional Design, Instructional Practices, and Student Learning are addressing the student learning outcomes in a conceptually different manner. Conceptual overlap within a construct is also acceptable to assure the validity of the construct if there is enough perceived difference in the survey questions to be meaningful. Note:

Construct definitions below are for clarity purposes only and will NOT become part of the survey.

Instructional Design:

Instructional design refers to the planning, structure and organization of the course, and whether the course possesses instructional features commonly viewed as being important to student learning. Were the learning outcomes and requirements clear, were the course materials relevant and useful, and were assignments well scheduled and relevant?

1. The learning outcomes for this course were clearly stated.
2. The assignments were helpful in accomplishing the learning outcomes for this course.
3. The assignments were well integrated throughout the course.
4. Directions/guidelines for assignments were clearly stated.
5. Student responsibilities in this course were clearly defined.
6. The course schedule was clearly laid out.
7. Criteria for assessing performance in this course were clearly stated.
8. Criteria for assessing the completion of the learning outcomes were clearly stated.
9. Course materials were effective in accomplishing the student learning outcomes.
10. Topics that were covered have relevance beyond this course.

Instructional Practices:

Instructional practices refer to what is experienced by students when they attend class. Were the teaching methods effective, was the class atmosphere supportive, and was feedback timely?

1. I was able to track my progress in the course.
2. Teaching methods were effective for promoting learning.
3. The methods for assessing work were appropriate.
4. The course atmosphere was respectful of all students.
5. The course's subject matter was covered in a clear manner.
6. Course sessions were well prepared.
7. Course time was used effectively.
8. The course schedule was followed, any changes were clearly communicated.
9. The course was well organized.
10. Feedback in this course was timely.
11. The relevance of course topics was discussed.

Spring 2014 Beta Test Finalized Questionnaire in Construct Order (No Reverse Coded Questions)

Student Engagement:

Student engagement refers to the motivation and active involvement of students in the course. Did the instructor encourage student participation and self-responsibility, communicate with students effectively, and demonstrate willingness to help students?

1. The instructor was accessible to students outside of class.
2. Communication with the instructor was effective.
3. Instructional activities contributed to my desire to actively engage in this course.
4. The feedback I received in this course was helpful.
5. This course stimulated my interest in the subject matter.
6. This course motivated me to learn.
7. Students were encouraged to take responsibility for their own learning.
8. Students were encouraged to share their ideas and knowledge.

Student Learning:

Student learning refers to the outcomes of the course, regarding new knowledge, as well as subject-related skills and general abilities, including thinking and reasoning skills. Did the course increase students' knowledge and abilities, are the learned skills transferrable to other subjects?

1. I increased my knowledge in this subject as indicated by the course learning outcomes.
2. I increased my skills in this subject as indicated by the course learning outcomes.
3. I increased my ability to integrate my knowledge and skills in this subject as indicated by the course learning outcomes.
4. Strategies for learning (learning how to learn) in this course are transferable to other subjects.
5. This course contributed to my understanding of the subject matter.
6. I am able to demonstrate my knowledge/skills in this subject matter.
7. This course helped me improve strategies for learning (learning how to learn).

Scale Reliability Analysis: (N=4780)

Scale: Instructional Design

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.948	.948	10

Scale: Student Engagement

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.920	.920	8

Scale: Instructional Practices

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.937	.938	11

Scale: Student Learning

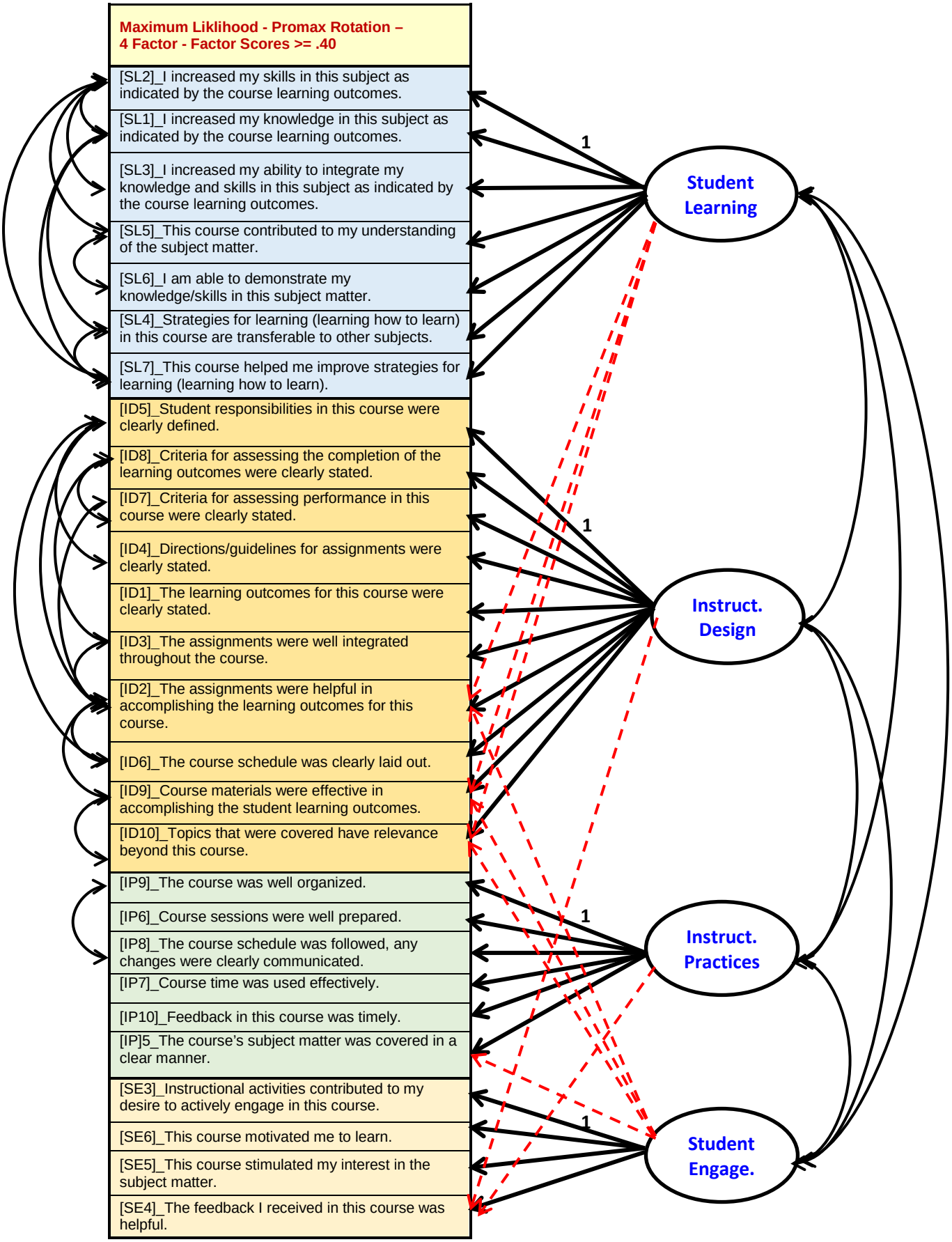
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.957	.958	7

Pattern Matrix[a]

Maximum Liklihood - Promax Rotation - 4 Factor - Factor Scores >= .40	Factor			
	1	2	3	4
[SL2]_I increased my skills in this subject as indicated by the course learning outcomes.	.984			
[SL1]_I increased my knowledge in this subject as indicated by the course learning outcomes.	.960			
[SL3]_I increased my ability to integrate my knowledge and skills in this subject as indicated by the course learning outcomes.	.916			
[SL5]_This course contributed to my understanding of the subject matter.	.831			
[SL6]_I am able to demonstrate my knowledge/skills in this subject matter.	.757			
[SL4]_Strategies for learning (learning how to learn) in this course are transferable to other subjects.	.637			
[SL7]_This course helped me improve strategies for learning (learning how to learn).	.604			
[SE7]_Students were encouraged to take responsibility for their own learning.				
[ID5]_Student responsibilities in this course were clearly defined.		.865		
[ID8]_Criteria for assessing the completion of the learning outcomes were clearly stated.		.860		
[ID7]_Criteria for assessing performance in this course were clearly stated.		.856		
[ID4]_Directions/guidelines for assignments were clearly stated.		.776		
[ID1]_The learning outcomes for this course were clearly stated.		.753		
[ID3]_The assignments were well integrated throughout the course.		.731		
[ID2]_The assignments were helpful in accomplishing the learning outcomes for this course.		.717		
[ID6]_The course schedule was clearly laid out.		.644		
[ID9]_Course materials were effective in accomplishing the student learning outcomes.		.640		
[ID10]_Topics that were covered have relevance beyond this course.		.504		
[IP3]_The methods for assessing work were appropriate.				
[IP9]_The course was well organized.			.859	
[IP6]_Course sessions were well prepared.			.836	
[IP8]_The course schedule was followed, any changes were clearly communicated.			.733	
[IP7]_Course time was used effectively.			.664	
[IP10]_Feedback in this course was timely.			.554	
[IP]5_The course's subject matter was covered in a clear manner.			.445	
[SE2]_Communication with the instructor was effective.				
[IP4]_The course atmosphere was respectful of all students.				
[IP1]_I was able to track my progress in the course.				
[IP11]_The relevance of course topics was discussed.				
[SE1]_The instructor was accessible to students outside of class.				
[SE3]_Instructional activities contributed to my desire to actively engage in this course.				.571
[SE6]_This course motivated me to learn.	.468			.563
[SE5]_This course stimulated my interest in the subject matter.	.488			.561
[SE4]_The feedback I received in this course was helpful.				.416
[SE8]_Students were encouraged to share their ideas and knowledge.				
[IP2]_Teaching methods were effective for promoting learning.				

SEM Exploratory Results
Showing Covariance's and Cross Loadings for Model 1

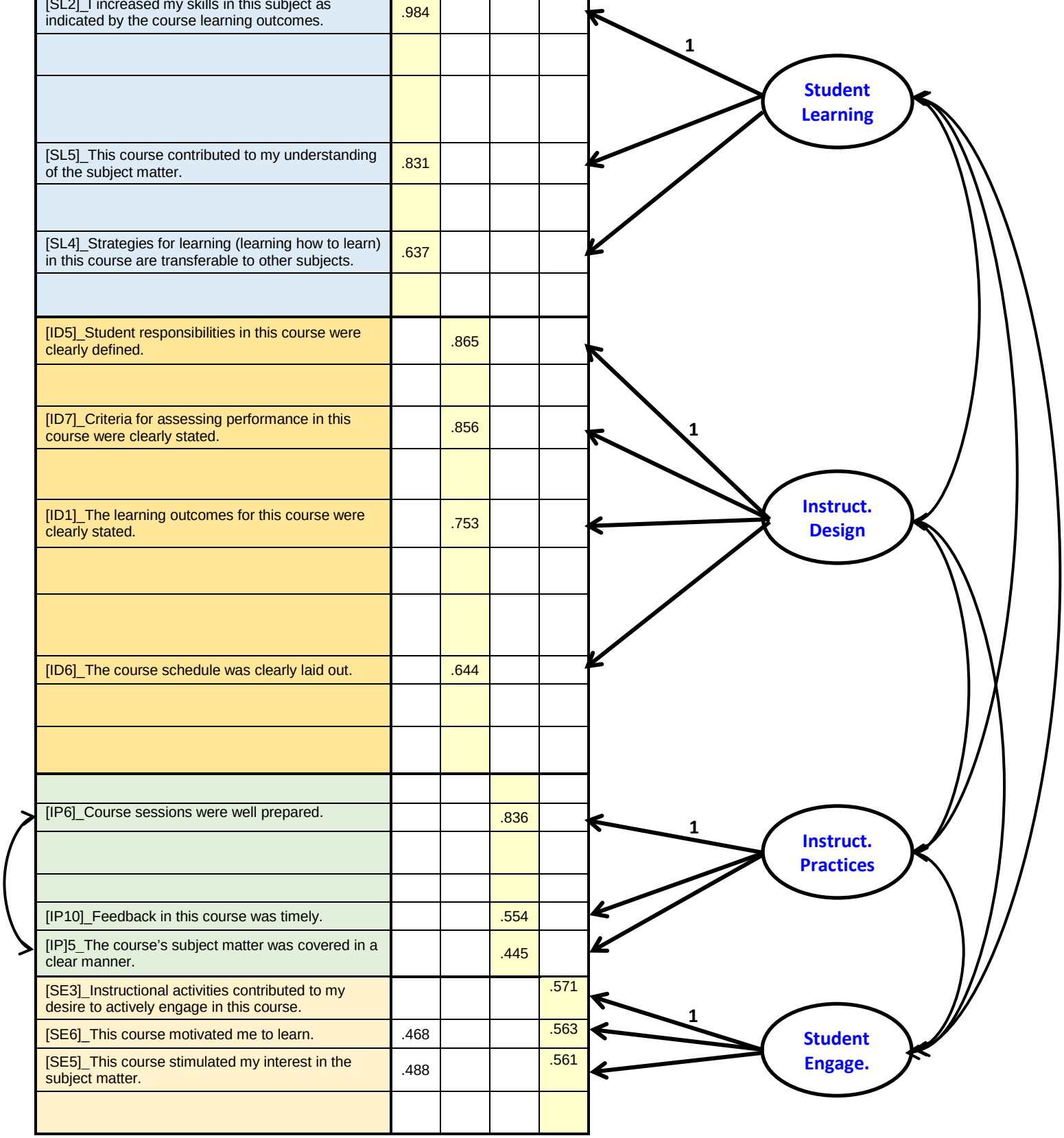


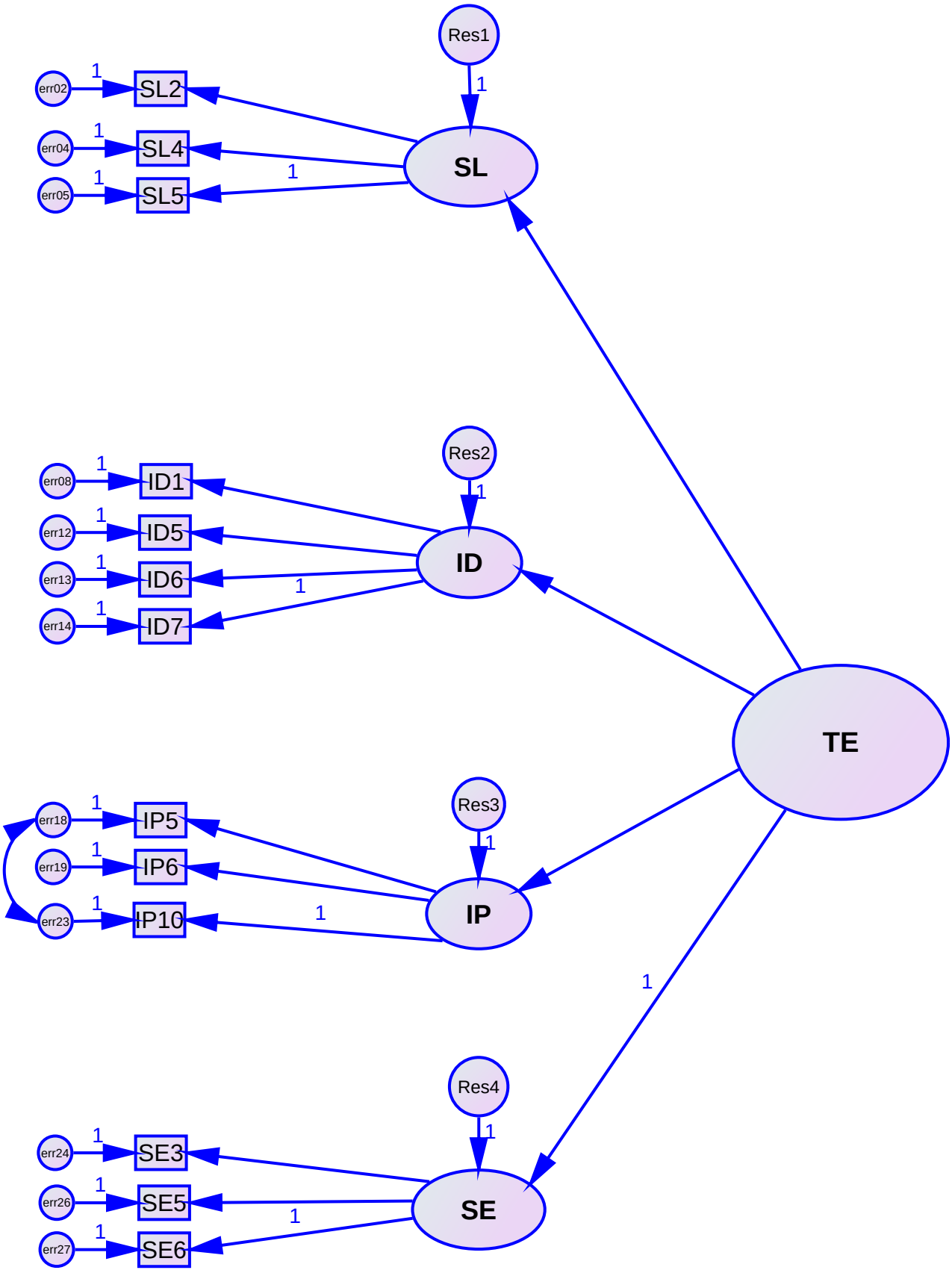
SEM 2nd Order Model Comparison

MODEL	Chi Sq.	RMR	GFI	CFI	RMSEA	Pclose
Parameters	Small/ns	~<.050	~>.950	~>.950	~<.050	ns
1	6701.8	.062	.822	.925	.084	.000
2	4784.3	.063	.849	.938	.080	.000
3	3356.2	.060	.875	.944	.082	.000
4	994.4	.060	.875	.944	.082	.000
5	542.6	.035	.971	.985	.054	.000

MODEL 6: SEM Exploratory Results

Maximum Liklihood - Promax Rotation – 4 Factor - Factor Scores >= .40	Factor			
	1	2	3	4
[SL2]_I increased my skills in this subject as indicated by the course learning outcomes.	.984			
[SL5]_This course contributed to my understanding of the subject matter.	.831			
[SL4]_Strategies for learning (learning how to learn) in this course are transferable to other subjects.	.637			
[ID5]_Student responsibilities in this course were clearly defined.		.865		
[ID7]_Criteria for assessing performance in this course were clearly stated.		.856		
[ID1]_The learning outcomes for this course were clearly stated.		.753		
[ID6]_The course schedule was clearly laid out.		.644		
[IP6]_Course sessions were well prepared.			.836	
[IP10]_Feedback in this course was timely.			.554	
[IP]5_The course's subject matter was covered in a clear manner.			.445	
[SE3]_Instructional activities contributed to my desire to actively engage in this course.				.571
[SE6]_This course motivated me to learn.	.468			.563
[SE5]_This course stimulated my interest in the subject matter.	.488			.561




Res1
SL2
SL4
SL5
err02
err04
err05
SL
Res2
ID1
ID5
ID6
ID7
err08
err12
err13
err14
ID
TE
Res3
IP5
IP6
IP10
err18
err19
err23
IP
Res4
SE3
SE5
SE6
err24
err26
err27
SE
1

SEM 2nd Order Model Comparison

MODEL	Chi Sq.	RMR	GFI	CFI	RMSEA	Pclose
Parameters	Small/ns	~<.050	~>.950	~>.950	~<.050	ns
1	6701.8	.062	.822	.925	.084	.000
2	4784.3	.063	.849	.938	.080	.000
3	3356.2	.060	.875	.944	.082	.000
4	994.4	.060	.875	.944	.082	.000
5	542.6	.035	.971	.985	.054	.000
2nd Order Model	1000.8	.065	.945	.971	.074	.000