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Assessment-Orientated Instructional Design Using DREAM Approach

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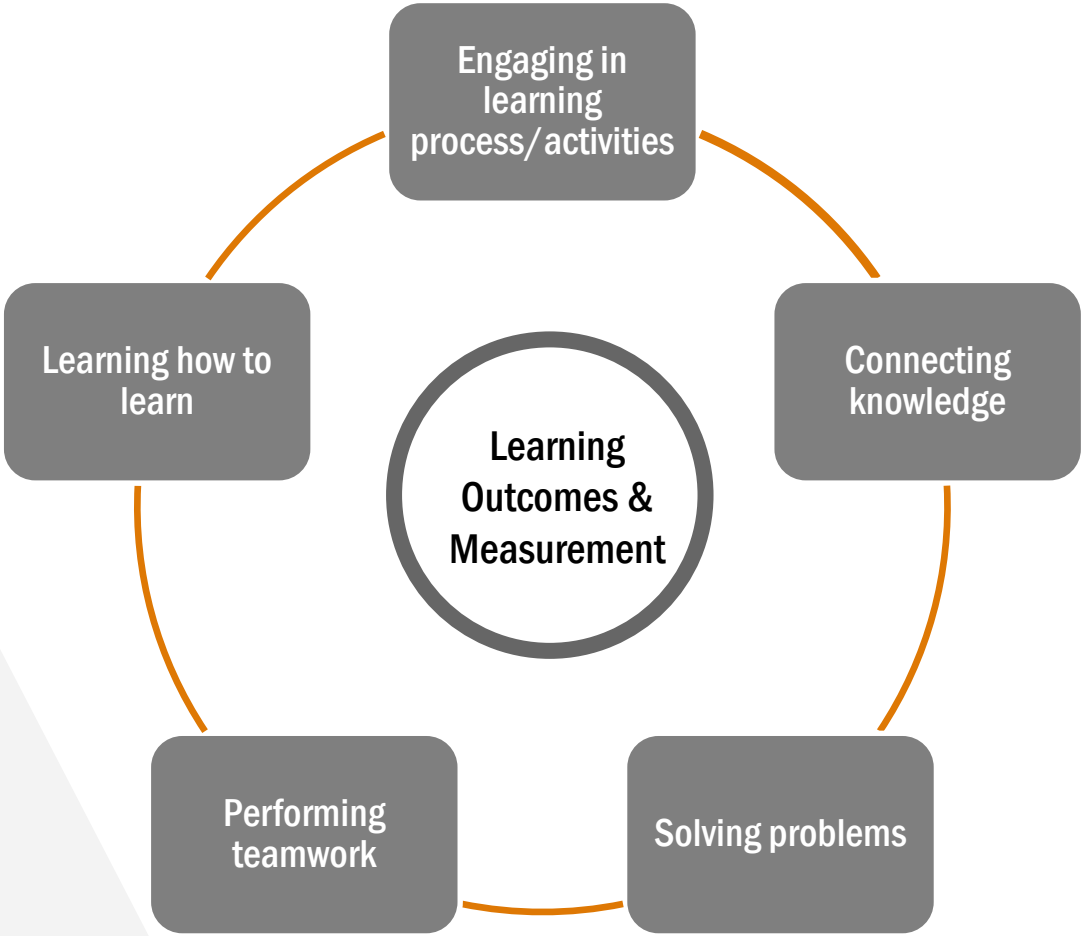
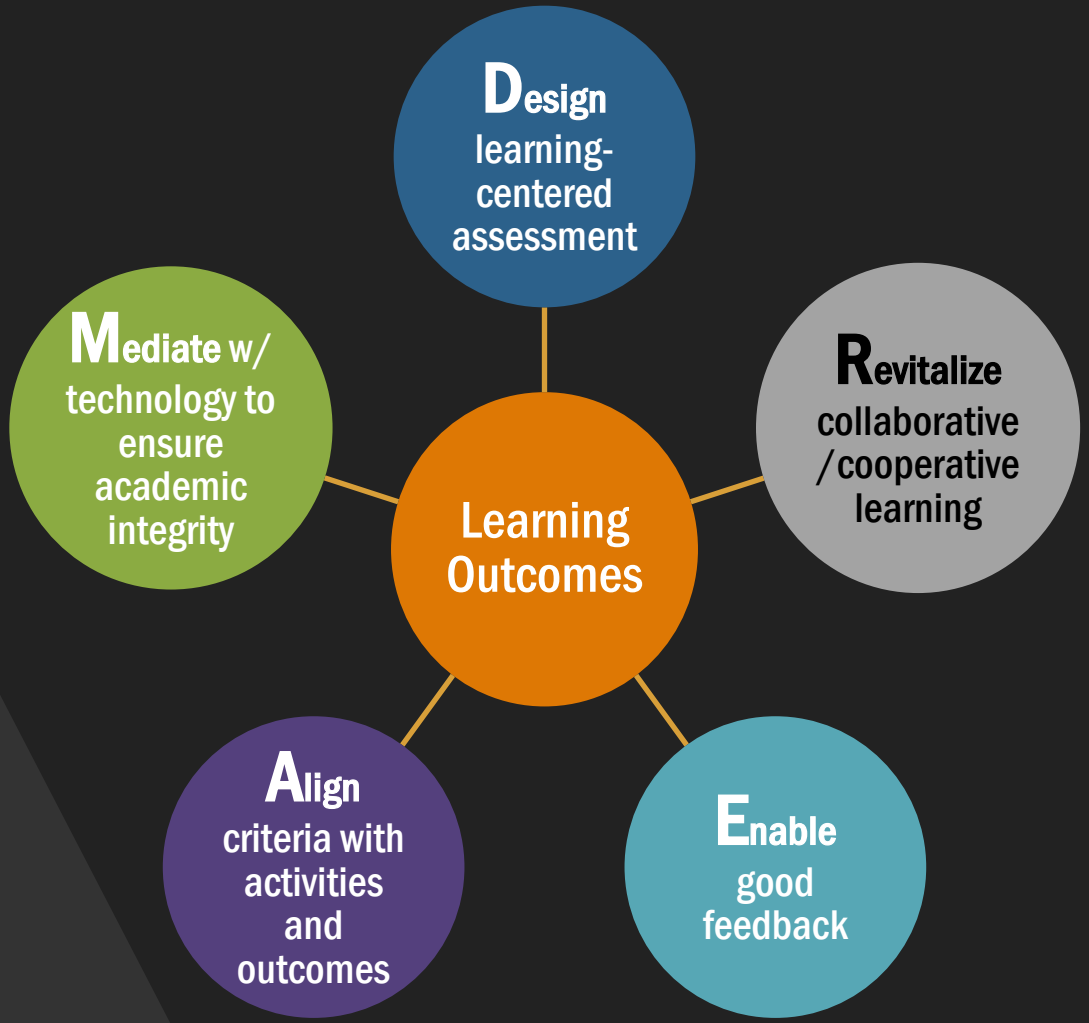
Outline

- Rationale & DREAM Assessment-Oriented Design
- Types of Assessment in Online Learning Environment
- Method of Design-based Research (DBR)
- Settings of Design-based Research
- Instruments for DBR Data Collection
- Initial Results
- Future of the Study

Rationale

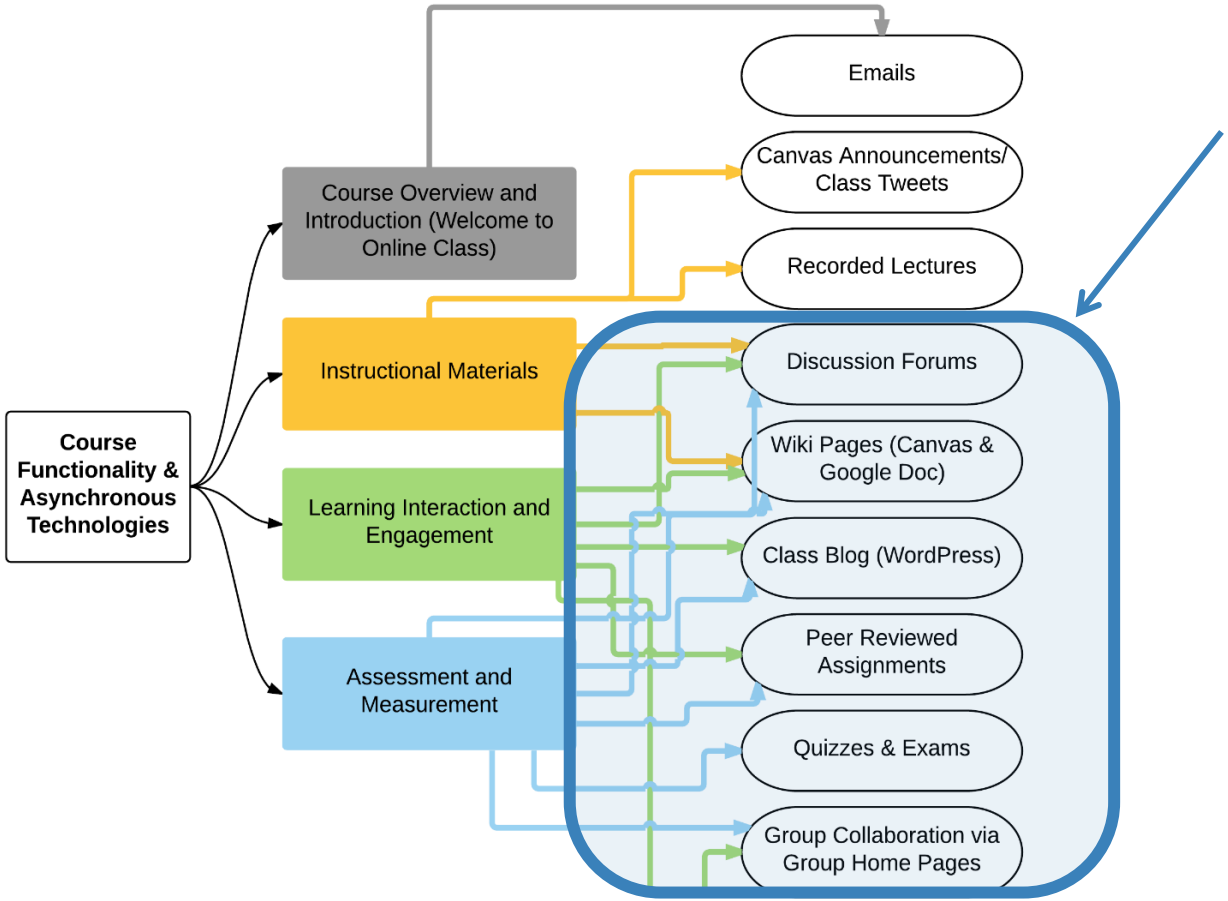

Engaging in learning process/activities
Connecting knowledge
Solving problems
Performing teamwork
Learning how to learn
Learning Outcomes & Measurement

DREAM Model


Design learning-centered assessment
Revitalize collaborative /cooperative learning
Enable good feedback
Align criteria with activities and outcomes
Mediate w/ technology to ensure academic integrity
Learning Outcomes

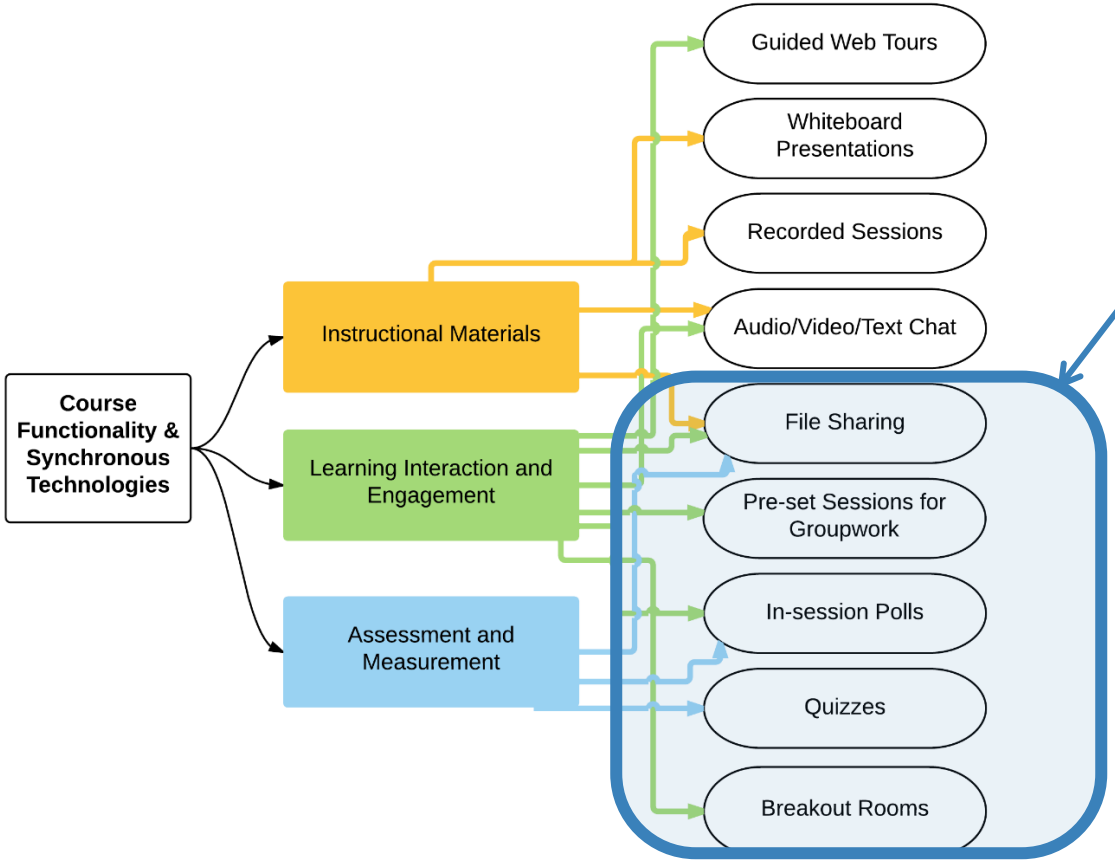
Assessment methods	Most likely kind of learning assessed
Essay-type • Essay exam, Open book assignment, take home exam	Synthesis of widely read materials, interrelating, organizing, application, integration, evaluation
Objective test • Multiple-choice, short answer	Recognition, identification, memorization, understanding
Performance assessment • Practicum, Seminar, Presentation, Project, Reflective journal, Case study, Problem solving, Portfolio	Skills needed in real life, communication skills, reflection, application, sense of relevance, application, research skills, creativity
Alternative assessment • Concept mapping, venn diagrams, muddy-point essays, peer review	Verbalizing and visualizing relationship, sense of relevance, holistic understanding, application, reflection, comprehension.

(Biggs, 1999; Palloff & Pratt, 2009)



Types of assessment that can be completed at any time and any place

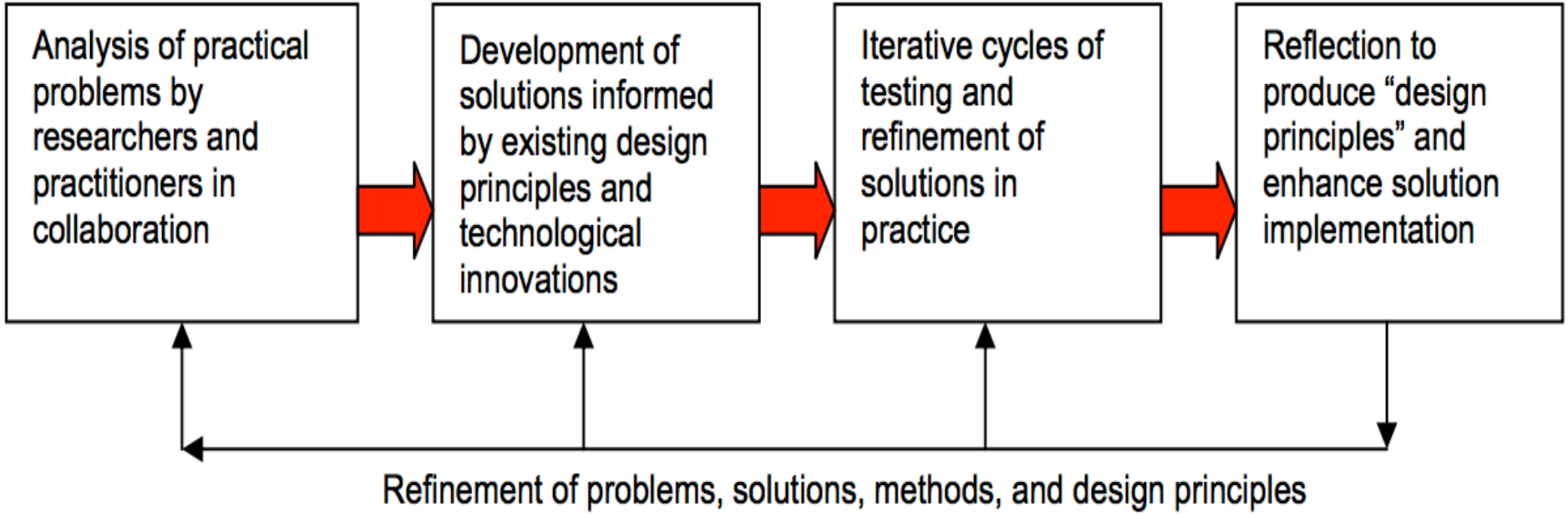
Type of Assessment in Online Learning Environment



Types of assessment that can be completed at anyplace but require class members to connect at the same time.

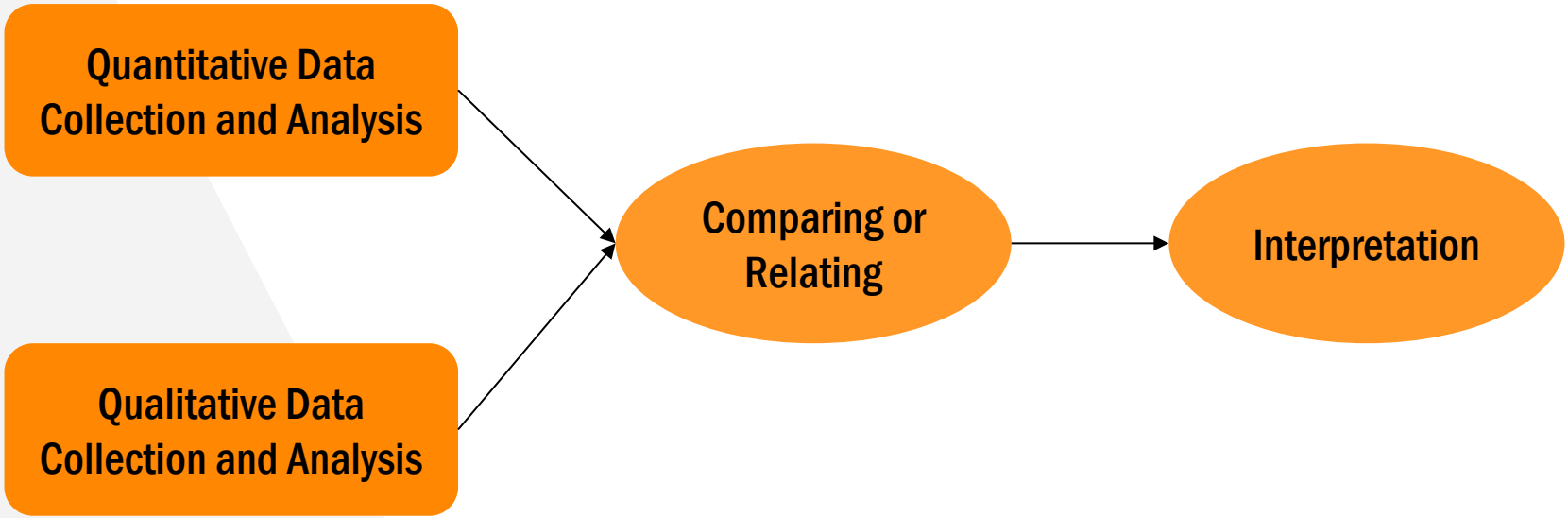
Type of Assessment in Online Learning Environment

Design-based Research (DBR)



Amiel, T., & Reeves, T. C. (2008).

DBR Research Design - Convergent Parallel Mixed Method



(Creswell & Clark, 2011; Creswell, 2014)

Settings of DBR Research

Class

Critical Reading of Educational Technology

103 juniors

Shenyang Normal University
Shenyang City
China

Learning Objectives

- describe the history of the field
- identify and evaluate the current status, and synthesize the readings for application

Course Content

technology philosophy, communication, psychology, social network,
big data, resources revolution, and artificial intelligence (AI).

Learning Activities

- Online discussion within LMS Tronclass
- Group screencast
- Peer feedback

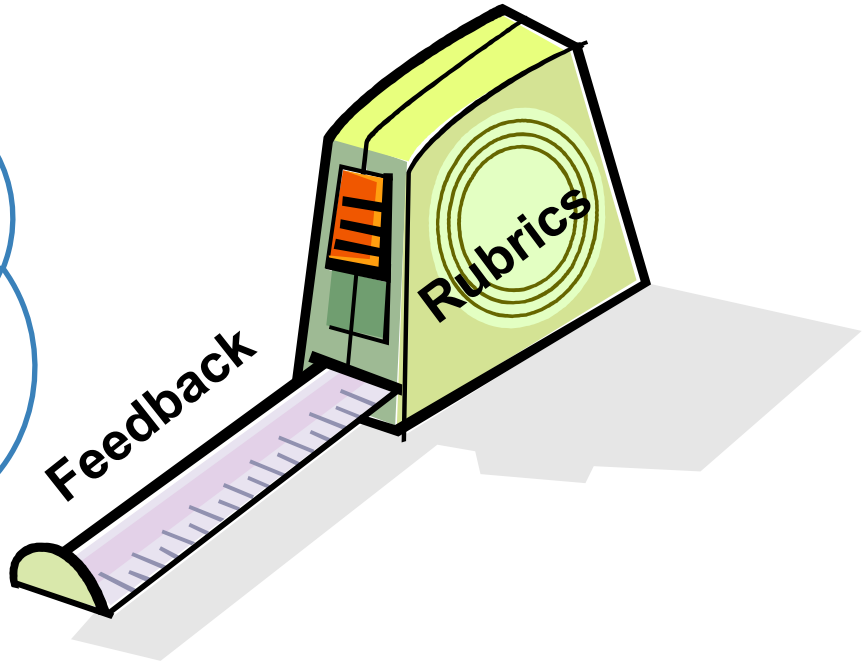
Assessment in "Critical Reading of Educational Technology" Class

Peer Review

Graded Discussion

Online Participation

Group Assignments



Research Instruments

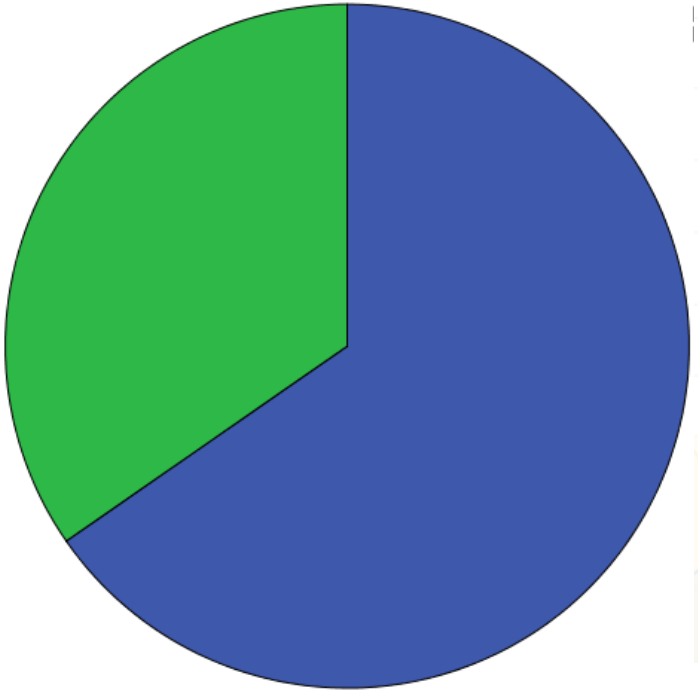
Delivery of Post	Utilizes poor spelling and grammar in most posts; posts appear "hasty" ;	Errors in spelling and grammar evidenced in several posts;	Few grammatical or spelling errors are noted in posts;	Consistently uses grammatically correct po with rare misspellings;
Relevance of Post	Posts topics which do not relate to the discussion content; makes short or irrelevant remarks	Occasionally posts off topic; most posts are short in length and offer no further insight into the topic	Frequently posts topics that are related to discussion content; prompts further discussion of topic	Consistently posts topics related to discussion topi cites additional reference related to topic
Expression Within the Post	Does not express opinions or ideas clearly; no connection to topic	Unclear connection to topic evidenced in minimal expression of opinions or ideas	Opinions and ideas are stately clearly with occasional lack of connection to topic	Expresses opinions and i a clear and concise mann with obvious connection topic
Contribution to the Learning Community	Does not make effort to participate in learning community as it develops; seems indifferent; Does not participate in peer evaluation	Occasionally makes meaningful reflection on group's efforts; marginal effort to become involved with group; Participates in peer evaluation but does not have constructive input.	Frequently attempts to direct the discussion and to present relevant viewpoints for consideration by group; interacts freely; Participate in peer evaluation with input	Aware of needs of comm frequently attempts to mo the group discussion; pre creative approaches to to Participate in peer evalua with constructive input
				TOTAL

Modified based on Edelstein, S. & Edwards, J. (2002). **If you build it, they will come: Building learning communities through threaded discussion.**

(CLSS) questionnaire
(So & Brush, 2008)

CLSS Questionnaire

5-point Likert Scale: Strongly Disagree=1; Strongly Agree=5

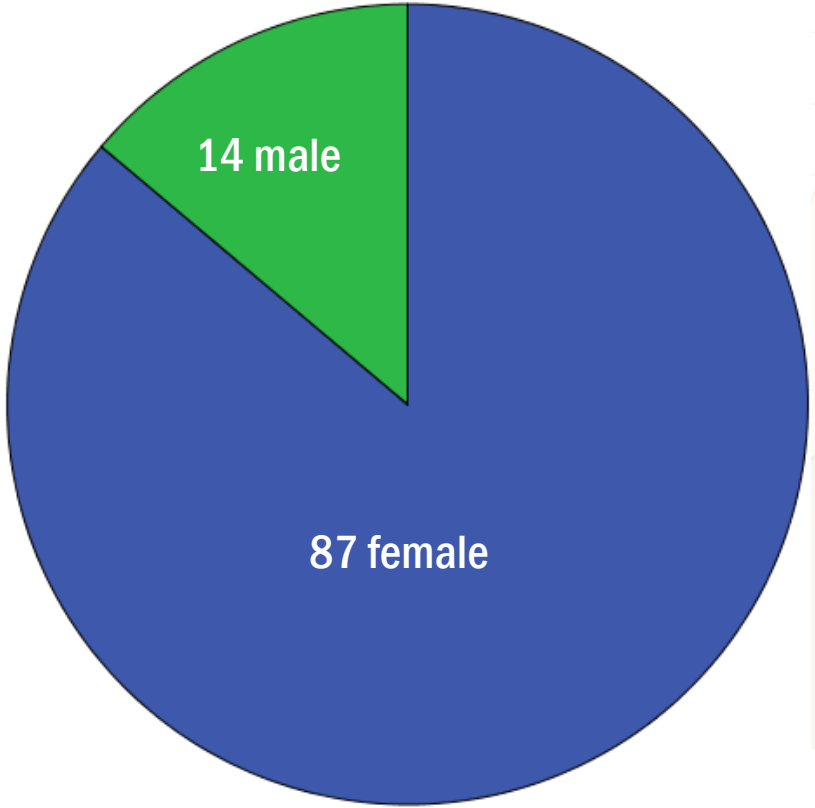


Response from phones: 66

Reponses from web browsers: 35

Total responses: 101

Initial Data Analysis Results- Demographics



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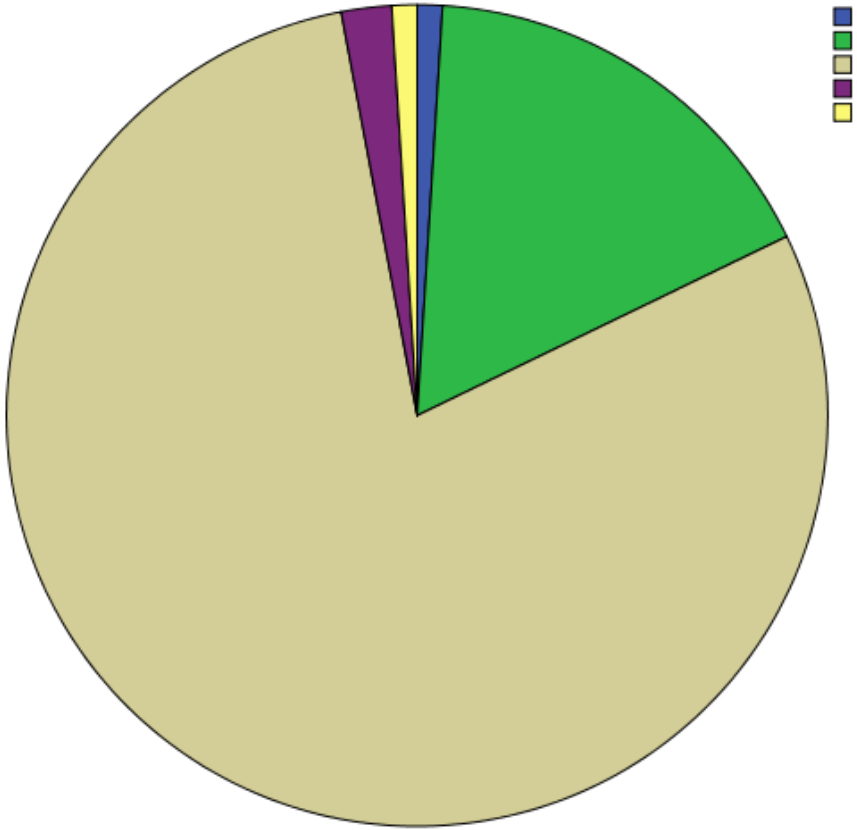
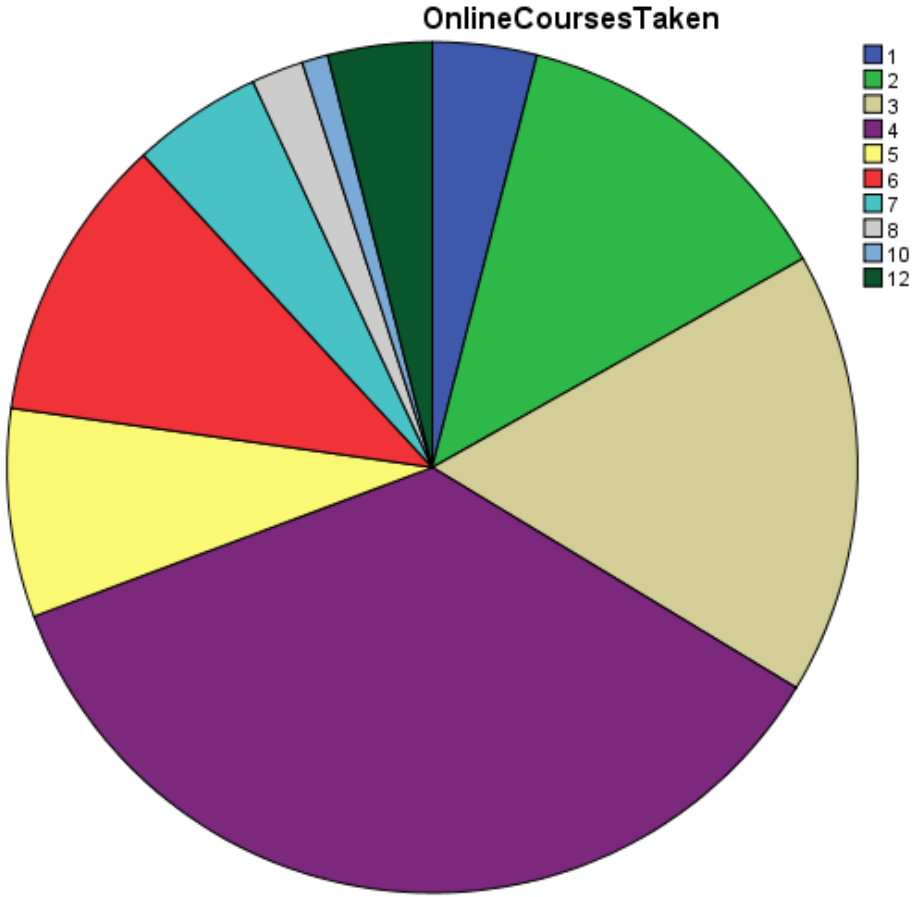


1= No Experience
2= Novice
3= Intermediate
4= Expert
5= Not willing to respond

Initial Data Analysis Results- Demographics



Initial Data Analysis Results- Demographics

Cronbach’s alpha

.923

Perception of Social Presence & Online Discussion Performance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	70.744	1	70.744	8.863	.004[b]
	Residual	790.206	99	7.982		
	Total	860.950	100			
2	Regression	116.603	2	58.301	7.676	.001[c]
	Residual	744.348	98	7.595		
	Total	860.950	100			

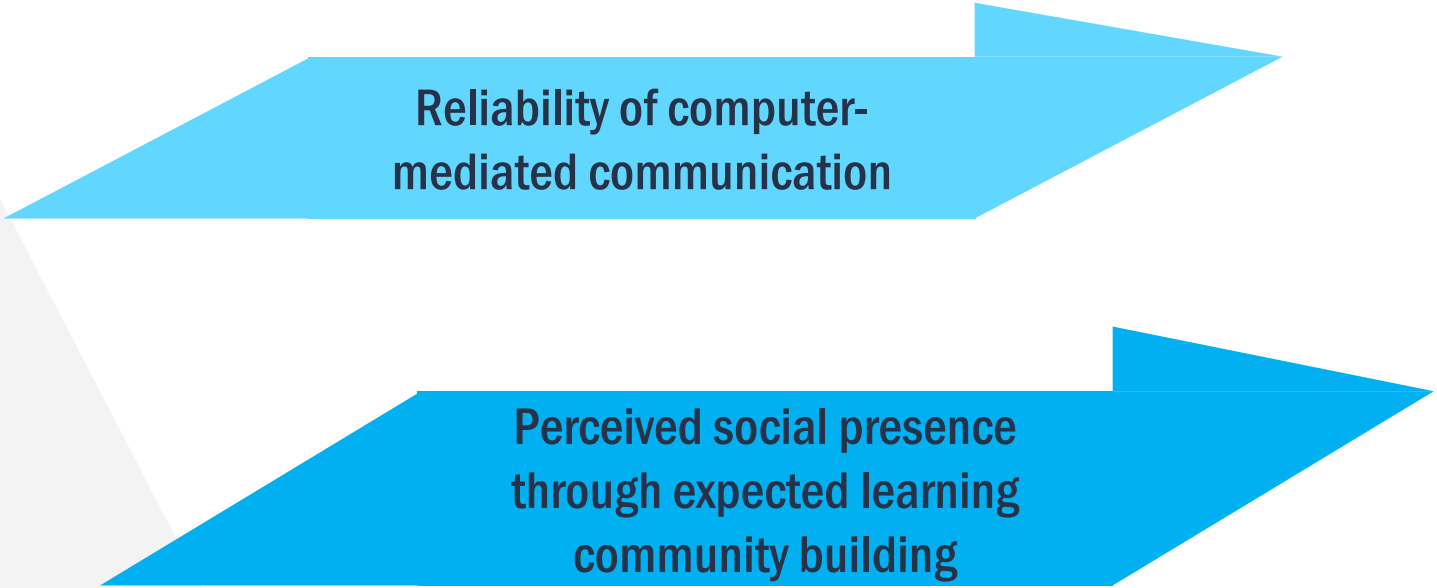
a. Dependent Variable: Online-Discussion
b. Predictors: (Constant), SP10
c. Predictors: (Constant), SP10, SP12

Perception of Social Presence & Online Discussion Performance

SP 10 – Computer-mediated communication is technically reliable

SP 12 - Computer-mediated communication allows me to build more caring social relationship with others

Conclusion and Discussion



Future Directions

- Qualitative data collection and analysis
- CLSS validation with more data
- Constructs of cooperative vs. collaborative learning with cultural context

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- Amiel, T., & Reeves, T. C. (2008). Design-based research and educational technology: Rethinking technology and the research agenda. Educational Technology & Society, 11(4), 29-40.

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- So, H. J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education*, *51*(1), 318-336.

Thank you!

Any questions?