Evaluating Learning Outcomes of an Asynchronous Online Discussion Assignment: A Qualitative Analysis

Orly Calderon, Psy.d.
Associate Professor,
Social Work Department, LIU Post
Orly.calderon@liu.edu

Introduction and Learning objectives

- **Please share:**
  - Have you used asynchronous on-line discussion tools in your courses?
  - Do you think you have effectively measured learning outcomes associated with these tools?

- **Workshop Learning Objectives:**
  - Identify challenges associated with outcome assessment of online discussion assignments.
  - Identify strategies for contextual analysis of students' posts on an online discussion board assignment.
  - Practice construction of rubric dimensions and evaluation criteria.
  - Explore relevance of this method to participants' own teaching and outcome assessment of students learning.

Use of LMS

- Use of learning management systems (LMS) has become prevalent across the continuum of education formats.

- Specific asynchronous tools such as the discussion board have been shown to be effective tools for:
  - Student-instructor as well as student- student communication. (Calderon, Ginsberg and Ciabocchi, 2013; Jorczak & Dupuis, 2014; Ke, 2013)
  - Constructivist learning (Ke, 2013; Lane , 2014).
  - Critical thinking skills (Williams & Lahman, 2011).

Challenges in Designing & Assessing Online Discussion Assignments

- A lack of systematic comprehensive analysis of online discussion assignments for the purpose of identifying dimensions that can be objectively evaluated.

- Current work in this area includes:
  - A priori parameters of critical thinking skills(Lai, 2012)
  - Instrumental dimensions such as length of communication instances (Brooks & Bippus, 2012).
  - Analysis of students' reaction to the assignment (Mathews & La Tronica-Herb 2013).
  - Analysis of instructors' perceptions of students' skills development in course (Klisc, McGill & Hobbs 2009).

The Current Study

- Utilized a post priori analysis of students' responses to an online discussion board assignment to identify organically emerging indicators of learning for the purpose of creating an evaluation rubric for such assignments.

  o What are the organically emerging patterns in content and structure of discussion board posts that can indicate quality of learning?

Participants

- MSW students at a large private university in NYS.
  - Psychopathology Across the Lifespan
  - Spring semesters 2012, 2013, 2014.

Semester	# Females	# Males	#Responses
Spring 2012	15	2	21
Spring 2013	11	1	37
Spring 2014	19	1	25
Total	45	4	83

The Assignment (1)

- Case study group discussion
- Students in all 3 cohorts were required to read a case study (identical to all three cohorts) and respond to a prompt by instructor regarding the proper diagnosis and treatment plan /or next steps in addressing the issues presented in the case study.
- The instructor read all posts on the due date and provided feedback to each group, respectively.
  - Good job, Group 2. The debate between separation anxiety and OCD is especially interesting and can also be somewhat informed by which edition of the DSM the clinician is using. This is a great example of how real life situations do not always fit well with "the book". More about all that tomorrow in class.

The Case Study*

Francis is a M.W.M. and presents with extraordinary concern about the safety of his wife and young daughter. He rarely leaves them alone when away (e.g., at work) he telephones home every hour. He has lost one job because of this, and his wife has threatened to leave him if he does not seek psychiatric help. Six months ago, the symptoms, which have been present for years, became worse after his wife had a serious automobile accident.

Francis describes recurrent, unbidden thoughts in which dangerous events befall his family and he is not there to save them. He knows the thoughts are "silly" and they come from his own mind rather than any real danger, but he cannot resist contacting his wife or daughter in some way to be certain they are safe. His wife has arranged to lift the telephone receiver briefly, then hang up, which is usually sufficient to allay his fears for an hour or so.

There is no history of significant medical illness or Substance Abuse. The client completed 2 years of college and has a responsible job. He performs well, and is not particularly perfectionistic, overly conscientious (except with regard to his family's safety), rigid, or preoccupied with details.

* Adapted from Morrison, 1994

The Assignment (2)

- The Prompt:
- **Dear Group 1 students,**
- **Please read the case study "Francis" (now available in the case studies folder in your blackboard dashboard). Please reflect on the following: What is the most appropriate diagnosis for Francis? What will be an appropriate treatment plan for Francis? Explain your answer. Please remember to respond by Wed, April …, at noon. As always, I am looking forward to reading your posts!**

  o Note; the prompt in 2014 also included explicit instructions to respond to each other's posts.

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Data analysis

- All posts were de-identified and numerically coded.
- Content of students' posts was analyzed using inductive constant comparison method, identifying units of meaning, grouping into categories and generating themes.
- The primary investigator and the RA conducted initial joint analysis of sample responses, followed by independent analyses.

Examples of Content Analysis by Categories (1)

- **Response**
  - Axis I   Obsessive Compulsive Disorder (300.3)
  - Axis II   No Diagnosis (V71.09)
  - Axis III   None
  - Axis IV   Constant worry about leaving his family home, obsessive calling to keep in touch, lost one job, marriage shaky
  - Axis V   GAF 60-70

- **Category- diagnostic impression**

- **Response**
  - The diagnosis is Generalized Anxiety Disorder (Provisional) due to the lack of information available. It is expected that Francis has GAD based upon his excessive worry and other symptoms indicated above; however, it is not known if he has the associated symptoms needed to confirm the diagnosis (restlessness, easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension, sleep disturbance). Although it is not known, based upon the amount of worry and anxiety that Francis and his family are describing, it is assumed that upon gathering additional information, these symptoms may be present and confirmed.

    GAF of 51 was chosen because he has lost a job because of these symptoms and his wife is threatening to leave him. It is assumed that his children are also experiencing negative consequences of his mental health symptoms.

- **Category- rationale for diagnostic impression**

Examples of Content Analysis by Categories (2)

- **Response**
  - Interesting! I thought this was one of the hardest case studies so far....
- **Category- reflection of the process**
- **Response**
  - I think we need more information on his previous actions. Did he always have these compulsions or did they start after a traumatic experience .
- **Category-reflection on the material**
- **Response**
  - I agree with your diagnosis and the justification. However, the information you put in Axis III should go in Axis IV (Psychosocial and Environmental Problems). Axis III is reserved for medical conditions related to the Axis I diagnosis.
- **Category- peer-to peer constructive feedback**
- **Response**
  - I'm looking forward to learning more about the anxiety disorders this week; as they are very relevant to where I work as well as at my internship.
- **Category- motivation**

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Grouping Categories Into Themes

- Content-based communication
  - Diagnostic impressions; rationale for diagnostic impression; tx plan; re-cap of case study details
- Interaction-based (peer-to-peer) communication
  - Agreement; constructive criticism; invitation to peers to comment
- Reflection-based communication
  - Reflection on the process; reflection on the material
- Indicators of effort communication
  - Adherence to time constraints; # of posts in a thread; motivation to learn more

Inter-Rater Reliability

- Overall number of responses- 83
- Number of disagreements- 20-25
  - Approximately 70%-80% inter-rater agreement.
- Type of disagreement
  - Possible additional categories
- Re-cap of case study material
  - Differentiating between categories:
  - Reflection on the process or on the material?
    - I initially thought that it was GAD but read over the criteria for both disorders to be which one was a best fit for Francis
  - Reflection on process or expression of motivation?
    - Hey everyone- I am going to throw this out there and be a little different. Totally unsure about this one..
  - Treatment plan or re-cap of case study content?
    - From a social work competency perspective, Francis is in general good health; he is married with a daughter; he has a job and performs well. Although he worries incessantly over the safety of his family and phones home constantly, his wife supports him by picking and hanging up the phone to assure Francis that his family is fine.

Application to a Grading Rubric (1)

- Each theme can represent a dimension of learning:
- Content-based communication
  - Knowledge and comprehension of content
- Interaction-based communication
  - Communication skills; inter-personal skills
- Reflection-based communication
  - Analytical skills
- Indicators of effort communication
  - Motivation for learning
- Each category can serve as a grading dimension
  - How to quantify quality of responses?

Group Work

Dimension	Excellent	Competent	Needs Work
Knowledge and comprehension of material			
Diagnostic impression			
Rationale for diagnostic impression			
Treatment plan			
Inter-personal communication skills			
Positive feedback/encouragement			
Constructive criticism			
Engaging peers in conversation			
Analytical skills			
Reflection on process of learning			
Reflection on quality of material			
Effort			
Promptness of posts			
Frequency of posts			
Interest in the material			

Thank You

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