**Module 3: Validity Matrix and Memo**

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**EDRS 797: Mixed Methods**

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**Summer 2012**

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**Validity Matrix**

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| **Research Questions** | **Instrumentation** | **Validity Threats** | **Possible Strategies for Dealing with Validity Threats** |
| **RQ1: In what ways are faculty members using social media at GMU?**  | Faculty SurveyInterviews? | * Sample size and specifically the number of respondents to the survey could be a validity threat due to the lack of rich data. Surveys can't provide "rich data" in the usual sense; this is not a matter of the number of respondents, but of the *depth* of information from each respondent. Your *interviews* will be your best source of rich data. The survey will be sent online and many faculty might not respond to it.
 | * Enrich data by:
* Sending follow up emails to remind faculty members to complete the survey.
* Contacting individual heads of departments and asking them to follow up with the faculty from their part. To me, the number (and representativeness) of respondents is mainly an issue of generalizability, not validity.
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| **RQ2: What are the most common social media tools that faculty use in their teaching at GMU? And why?** | Faculty SurveyFaculty Interviews | * Generalizability could be a threat to the findings because the selection of social media tools could differ among disciplines.
 | * Comparison of collected data to existing literature and latest statistics in the field to ensure that the findings are valid. If your data are discrepant with previous research, that doesn't mean they aren't valid; GMU may not be typical, or social media use may have changed (which seems quite possible).
* Categorizing social media tools by the frequency of their use in different disciplines. ☺ This is also based on the number of respondents from each discipline to make the data valid.
* Following up with faculty interviews to determine the frequency of the faculty’s use of social media in their courses and their knowledge about their colleagues usage of social media tools in their teaching.
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| **RQ3: What are the most common tasks that faculty assign for students to complete through social media tools? And why?** | Faculty SurveyFaculty InterviewsStudent surveys | * Some students might not be aware of the nature of the tasks assigned through social media tools.
* Tools and learning strategies might change from one semester to the other.
* Faculty might have misconceptions about the term “social media in education”.
 | * Intensive long-term involvement with the faculty members who will be selected for the interviews. Interview each of the 5 faculty members selected for the first round of interviews for 3 consecutive semesters to identify any changes in their use of social media and their perceptions of their students’ learning.
* Triangulation of data collected from faculty surveys, interviews and student surveys.
* Observing the social media tools in use with the permission of faculty and looking at the students’ interaction using these tools will confirm the faculty and students’ responses to this question.
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| **RQ4: Does social media enhance student learning?**How do social media enhance student learning? How do faculty and students perceive that social media enhance student learning?See the discussion of realist research questions in my Design book, pp. 79-82. | Faculty SurveyFaculty InterviewsStudent Survey | * Student and faculty awareness of what consists an enhanced learning experience might impact the validity of the results.
* Contradictory perceptions of the value of social media tools in education as reported by faculty and students. I'm not sure how this is a *validity* threat. It may simply be true; diversity is real (Maxwell, *A Realist Approach . . .* )
 | * Comparing faculty and students’ experience with a course that involves social media activities to courses that don’t engage students in social media activities might assist the participants in comparing their experiences in both types of courses.
* If a significant number of students report that social media learning activities have value in them and faculty don’t or vice versa, I will follow up with interviews and focus groups to understand this discrepancy. ☺
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| **RQ5: What learning activities that faculty assign through social media enhance student learning the most?**What learning activities that faculty assign through social media are *perceived to* enhance student learning the most? How do they believe that these media enhance student learning? | Student SurveyFaculty Survey | * Faculty and students might rate learning activities that enhance their learning differently which might lead to discrepancy in the findings.
* Participants’ bias might affect the validity of the data in case the students dislike their professor or want to impress them by saying good things about them.
 | * Triangulation of data collected from faculty survey, student survey and faculty interviews will help in answering whether social media activities enhance learning. I'm not sure how it will do this; none of these directly assess learning, only participants' *perception* of learning. See the discussion of triangulation in the third edition of my Design book, p. 128.
* Ensuring anonymity to the students might make them more honest in reporting about their experiences although students who dislike their professors might consist a validity threat to the findings true, but you can get assess this by questions in the survey, and also through interviews, but they also might be very few and might not affect the overall findings.
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**Memo**

This assignment has been a reflection exercise on the overall design of my pilot study because I felt that validity is central to the whole process as explained in Maxwell’s (2013), *Qualitative research design: an interactive approach.* It impacts the whole data collection methods as well as data analysis. ☺ I thought that validity could be dealt with after finishing the data collection and analysis, but I realized through the course reading and according to Maxwell (2013) that it “consists of your conceptualization of these threats and the strategies you use to discover if they are plausible in your actual research situation, and to deal with them if they are plausible” (p.123). Therefore, it is a component of the research that should be thought of ahead of time because it could impact the whole study methods and results. After all the study is meant to convince the readers of the findings; otherwise it would be invalid. I would reverse this. The goal of the study is to produce valid results; if the results aren't valid, they are less likely to persuade readers (and will be less useful to them if they *are* persuaded).

Possible validity threats in my study are related to the sample size, generalizability, the participants’ awareness of the use of social media in education, the participants’ understanding of an enhanced learning experience, the contradicting views of participants, and the students’ bias in evaluating the course learning activities. I used Maxwell’s (2013) validity checklist in examining the validity threats in my study and using strategies that could minimize and eliminate these threats.

For the sample size issue, I will follow Maxwell’s suggestion for intensive long-term involvement in the research process which he adopts from Becker and Geer (1957). I don't see the connection. Sample size (and representativeness of the sample) is relevant to the *generalizability* of your results; intensive long-term involvement is a strategy for increasing their *validity*. Although I am piloting my study ☺, I am hoping to develop it into my dissertation by collecting more data through faculty survey that will be sent every semester and more faculty interviews. Besides, I am planning on interviewing the same 5 faculty members during three consecutive semesters of using social media in their instruction to validate their responses. I'm not sure this is the most productive way to *validate* your results. Their responses should be adequately validated by member checks, and it may be more productive to interview *different* faculty. Whether the faculty members' views (and practices) *change* during this period (and why) is a different issue; repeated interviews will allow you to assess this, and also to gain more depth in understanding *how* they use social media.

Since the participants in my study will be faculty from all disciplines at GMU, I will make sure not to generalize the findings to all disciplines. ☺ I will make sure to categorize the findings by discipline because the use of certain social media tools or learning activities might be efficient in one discipline but not in the other. It also depends on the sample size from each discipline. One respondent from each discipline will not be enough to validate data about this specific discipline. To have valid data, I will depend on 5 respondents from each discipline. But even this would depend on whether the 5 respondents were *representative* of this discipline at GMU (let alone representative of the discipline in general).

In the field of education, concepts might be alien to faculty and students from other disciplines. I will make sure to use simplified terminology related to social media tools, learning activities, and learning enhancement from existing surveys. And to learn *their* terminology. I will also ask faculty and students to compare their experiences in the course where social media is involved to a course where social media is not involved. Data collected from both groups of participants (faculty and students) will be compared and triangulated to achieve validation. "Validity is not a commodity that can be purchased with techniques." In case of discrepancies, I will check the number or participants who had contradictory views, and if the number is significant what would count as "significant"?, I will conduct follow up interviews and focus groups to check for reasons. One of the validation threats that could be related to diverging data could be the students’ bias in evaluating the course activities especially if they have issues with their professor. I will make sure to mention the anonymity of the survey responses to the students. Another strategy to validate students’ responses is by conducting student surveys during three semesters in which the faculty members will be interviewed which will allow me to triangulate data and eliminate bias.

 This is only an initial description of possible validity threats in my study. As I go along collecting data, other validity threats might come up and I have to deal with them at that moment. However, this validity matrix and memo have been very helpful in reshaping the process of my research and keeping an eye on any threats that could diminish the validity of my study.

Ghania:

This is a good use of the matrix/memo assignment, and you've put a lot of thought into this. My main concern is that you seem to be confusing validity and generalizability; these are different goals, and usually require different strategies (see my Design book, 3rd edition, pp. 136-138. I also think you need to be careful not to assume that using particular strategies will *achieve* validity; at best, the can *reduce* the threat in question.

One other suggestion: some of your research questions seem rather "closed," implying yes/no or "list" answers, and might be better phrased as "How?" and/or "Why?" questions.

Grade for assignment: A-

Grade for course: A

**References**

Maxwell, J. (2013). *Qualitative research design: An interactive approach.* Sage Publications:

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