Evaluating the Effectiveness of the Design Matters Professional Development Training at Stark State College

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<u>Introduction (Jessica)</u>

We are interested in determining if the current Design Matters, a professional development course that Stark State College offers to educate faculty on good course design, is effective. Stark State College is a member of Quality Matters (QM), which is a "global organization leading quality assurance in online and innovative digital teaching and learning environments" (Quality Matters: About, 2019). As a member of this organization, Stark State College recognizes that course design is important for student success. To ensure that courses are designed to meet QM standards, the college requires all new courses to go through an internal review process.

The new course is reviewed by the Instructional Designer or Instructional Technologist in the online learning department (eStarkState). The review process uses the QM Higher Education Rubric, Edition Six to assess the course. This rubric consists of "a set of eight General Standards and 42 Specific Review Standards used to evaluate the design of online and blended courses" (Quality Matters: QM Rubrics & Standards, 2019). The course must pass all Standards with an 85% in order to be approved to run at the college. The 85% is the same figure that is used for official QM reviews. Therefore, each new class should be able to pass an official QM Review. This is the process where the course is evaluated by a team of QM peer reviews. They assess it using the rubric and provide suggestions for improvement.

Before a faculty member is approved to develop a new course, they must complete the internal Design Matters Training. This training was developed by eStarkState. It covers good elements of course design, updating the template that we use for new courses, and introduces participants to the eight General Standards and 42 Specific Review Standards that are listed on the QM Rubric. The goal of this training is to teach faculty members how to develop a course that will pass an official QM Review.

Design Matters is a five-week instructor guided training. Each week of the training covers specific Quality Matters Standards. We have found that we need to categorize the standards by the main topic in order to present them in a manner which our faculty understand. Each lesson has a specific focus and QM Standards that fit that topic.

The lessons covered are:

- Why Design Matters & Supporting Our Students
    - An introduction to Quality Matters and why we use them

- Giving Students a Solid Start in Your Course
    - Course overview and introductions
    - Standard 7 which focuses on college wide services

- Creating Learning Objectives and Materials
    - Standard 2 which focuses on creating measurable learning Objectives
    - Standard 4 which focuses on creating quality course materials

- Creating Authentic Learning Activities and Assessments
    - Standard 5 which focuses on learner interaction
    - Standard 3 which focuses on creating valid assessments

- Integrating Technology into a Course
    - Standard 6 which focuses on accessibility and usability
    - How to use free video capturing software

The training is designed to allow faculty members to experience a course as a student. It uses the approved Stark State College template, has measurable course and weekly learning objectives, has a variety of materials that meet the needs of all learning systems and demonstrates the different types of interaction. It is an excellent example of what a completed course should look like. Our research study is to evaluate the participants' knowledge before and after completing the course and determine if changes need to be made to the training.

This training is an important professional development tool to assist faculty members' understanding how to develop a new course in the Blackboard learning management system. This can be an area of apprehension for faculty members who have never developed course content. Many of these faculty members have expertise in their respective fields, but they do not have a background in course design or curriculum development.

Research Questions (Jessica & Mary)

For our research, we will have an overarching question of: What impact did the Design Matters course have on faculty at Stark State College?

To best answer this question, we will use three specific research questions:

1. What perceived impact did the Design Matters training have on participants' knowledge of course design?
2. What perceived impact did the Design Matters training have on participants' knowledge of the Quality Matters Rubric Standards?
3. Did the courses the participants designed after training show evidence of application of Quality Matters Standards?

Research Approach (Mary)

We plan to use a convergent design where we will collect quantitative and qualitative data in the same time period to inform the overarching question. Since our first two research questions focus on the perceived impact of the training on our participants, we will use a skills assessment survey pre- and post-training (qualitative research method) and individual participant interviews post-training (qualitative research method). We will also use individual participant interviews to answer these first two research questions. To answer the third research question, we will use an external Quality Matters (QM) review of the courses the participants create post-training (quantitative research method). We believe using an external review based on the QM standards is a good approach because these instruments will allow us to have a "better understanding of connections or contradictions between qualitative and quantitative data" (Shorten & Smith, 2017). Our approach will be beneficial because we will be able to evaluate the perceived impact the training had on each participant and their experience through the skills assessment survey and interviews; and we will be able to assess their skill development and actual application of the QM standards through the external QM peer review of the courses the participants develop.

We are aware that there may be challenges using convergent design approach because we will need to use different methods to analyze our data, and the information may be more complex to evaluate. To overcome this challenge, we will use the following strategies to ensure the credibility of our research:

- *For the skills assessment pre- and post-training survey* - we will seek input from an expert researcher on our survey to determine if there is a well-established survey available to use for this study, or if and how we can best develop our survey. We will also properly code and evaluate the responses.

- *For the Participant Interviews* - we will seek input from an expert researcher on our interview questions and our method of gathering responses (we plan to interview participants in person or telephone). We will also properly record, code, and evaluate interview responses.

- *For the QM review of courses designed post-training by participants* - this instrument and the method of evaluation are already clearly established through the QM rubric and training of evaluators, though we will need to ensure that we properly evaluate and present the results in our study.

- Following the convergent design, we will present our findings from the survey, interview, and Quality Matters review in a joint display using a table matrix.

This is our plan for data categorizing and analysis once it is collected:

- *For the skills assessment pre- and post-training survey* - first, Jessica will review the survey questions and then code the responses into categories of similar responses. Mary will then review these categories and responses to ensure she agrees with them. If not, Jessica and Mary will discuss any discrepancies, and we will ask a third-party expert in research to review our analysis. We will choose a third party who is not affiliated with Stark State College. We believe this is critical since two researchers associated with the college could cause an unintentional bias in the results.

- *For the interviews* - all interviews will be recorded. Transcripts will be created from each interview. Mary will code responses into categories of similar responses. Jessica will then review these categories and responses to ensure she agrees with them. If not, Jessica and Mary will discuss any discrepancies, and we will ask the third-party expert in research to review our analysis. This will help ensure that we are not only both in agreement on how the data is coded, but that an objective third party agrees as well. We feel this is a good way to keep any personal biases out of categorizing and analyzing our research.

Participant Selection (Jessica)

For our research, we would like to use the following criteria to determine our participation sample: full-time faculty members at Stark State College who have not yet completed the Quality Matters course. Typically, only full-time faculty are asked to develop courses, which is why we would set this as a criterion. The ideal participant would be planning to develop a course within the next year. They would also need to have previously taken the Blackboard Basics training to ensure they had a good understanding of how the college's learning management system works. These technical skills are required for course development.

To have a good sample, we believe we need at least 20 participants. Currently, there are 195 full-time faculty members at Stark State College. A sampling of 20 participants ensures we are measuring 10% of the population. It would be ideal to have 40 participants to have a larger population sample, but this would be difficult as there usually are not 40 new courses developed

in a year. This is why we feel the 10% would be a more realistic sample. Since our first two research questions focus on the perceived impact of the training on our participants, we will use the skills assessment survey pre- and post-training (qualitative research method) and individual participant interviews post-training (qualitative research method). We also want to measure the effectiveness of the Design Matters training on the knowledge and skill levels of participants. To do this, we will use an external Quality Matters (QM) review of the courses the participants create post-training. Using an external review based on the QM standards (quantitative research method) will add additional insight into the effectiveness of the Design Matters training.

Participant selection would be critical for our research. Since this study would be conducted by a member of the eStarkState team, we have access to internal tools that would help us select participants. First, we would need to check with the Curriculum Committee to see what new classes have been approved for development and what faculty member has been assigned to develop the courses. Then we would need to cross reference the faculty list with the professional development database to ensure the faculty member has taken Blackboard Basics but not Design Matters. Finally, we would contact those faculty members and ask them if they were willing to participate in the study while they completed their Design Matters training and have them sign an informed consent for the study. We believe this process would allow us to identify participants that meet the specific criteria.

Data Collection (Mary)

We will use three data collection methods to answer our research questions and as appropriate measure for our participants.

1. We plan to use a skills assessment survey. We will use this instrument to answer our first two research questions on the perceived impact of the training. We will ask participants to take this survey prior to training (pre-training) and after they complete Design Matters (post-training). This instrument will allow us to measure the participants' perceived knowledge impact of the Design Matters training.

2. The second qualitative instrument we will use is individual participant interviews conducted in person (our preference) or by telephone. This measure will be used to answer our first two research questions on the perceived impact of the training. The interview questions will be designed to measure the perceived impact of the training on participants' knowledge from the training. These will be recorded, and transcripts will be made for coding and analysis.

3. We will use the Quality Matters peer review as a quantitative instrument to measure the objective changes in participants' knowledge through application of Quality Matters

rubric standards to the courses the participants design post-training. Using the established QM peer review process by certified reviewers outside of Stark State will prevent any bias from affecting the review of the courses. This measure will answer our fourth research question of how well the participants applied the QM standards to the new online course they have designed. This will give us another source of data on the effectiveness of the Design Matters training.

We are planning for triangulation. With our use of three different instruments, we will collect multiple data sources to establish consistency in our study. Our goal is to thoroughly address all of the research questions and engage in reflexivity. We feel this is critical since the results of the study will have an impact on future faculty members that complete the Design Matters training. We will use the bracketing process to discuss and write down any personal biases before and throughout the study. We will keep a bracketing journal and include this in our study to allow readers to be aware of any of our personal biases as they read the results of our study. We also plan to use the member checking process to allow our participants to confirm that our presentation and analysis of their responses is accurate and reflects what they intended in their responses.

We would use the skills assessment survey to answer the questions "What perceived impact did the Design Matters training have on participants' knowledge of course design?" and "What perceived impact did the Design Matters training have on participants' knowledge of the Quality Matters Rubric Standards?" We believe that the skills assessment survey responses will provide us with a good amount of insight regarding participants' perceived change in knowledge and any concerns they may have in developing a course in the online Blackboard learning management system. We will also be able to learn what participants feel they may be lacking to successfully design a course. Responses will be categorized by one researcher. The other researcher will then review the categorized answers to ensure they agree with the categories. We will also ask a third party to review the data if there is any question on categorization. We feel this is a good way to keep our bias out of categorizing to prepared for analyzing our research. The third party we plan to ask would be someone who is not affiliated with Stark State College. We believe this is critical since two researchers associated with the college could cause an unintentional bias in the results.

We would also use the interview as a measure for these two research questions. We would ask a series of questions regarding what they knew before the course and what the feel they have learned. We are aware that we must be careful to ensure we are properly recording and evaluating interview responses. The recorded interviews will be transcribed into text and then similar answers will be categorized by one researcher. The other researcher will then review the categorized answers to ensure they agree with the categories. We will also ask a third party to review the data if there is any question on categorization. We feel this is a good way to keep our bias out of categorizing and analyzing our research.

For the question "Did the courses the participants designed after training show evidence of application of Quality Matters Standards?" we will use the Quality Matters peer review to determine the participants' knowledge of the Quality Matters standards they learned in the training. The goal of the Design Matters training is to have them create a course that meets these QM standards after they complete the training. The course would then be accessed by three Quality Matters Peer Reviewers. To ensure there is no bias in this assessment, we would identify three reviewers that are not affiliated with Stark State College. The online learning division, eStarkState, has several credits for Quality Matters reviews and would be willing to allow us to use them for this study. If we run out of credits, we will discuss bartering as an option for additional reviews.

After our data is collected, we will merge our results. We plan to do this by first reviewing the skills assessment pre- and post-training surveys and the interviews. We believe we can then categorize all this data to determine the perceived impact the Design Matters training had on participants' knowledge of course design and the Quality Matters Standards. We will then review the results of the external Quality Matter course reviews to see how many courses passed and what specific Standards the participants did not meet. This data will then be compared to the perceived knowledge. We will create a table matrix where we merge the data. One side will be the particular participants' results from the pre- and post-training surveys and the interviews and the other will show whether the new courses passed the QM review and details of any standards they did not meet. We will then review the merged results and make a final determination on whether the Quality Matters training had a successful impact on the faculty members at Stark State College.

Strengths and Limitations (Mary)

One factor that will make our study relatively easy to complete is that the Quality Matters peer review is an established, standard practice for course review and uses a defined and accepted rubric to assess a course according to the rubric. Having QM reviewers outside of Stark State will make an unbiased review easy as well. The data from the review will be relatively easy to analyze to determine the number of courses that pass QM review, what standards of the QM rubric were not met, and which were met well. This will help those teaching the Design Matters training see on which standards more training may be needed. A second factor that will make this study relatively easy to complete is that it is contained within Stark State College and all our participants will be from Stark State. This will provide a good case study on the Design Matters training that can offer insights for other colleges who have or are looking for similar professional development training.

One factor that will make our study challenging to implement is that we will need to conduct this study over whatever time period is needed to obtain our sample of participants who

meet our criteria. This will affect when we can begin the study and how long the study will take to get 20 participants who can participate in all aspects of study measurement and all have the same time periods of when each measure was administered. To overcome this challenge, we will begin the study once the research plan is in place and continue the study until we have enough participants and data collected to begin to analyze the information we received. A second factor that could make our study more challenging to implement is whether there will be any significant changes at Stark State or in this department or personnel that could disrupt the study over the amount of time needed to complete the study. We will overcome this challenge by getting the research plan in place and beginning the study as soon as it is feasible to do so. If there are significant changes at Stark State that we cannot control, we will need to look at what options there are to continue the study.

Implications (Jessica)

We believe this study would be helpful for both Stark State College and other higher learning institutions that are members of the Quality Matters Consortium. When we did our literature review, we discovered there were not many studies conducted on educating faculty on good course design which includes the Quality Matters standards. We are hoping the study will help all Consortium members have a better understanding of the best way to educate their faculty members.

As part of planning this study, we spoke to other schools using Quality Matters and learned that most either offer online training or face-to-face sessions on course design. If we can provide results on the impact of this five-week online training, other higher learning institutions can determine if this format of training is effective. If the results are positive, these institutions could model their training after the Design Matters training if they want to do so.

For us, this research would have an impact on how we develop professional development trainings in the future. Since Jessica is responsible for professional development in online learning, it is critical that she understands if the current course is effective or if she needs to do more research on creating effective professional development courses and faculty motivation. These results will also provide her with the knowledge of knowing if the training format the college uses works for the faculty members or if she needs to consider conducting more face-to-face professional development trainings. For Mary, this study could provide valuable insight into other options of effective professional development training for faculty using the Brightspace learning management system at The University of Akron. Mary has completed the current Brightspace training workshop at The University of Akron. Mary could recommend that the current team who teach the workshop read this study and determine if there are any changes the team would like to make in how they educate faculty members in designing effective courses and applying the Quality Matters standards.

Citations (Jessica & Mary)

Shorten, A., & Smith, J. (2017, July 1). Mixed methods research: expanding the evidence base. Retrieved from https://ebn.bmj.com/content/20/3/74.info.

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