EdReady Montana/Prior Learning Assessment Four-Part Investigation

Phase I

Final Report

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EdReady/PLA 4 part Investigation Phase I

Final Report

In May 2014, the Montana University System (MUS) was selected by the Bill & Melinda Gates Foundation to participate in a higher education initiative focused on system level change. The MUS selected two initiatives (EdReady and Prior Learning Assessment (PLA) both focused on student success and access as key initiatives for scaling on a statewide level.

EdReady

The scaling of EdReady across Montana with the assistance of the Dennis and Phyllis Washington Foundation grant of $2.4 million has already provided opportunities to demonstrate that intervention works, thus providing short-term wins. Positive results create momentum for change. This current Bill & Melinda Gates Foundation funded project will enable the MUS to further scale-up later this summer, as a more formal launch of EdReady is planned which will involve a more intentional public awareness campaign employing media techniques and targeted marketing. This focused campaign will be delivered by EdReady Montana Ambassadors (both higher education and secondary) who will be part-time employees deployed geographically throughout Montana. They will provide information, secure commitments from the local sites, and assist campus implementation of EdReady. Over the next two years, EdReady implementation will be scaled across Montana's two-year colleges and across the four-year universities.

PLA

The MUS has created a statewide Prior Learning Assessment (PLA) taskforce with members appointed by the Commissioner of Higher Education and includes key stakeholder representatives ranging from policy makers to two- and four-year faculty. A key goal of this coalition is to provide strong leadership to create an awareness of PLA methods, practices, and policies. In addition, the taskforce will serve as a guiding coalition to develop faculty and college awareness and buy-in for the concept of PLA. An overarching goal to create faculty champions will help build campus comfort-level with PLA's methods of assessment, including examinations, third-party course material evaluations and individual student portfolios. The taskforce will work on overcoming attitudinal barriers that some faculty exhibit: for example, the belief that "PLA aims to replace classroom learning." Rather, as the taskforce must work to demonstrate, it seeks to recognize college-level learning that has already taken place, no matter how or where it was acquired. A proposed PLA Policy Draft will be presented to the Montana Board of Regents in May. This policy document shall represent recommendations from the taskforce that have been shared in advance and vetted with the MUS campuses.

EdReady Study Proposal

The Montana Office of the Commissioner of Higher Education's has partnered with the Educational Leadership Department at the University of Montana to develop a systematic way of examining the effect of EdReady Montana on participating students. This research was conducted in two sequential phases. Phase I focused on generating data from the EdReady Montana Pilot Project. In the summer of 2013 an EdReady pilot program was run through the University of Montana. Initially 43 students opened an EdReady account. From this initial group, 37 students participated in EdReady Montana during summer 2013. It was these 37 students that comprised the cohort of EdReady students for Phase I of the EdReady Montana study. Phase I of the EdReady Montana study was reviewed and approved by the Institutional Review Board for the University of Montana. The actual proposal can be viewed in Appendix A.

Data were collected from participants in the 2013 pilot of EdReady Montana. Results from this initial inquiry will a allow the Montana Office of the Commissioner of Higher Education to measure the impact EdReady has on lowering the number and percentage of students being placed in developmental education mathematics courses on the campuses throughout the Montana University System. The Phase I study is composed of three parts.

The first part of Phase I sought quantitative data through a web-based questionnaire sent to all University of Montana students who were enrolled in either the EdReady pilot cohort or a developmental mathematics course (090 or 095) in the summer and/or fall of 2013. The quantitative data sought general information about the participant's perceived level of confidence for success in the mathematics course as well as with mathematical problems.

The questionnaire consisted of two parts; Part A questions were from the Expectancy Component: Self-Efficacy for Learning and Performance of the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia & McKeachie, 1991) and Part B utilized questions from the Mathematics Self-Efficacy Scale - Revised (MSES-R) (Betz & Hackett, 1982). Both instruments have been used widely in mathematics self-efficacy research and both are deemed to be reliable and valid measures.

The Expectancy Component: Self-Efficacy for Learning and Performance of the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et al., 1991) assesses expectancy for success and self-efficacy. Expectancy for success refers to performance expectations, and relates specifically to task performance. Self-efficacy is a self-appraisal of one's ability to master a task. Self-efficacy includes judgments about one's ability to accomplish a task well as one's confidence in one's skills to perform that task. (p. 13)

The MSES-R (Betz & Hackett, 1982) was developed in 1982 "to assess the math self-efficacy of college students" (Kranzler & Pajares, 1997, p. 3). The MSES is composed of 3 subscales: (a) solution of math problems, (b) completion of math tasks used in everyday life, and (c) satisfactory performance in college courses that require knowledge of mathematics (Kranzler & Pajares, p. 2). "Hacket and Bets defined mathematics self-efficacy as 'a situations or problem-

specific assessment of an individual's confidence in her or his ability to successfully perform or accomplish a particular [mathematical] task or problem'" (as cited in Kranzler & Pajares, p. 1).

Part Two of this first research Phase involved the collection and comparative analysis of student grades in their first college math course. Data were accessed from institutional sources and compared grades in their first college math course between students enrolled in the 2013 EdReady Montana cohort and those students who went through developmental math without experiencing EdReady for the fall 2013 semester.

The third part of the Phase I study involved the analysis of qualitative data collected from purposefully selected participants who were members of the 2013 EdReady cohort. Interview questions sought attitudinal and perception data from these students. Inclusion criteria included those students who (a) started EdReady but did not finish; (b) increased by one level on ALEKS; and (c) increased by two levels on ALEKS. ALEKS, the Assessment and Learning in Knowledge Spaces is a Web-based, artificially intelligent assessment and learning system used by the University of Montana to determine the entry level math course for a student.

The final part of the study involved a survey of Prior Learning Assessment (PLA) Taskforce which consists of 30 members. "PLA is the evaluation and assessment of an individual's life learning for college credit, certification, or advanced standing toward further education or training" (CAEL, 2015). Taskforce members were asked about prior attitudes, current attitudes and the likelihood of success of PLA. In this section, data was also collected about the training webinars presented by the Council for Adult and Experiential Learning.

Results of the EdReady Study

While the population of EdReady students was small (37) and the response rates for the survey were less than hoped for, some interesting information was garnered from Phase I of this study. Descriptive statistics in part 1 revealed a potential difference in self-efficacy in mathematics between EdReady and developmental math students in the area of basic math skills, and yet the opposite difference occurred in high math skills. The college level math grades for students who went through EdReady clearly exceeded those of the student who went through developmental math. The specifics of the results for the three parts of the EdReady study are presented below.

Part 1 Results

On December 1, 2014 the EdReady Mathematics Self-Efficacy survey (Appendix B) was emailed to 706 students who were enrolled in developmental mathematics classes at the University of Montana (UM) during the summer and fall of 2013. Of this number 271 (34%) opened their email and 68 (10%) began the survey with only 56 (8%) completing. There are no strict guidelines concerning acceptable response rates for survey research and the literature varies considerably. It is, however, known that online surveys usually result in lower response rates than postal surveys. Some sources *generally* suggest 30% for online surveys. An acceptable response rate is important to determine if the survey results are truly representative of students

enrolled in developmental math at UM during the summer and fall in 2013. Hence, the sample (response rate) is too small to generalize to the larger population. Nevertheless, appended tables summarize the 56 responses. There are two lessons here. One is the latency from time of treatment to measurement (over a year). The other is the perceived relevance of the survey to the students. In the future efforts, both of these areas will need to be addressed. There are many accepted procedures for increasing response rates (survey methodology, etc) and follow up procedures to increase response rates. In addition there are additional sampling techniques to measure potential non-response bias.

As a result of the low response rate the following considerations must be taken into account. Any analysis is limited solely to those individuals responding to the question. Another way to consider this question is to determine a tolerable amount of error and establish an acceptable level of uncertainty. Here a 5% margin of error with a 95% confidence level was set for the analysis. Given these parameters an acceptable sample size is estimated to be 250 (Sample Size Calculator, 2004). Given such a small sample size one cannot simply assume that the dependent measures of mathematics self-efficacy are normally distributed. In fact, 43% of the survey items in Part A and 84% of the survey items in Part B are excessively skewed with values exceeding 1.0.[1]

In light of the above information, a typical parametric test is inappropriate as it requires a relatively normal distribution and adequate sample size. Moreover, the survey questions yield nominal and ordinal levels of data. Instead, the Wilcoxon-Mann-Whitney (WMW) test was used. The WMW is similar to independent t-test but it is non-parametric; hence it is not dependent upon an assumption of a normal distribution.

In the WMW the H_0: the distribution of scores for the two *groups* are equal in contrast to a t-test where H_0: the distribution of scores for the two *populations* are equal. In the WMW the null hypothesis is that the distributions of both groups are identical, so that there is a 50% probability that an observation from a value randomly selected from one group exceeds an observation randomly selected from the other group. Results of WMW on EdReady data offer no occurrences where H_0 could be rejected. That is to say there were no occurrences of statistically significant differences between EdReady and non-EdReady responses when considering the whole sample.

When the sample is broken down into responses to questions regarding basic math and questions regarding higher level math, differences begin to emerge. When looking at the sample as a whole, the mean response was higher for Edready students 19 times compared to 20 times for non-EdReady students. When looking only at the questions addressing basic math skills, the mean responses for EdReady students was higher 13 times compared to 2 times for non-EdReady students. The reverse trend is true for questions regarding higher level math skills. The mean responses were higher 2 times for EdReady students and 15 times for non-EdReady students. In conclusion, while trends are emerging, there is no statistically significant difference in

[1] The rule of thumb holds that if the skewness value is greater than 1.0 or less than -1.0, skewness is substantial and the distribution is far from symmetrical (Abu-Bader, 2011).

mathematics self-efficacy between the groups of students using EdReady in their developmental mathematics courses and those who didn't at the University of Montana during the summer or fall semester of 2013; this is likely due to the small sample size. This issue alone warrants future investigation and analysis planned in Phase II.

While the discussion of testing for distributional differences is important in that the samples are not distributed differently, at this point I am not sure of the relevance of discussion about the data. The much more relevant issue is that of non-response bias….and not knowing whether it exists or to what degree.

But, this is what conducting social science research is all about. There are ample resources that address sampling through various methodologies and follow up procedures to minimize the impacts of low sample sizes. It's not just the sample size that is the issue, it is the random selection of subjects that impacts the representativeness of the sample. These sampling protocols though can significantly increase the costs of the research.

Part 2 Results

In this section, student grades for first college level math courses were compared for students who went through EdReady and those who went through developmental math. College level math courses are defined as a math course at the 100 level or higher. Courses taken by students in this population were Math 105, 115, 121, 135, 151, 162, 171. The determination of which course a student would take as their first college level math course is dependent upon their chosen major. To quantify the data, letter grades were assigned grade points on the following scale:

A = 4.0; A- = 3.67; B+ = 3.33; B = 3.0; B- = 2.67; C+ = 2.33;

C = 2; C- = 1.67; D+ = 1.33; D = 1; D- = .67; F = 1

For non-EdReady students, students who spent a semester (or more) in developmental math (Math 090 or 095), the mean grade point was 2.34. This is approximately equivalent to a C+. For students in the summer 2013 EdReady cohort, the mean grade point in their initial college level math course was 3.03. This is approximately equivalent to a B.

A t-test was run on the data comparing the EdReady grades with the non EdReady (developmental math) grades. The test show a statistically significant difference in the first college level math course grades achieved by the students who had participated in EdReady when compared to those who had participated in developmental math ($p<.001$). It should be taken into account there is a large difference in the size of the two populations. From the summer 2013 EdReady cohort, 27 students took a college level math course in fall 2013. Developmental math students who moved into college level math in the same timeframe numbered 223.

The following table shows the mean grade point for EdReady students and developmental math students separated by the individual college level course that was first taken. EdReady, students received higher grades than those students who ascended from developmental math in

each of the courses. Again, it is important to note the difference in the number of students in each group. In phase 2 of this study there will be a population of over 1000 EdReady students.

	Course	105	115	121	135	151	162	171
EdReady	m	3.25	2.78	2.87	3.00	3.78	2.665	3
	n	4	3	10	1	3	2	2
Developmental	m	2.28	2.09	2.58	2.11	2.67		
Math	n	39	69	84	22	7		

Part 3 Results

Part 3 of the Phase I study utilized a qualitative design to enhance the understanding of the EdReady Montana experience for students. This design sought purposefully selected students who participated in the math pilot using EdReady during the summer or fall of 2013. Purposefully selected participants came from one of three groups; those who (a) started EdReady but did not finish, (b) participated in EdReady and increased by 1 level on ALEKS, and (c) participated in EdReady and increased by 2 levels on ALEKS.

The protocols for the contact of potential participants and the collection of qualitative data through interviews were reviewed and approved by the Institutional Review Board for the University of Montana. The interview protocol sought demographic data as well as participant perceptions regarding their experience with EdReady. The number of interview questions were either 9 or 10 depending upon the specific group to which the participant belonged. The qualitative design called for three participants from each group: (a) started EdReady but did not finish, (b) participated in EdReady and increased by 1 level on ALEKS, and (c) participated in EdReady and increased by 2 levels on ALEKS. All participants would be given the same six interview questions (five core questions & one final question) with the additional 3-4 questions incorporated depending upon the specific group (Appendix C).

Two separate e-mail invitations were sent out to potential participants (Appendix D). The first e-mail was sent on December 4, 2014 and the second e-mail was sent on January 8, 2015. The December 4th invitations were sent trying to catch students during final exam week where they would have a more open schedule and possibly have free time to participate once their last final exam had been completed. The date of the second invitations, January 8th, was selected as students would be between the fall and spring semesters and have time to participate. The second invitation was targeted to 12 participants who lived in reasonable driving distance to Missoula. Both invitation strategies yielded no participants or returned inquires. For Phase II of this study, students selected for the interviews will be contacted early in the semester following their completion of EdReady.

There are two likely reasons for the lack of participation in this portion of the study. The first being the passage of 18 months since the time the students were involved with EdReady experience. The second is due to the small number of potential participants (37). It is anticipated that both of these plausible issues will not be factors in Phase II of the study. The population of EdReady students for Phase II numbers over 1000 students all of which were involved with EdReady in the recent semester. It is very likely that Phase II will yield qualitative data.

Implications for EdReady

EdReady shows promise as an alternative tool for preparing incoming students for college level math. The differences in self-efficacy, while not statistically significant, indicate an increased comfort with basic math skills. The lack of comfort with higher level math skills may be the result of the influence of human contact from an instructor. The results of part 3, showing a clear difference in the grades in initial college level math courses is a strong indicator that EdReady is a tool that could not only save students the time and money of taking developmental math courses, but could also better prepare them for college level math.

PLA Taskforce Qualitative Research

Prior Learning Assessment (PLA) is being studied in the state of Montana. "PLA is the evaluation and assessment of an individual's life learning for college credit, certification, or advanced standing toward further education or training" (CAEL, 2015). The Council for Adult and Experiential Learning (CAEL) has developed three standards for PLA. They are: (1) Credit is awarded only for learning not for experience, (2) credit is awarded only for college level learning, and (3) credit is awarded only for learning that is balanced by theory and practice.

A taskforce of 30 representatives has been assembled to oversee the implementation of PLA across the state of Montana. The taskforce constituted the participants for this study. All 30 members were invited to participate in a survey regarding the implementation of PLA. The survey instrument appears in Appendix E.

Of the 30 taskforce members, 12 agreed to fill out the survey. Follow-up requests for participation did not lead to additional responses.

The survey contained 13 questions that asked the participants to rate their response on a scale of 1-10 with various descriptors attached. In addition, one question asked the participants to select a response from a list. There were also two open-ended questions at the end of the survey.

Question 1

Participants were asked to rate the belief that the aim of PLA is to replace classroom learning on a scale of 1-10 with 1 being a "weak" belief and 10 being a "strong" belief. Eleven task force members responded to this question. The mean response was 2 and the range was 1-4. The standard deviation was 1 and the frequency distribution is listed below:

Weak 1	2	3	4	5	6	7	8	9	Strong 10
4	4	2	1	0	0	0	0	0	0

Applying a pooled category approach to data analysis , where responses of 1 – 5 indicate "weak" or a tendency toward "Weak" and 6 – 10 indicate "strong" or a tendency toward "strong," the participants had a weak belief that the aim of PLA is to replace classroom learning.

Question 2

The participants were asked to rate the importance of recognizing learning that has already taken place on a scale of 1-10 with 1 being "not important" and 10 being "very important." Twelve task force members responded to this question. The response mean was 9.5 and the range was 8-10. The standard deviation was 0.8 and the frequency distribution is listed below:

Not Important 1	2	3	4	5	6	7	8	9	Very Important 10
0	0	0	0	0	0	0	2	2	8

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "not important" or a tendency toward "not important" and 6 – 10 indicate "important" or a tendency toward "important," the participants had a strong belief that recognizing learning that had already taken place was important.

Question 3

The participants were then asked to rate the belief that it is possible to assess prior learning on a scale of 1-10 with 1 being "weak" and 10 being "strong." Twelve task force members responded to this question. The response mean was 9.33 and the range was 8-10. The standard deviation was 0.78 and the frequency distribution is listed below:

Weak 1	2	3	4	5	6	7	8	9	Strong 10
0	0	0	0	0	0	0	2	4	6

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "weak" or a tendency toward "Weak" and 6 – 10 indicate "strong" or a tendency toward "strong," the participants had a strong belief that it is possible to assess prior learning.

Question 4

The participants were asked if they agree or disagree with the statement "learning only occurs in classroom structured environments." They rated their level of agreement on a scale of 1-10 with 1 being "disagree" and 10 being "agree." Twelve task force members responded to this question. The response mean was 1.5 and the range was 1-3. The standard deviation was 0.67 and the frequency distribution is listed below:

Disagree 1	2	3	4	5	6	7	8	9	Agree 10
7	4	1	0	0	0	0	0	0	0

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "disagree" or a tendency toward "disagree" and 6 – 10 indicate "agree" or a tendency toward "agree," the participants disagreed that "learning only occurs in classroom structured environments."

Question 5

The participants, representing institutions of higher education from across the state, were asked to rate their campus's comfort level for PLA. They rated their level of agreement on a scale of 1-

10 with 1 being “uncomfortable” and 10 being “comfortable.” Twelve task force members responded to this question. The response mean was 5.17 and the range was 2-10. The standard deviation was 2.29 and the frequency distribution is listed below:

Uncomfortable 1	2	3	4	5	6	7	8	9	Comfortable 10
0	1	2	2	3	1	1	1	0	1

These responses indicate a wide range of campus level comfort with PLA with a clear tendency toward the middle ratings. Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate “uncomfortable” or a tendency toward “uncomfortable” and 6 – 10 indicate “comfortable” or a tendency toward “comfortable,” the participants’ responses trended toward “uncomfortable.”

Question 6

The participants were then asked to rate their level of agreement with the statement “there is an issue with the quality of learning that is assessed by a PLA” on a scale of 1-10 with 1 being “disagree” and 10 being “agree.” Twelve task force members responded to this question. The response mean was 3.0 and the range was 1-5. The standard deviation was 1.48 and the frequency distribution is listed below:

Disagree 1	2	3	4	5	6	7	8	9	Agree 10
2	3	3	1	3	0	0	0	0	0

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate “disagree” or a tendency toward “disagree” and 6 – 10 indicate “agree” or a tendency toward “agree,” the participants disagreed that “there is an issue with the quality of learning that is assessed by PLA.”

Question 7

Participants were then asked “To what degree do you believe course objectives can be achieved outside of the regular classroom?” The 10 point scale identified 1 as “disagree” and 10 as “agree.” Twelve task force members responded to this question. The response mean was 8.0 and the range was 5-10. The standard deviation was 1.54 and the frequency distribution is listed below:

Disagree 1	2	3	4	5	6	7	8	9	Agree 10
0	0	0	0	1	1	2	3	3	2

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate “disagree” or a tendency toward “disagree” and 6 – 10 indicate “agree” or a tendency toward

"agree," the participants agreed that "course objectives can be achieved outside of the regular classroom."

Question 8

The participants were then asked to gauge the greater university system's awareness of PLA on a scale of 1-10. Twelve task force members responded to this question. The response mean was 3.75 and the range was 2-7. The standard deviation was 1.76 and the frequency distribution is listed below:

Disagree 1	2	3	4	5	6	7	8	9	Agree 10
0	3	5	0	1	2	1	0	0	0

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "disagree" or a tendency toward "disagree" and 6 – 10 indicate "agree" or a tendency toward "agree," the participants disagreed that the greater university system was aware of PLA. It should be noted that there were three responses that leaned slightly toward "agree."

Question 9

The participants were then asked "how do you see the likelihood of success of PLA at your institution?" on a scale of 1-10. For this question 1 represented "no success" and 10 was "high success." Twelve task force members responded to this question. The response mean was 7.67 and the range was 5-10. The standard deviation was 1.56 and the frequency distribution is listed below:

No success 1	2	3	4	5	6	7	8	9	High Success 10
0	0	0	0	1	2	2	4	1	2

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "no success" or a tendency toward "no success" and 6 – 10 indicate "success" or a tendency toward "success," the participants saw a strong likelihood for the success of PLA.

Question 10

Participants were asked the degree to which they agree with the statement, "students should be able to receive college credit for knowledge and skill acquired outside of the classroom." Again, 1 represented "disagree" and 10 represented "agree." Twelve task force members responded to this question. The response mean was 9.33 and the range was 7-10. The standard deviation was 0.98 and the frequency distribution is listed below:

Disagree 1	2	3	4	5	6	7	8	9	Agree 10
0	0	0	0	0	0	1	1	3	7

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "disagree" or a tendency toward "disagree" and 6 – 10 indicate "agree" or a tendency toward "agree," the participants agreed that "students should be able to receive college credit for knowledge and skill acquired outside of the classroom."

Question 11

Participants were asked the degree to which they agree with the statement, "credit should only be given for learning, not for experience." Again, 1 represented "disagree" and 10 represented "agree." Twelve task force members responded to this question. The response mean was 8.42 and the range was 1-10. The standard deviation was 3.06 and the frequency distribution is listed below:

Disagree 1	2	3	4	5	6	7	8	9	Agree 10
1	0	1	0	0	0	0	0	3	7

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "disagree" or a tendency toward "disagree" and 6 – 10 indicate "agree" or a tendency toward "agree," the participants agreed that "credit should only be given for learning, not for experience." It should be noted that two respondents disagreed, one of which strongly disagreed with this premise.

Question 12

"Should the assessment criteria be standardized for all [Montana University System] MUS institutions?" was the next question asked of the participants. For this question 1 represented "disagree" and 10 was "agree." Twelve task force members responded to this question. The response mean was 6.92 and the range was 1-10. The standard deviation was 2.61 and the frequency distribution is listed below:

Disagree 1	2	3	4	5	6	7	8	9	Agree 10
1	0	0	1	1	2	0	3	3	1

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "disagree" or a tendency toward "disagree" and 6 – 10 indicate "agree" or a tendency toward "agree," the participants agreed that "assessment criteria be standardized for all [Montana

University System] MUS institutions." It should be noted that three respondents disagreed, one of which strongly disagreed with this premise.

Question 13

Participants were asked the degree to which they agree with the statement, "PLA can increase retention and completion." Again, 1 represented "disagree" and 10 represented "agree." Twelve task force members responded to this question. The response mean was 9.17 and the range was 6-10. The standard deviation was 1.27 and the frequency distribution is listed below:

Disagree 1	2	3	4	5	6	7	8	9	Agree 10
0	0	0	0	0	1	0	2	2	7

Applying a pooled category approach to data analysis, where responses of 1 – 5 indicate "disagree" or a tendency toward "disagree" and 6 – 10 indicate "agree" or a tendency toward "agree," the participants agreed that "PLA can increase retention and completion."

Question 14

The participants were asked "Who should evaluate prior learning?" Nine respondents (69%) believed discipline appropriate faculty from within the institution should be responsible. Three respondents (23%) believe subject matter experts should be responsible and one respondent (8%) believed a panel of professors and business leaders should be responsible. See distribution below:

Discipline appropriate faculty from within the institution		9	69%
Subject matter experts		3	23%
Business/industry colleagues		0	0%
Individual providing the experience		0	0%
A panel of higher education professor and business/industry leaders		1	8%

The Participants were then asked two open ended questions:

Question 15: What do you believe are the barriers to implementation of PLA?

Responses –

Faculty awareness of the legitimacy of PLA, and convincing them that PLA is not intended to replace them in the classroom are the two largest barriers. Faculty need to be convinced that students with PLA take more classes and retain at higher rates than those without PLA.

faculty and Staff by-in. The fear of "not knowing" if the credits have been fully evaluated across the MUS campuses

trying to have standardization within MUS, some faculty support lacking, issue of faculty/staff workload for PLA has not been addressed

Belief that students are buying credit. Belief that PLA is not equal to classroom learning. Fear of replacing classroom learning. Confusion about how to document PLA credit on transcripts. Implementing portfolio assessments - need to start now!

Fear of losing students out of classroom coupled with lack of understanding that PLA is an assessment; resistance to change; failure to validate that college-level learning may take place outside the classroom; lack of funding to have appropriate personnel oversee the implementation of PLA; lack of funding to conduct ongoing training of faculty assessors

Politics and propaganda

The lack of comfort with the idea of PLA along with the process.

Fear and misunderstanding.

Question 16: What barriers have faculty members expressed?

Responses –

See previous answer.

Has the quality of the course been evaluated fairly and accurately? Who will complete the evaluation? Will there be compensation?

time - how much will it affect their workload?, do they need additional training & who is going to do that training?

Distrust in others ability to assess learning. Fear of being replaced. Fear of having another task on their plate. Not really understanding how PLA applies to a specific course or how to measure it accurately to determine content mastery.

Concern for losing control of quality of curriculum and for success of students in subsequent courses.

Comprehensive evaluation of prior learning is time intensive. Is there a mechanism for faculty compensation?

Some faculty are worried that a sister campus will do a poor job in evaluating PLA and the student who earns the credit will transfer to their campus and they will be "stuck" with that student; faculty may not have the time or resources to create "challenge" exams for a number of their courses

What about the quality? It needs to be done "my way".

the currency of the learning along with the relevancy of the information

How to compensate their time. Also, discrediting portfolio assessment. Skepticism about studies involving PLA (want to see the data broken down by PLA type).

Do not like outside evaluators (either academic or business/industry); regional accreditation limits to 25 credits that can be used for degree outside of transcripted classroom learning; concern with being a degree mill institution if just handing out credits.

PLA Qualitative Analysis

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The Prior Learning Assessment questionnaire contained two questions that sought open-ended responses from the participants. The first question asked current PLA Task Force members to

share their beliefs regarding barriers to implementing prior learning assessments. The second open-ended question asked participants to share the barriers that other faculty had expressed. The analysis of the data provided by the responses to these two questions offered an expanded view of the perceived barriers to the implementation of prior learning assessments throughout the Montana University System.

The first question, *what do you believe are the barriers to implementation of PLA,* was responded to by eight participants. Analysis of the qualitative data yielded five themes of responses that can be organized in a linear order beginning with *Awareness* and progressing to *Buy-In*. The analyzed qualitative data for this question supported the following five themes: (a) Awareness, (b) Legitimacy, (c) Impacts on the Classroom, (d) Procedures, and (e) Buy-in. From a holistic perspective these five themes of responses show a wide disparity of barriers. Some PLA Task Force members are unclear about prior learning assessments in general, the legitimacy of prior learning assessments, and the impact on the classroom, learning, and faculty employment. Other task force members have moved beyond these items and have identified procedural barriers and issues impacting faculty and staff buy-in.

The theme of *Awareness* involved understanding. Both awareness and understanding are evident in this theme of responses. PLA Task Force members who responded to this question stated that faculty awareness and understanding are barriers. There is a reported lack of understanding and comfort as well as fear when it comes to prior learning assessments. The lack of understanding included "the lack of comfort with the idea of PLA along with the process."

The next theme of responses are focused on the perceived legitimacy of prior learning assessments. The theme of *Legitimacy* relates to the previous theme *Awareness*, and supporting data provided insight to issues grounded in awareness and understanding. Concerns such as "the fear of 'not knowing' if the credits have been fully evaluated across the MUS campuses" and the challenge of "trying to have standardization with[in] [the] MUS" were noted. The majority of the comments in this theme addressed quality issues, such as students buying credits, prior learning assessments not being equal to class-room learning, and the "failure to validate that college-level learning may take place outside of the classroom."

The third theme, *Impacts on Faculty and Classroom*, provided evidence that PLA members view prior learning assessments as a threat to their position and classroom learning. One PLA Task Force member offered a barrier to implementation as "convincing them that PLA is not intended to replace them in the classroom". From the responses, it can be concluded that there are perceived barriers to the implementation of prior learning assessments due to a "fear of replacing classroom learning" and a "fear of losing students out of [their] classroom". As articulated in one response, "faculty need to be convinced that students with PLA take more classes and retain at higher rates that those without PLA". While the majority of comments addressed concerns of loss, (classroom learning, students, faculty positions), one comment stated that the "issue of faculty/staff workload for PLA has not been addressed".

The fourth theme, *Procedures*, recognized procedural barriers associated with the implementation of prior learning assessments. From the data, there appears to be an issue of comfort regarding the process of prior learning assessments. Participants shared procedural concerns involving "confusion about how to document PLA credit on transcripts" and "implementing portfolio assessments …" as well as items pertaining to the next theme related to procedural concerns.

The fifth and final theme, *Buy-In*, addressed issues pertaining to the faculty and issues associated with institutional support regarding the implementation of Prior Learning Assessments. A concern was reported with "faculty and staff buy-in" being a barrier to the implementation process. One respondent noted that an existing barrier is the "resistance to change". Funding was stated numerous times as a barrier. Funding concerns included having a lack of funding to "have appropriate personnel to oversee the implementation of PLA" and "to conduct ongoing training of faculty assessors". Finally, one PLA Task Force member succinctly highlighted "politics and propaganda" as a barrier to the implementation of Prior Learning Assessments.

Participants who responded to the second open-ended question, *what barriers have faculty members expressed*, provided data that were analyzed into the three themes of (a) *Quality* (b) *Evaluation*, and (c) *Time and Compensation.* There were ten respondents to this question. One thread running through the first and second theme was a concern with others.

The first theme, *Quality*, contained barriers such as a "concern for losing control of quality of curriculum …" and "the currency of the learning along with the relevancy of the information". The issues pertaining to *Quality* addressed concern with other programs, faculty, and student success. As one respondent wrote, "some faculty are worried that a sister campus will do a poor job in evaluating PLA and the student who earns the credit will transfer to their campus and they will be 'stuck' with that student". Data analysis revealed concerns with becoming "… a degree mill institution … just handing out credits". Accreditation was also addressed as a barrier; as one respondent reported "regional accreditation limits to 25 credits that can be used for [a] degree outside of a transcripted classroom learning".

Evaluation was the second theme of responses. Within this theme, competency and distrust evolved as barriers. "Who will complete the evaluation" and "has the quality of the course been evaluated fairly and accurately"? These comments could pertain to another institution or the evaluation within the faculty member's own institution. One response specifically noted a "distrust in other's ability to assess learning". Data in this theme also included the barrier of an individual faculty member's own competency when assessing a prior learning experience. One comment conveyed as a barrier, "not really understanding how PLA applies to a specific course or how to measure it accurately to determine content mastery". Finally, one piece of data raised a more general barrier stating that faculty "do not like outside evaluators (either academic or business/industry)".

The final theme pertaining to the barriers to implementing prior learning assessments expressed by faculty is *Time and Compensation*. Data supported a concern that utilizing Prior Learning Assessments will affect faculty workload and is seen as "another task on their plate". Embedded in these concerns is the issue of time, faculty want to know "how much will it affect their workload" and will they be compensated for their time? Concern was also reported involving time and resources "to create 'challenge' exams for a number of their courses"; "do they need additional training and who is going to do that training"?

With the acknowledgement of additional time and training that implementing prior learning assessments is perceived to entail, faculty compensation is specified as a barrier to the implementation of prior learning assessments. "Will there be compensation"? As summarized in one comment, "comprehensive evaluation of prior learning is time intensive. Is there a mechanism for faculty compensation"?

The holistic analysis of both questions provided a cross-sectional view regarding the barriers associated with the implementation of prior learning assessments. Similarities can be found between the themes of *Legitimacy*, which evolved from the analyses of data pertaining to the question asking current PLA Task Force members to share their beliefs regarding barriers to implementing prior learning assessments, and the two themes *Quality* and *Evaluation* from the question seeking data on barriers expressed by faculty. Responses from both questions noted concerns about quality and control of curricula as well as assessments being conducted by faculty from other institutions. Concerns of Quality are based in a belief that prior learning assessments are not equal to the learning that takes place in a classroom. Curricular concerns are focused on the legitimacy of the credit as well as the quality of the learning experience and assessment.

It is noteworthy that participant responses to both questions specifically used the word "fear" numerous times. There is a reported fear regarding prior learning assessments, fear of not knowing that credits for prior learning are consistent across institutions, fear of prior learning assessments replacing classroom learning, fear of losing students, fear of one more task on their plate, and finally fear that the faculty member will no longer be needed as a result of credit gained through prior learning assessments. Fear is typically associated with being worried or afraid. It is an emotionally charged word that can represent several levels of concern. The fact that this word appears in responses from each open-ended question highlights the importance of this emotion elicited from the data.

Findings from the qualitative analyses of data collected from Montana PLA Task Force members are similar to those addressed in the memo from the Public Agenda to the Ohio Board of Regents in the spring of 2013. The memo summarized themes that emerged in three focus groups with faculty members and administrators from two- and four-year institutions in Ohio on the topic of Prior Learning Assessment (PLA). Analyses of the data generated from these focus groups supported five themes, three of these themes were similar to themes which emerged in the data analyses from the PLA survey sent to Montana PLA Task Force members in December, 2014. The similar themes noted in the Public Agenda memo are: (a) *Depth and Quality*: converting experience into credit without diluting quality, (b) *Workload*: faculty are working to the max and quality PLA can be time consuming, and (c) *Problems of Standardization and Potential for Abuse*. The similar themes generated from the data provided by Montana PLA Task Force members regarding barriers expressed by faculty are (a) *Quality*, (b) *Evaluation*, and (c) *Workload*.

Webinar Training Results

At total of 173 individuals participated in the webinar training sessions. There were four different training sessions; (1) Understanding Standardized Testing, (2) Understanding Credit Recommendations, (3) Recognizing Military Education, and (4) Demystifying Portfolio Assessment. Follow-up surveys by CAEL indicated 17 out of 20 respondents felt the webinars improved their overall understanding of PLA. This same ratio of respondents agreed that the webinars made them feel more comfortable with credit earned through PLA. Only 13 out of 20 agreed that the webinars would help implement PLA in their institution. The majority of the respondents to the first webinar, Understanding Standardized Testing, indicated they improved

their understanding of CLEP and UNEXCEL and could better explain it to faculty. Ten individuals responded to the questions about the second webinar, Understanding Credit Recommendations. All of the respondents indicated they had a better understanding of non-military credit recommendations. Nine individuals responded to the questions regarding Recognizing Military Education. All 9 indicated they had improved their understanding in this area. The final webinar, Demystifying Portfolio Assessment, had 6 of the 7 respondents indicating that they had improved their knowledge of portfolio assessment and college credit recommendations.

Perhaps the most salient point to be derived from all of this data is the need to address consistency between institutions. There is a fear that inequitable application of PLA between institutions will lead to PLA being used as a recruiting tool and, indeed, a bargaining chip, with potential students. There is strong agreement that PLA can increase retention and completion and that learning can occur outside of the regular classroom. There was also strong agreement that assessments needed to be standardized across the MUS. This was supported in the qualitative data under the theme of "Quality."

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Public Agenda Memo to Ohio Board of Regents

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Appendix A

Part 1 – Survey

We posit that UM students in cohorts 2013 and 2014 who did not obtain a sufficiently high ALEKS score in order to matriculate in a first-year mathematics course who, instead of enrolling in a customary developmental mathematics class, participated in EdReady, will demonstrate greater persistence than students completing M090 or M095 during the same period (Montana Digital Blueprint, pp.1, 3).

Bandura (1977) offers students experiencing goal-oriented academic mastery, such as offered by EdReady, will develop greater self-efficacy. As used here, the term "self-efficacy" is defined as a student's belief in his/her ability and capacity to accomplish a task. Self-efficacious students have a heightened confidence and greater likelihood to persist through difficult material (Schunk, 1991; Komarraju & Nadler, 2013). Perhaps most promising is Gore's (2005) research suggesting that academic self-efficacy beliefs predict future college outcomes.

In addition to gathering basic demographic material and general attitudinal information about developmental course and EdReady experiences; we propose to use a sub-component of the Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia & McKeachie, 1991) to measure students' self-efficacy for learning and performance. In particular, the "Self-Efficacy for Learning and Performance" component is a latent variable consisting of eight questions. It will be administered to all students in cohorts 2013 and 2014.

Descriptive statistics, a $\chi 2$ test for each group by response for attitudinal items and a t-test for independent means to compare the latent variable self-efficacy, will be employed to test the differences between EdReady students and students who enrolled in M090 or M095 during the same period. The analysis for this survey will be generated using Qualtrics software.

Part 2 – Quantitative data (n=37 – EdReady)

Grades in the first college level math course will be compared between those who went through EdReady v. those who went through developmental math.

Variables

Independent • EdReady

• Developmental Math (090, 095)

Dependent • Final grades in first college level math course

• ALEKS scores

Part 3- Qualitative data (n=9)

Interviews with purposefully selected summer 2013 cohort participants to explore EdReady student experiences

Subsample Descriptions:

(3)Started EdReady but did not finish

(3)Increased by 1 level on ALEKS

(3)Increased by more than 1 level on ALEKS

Part 4 – Task Force Survey (n=30)

Attitudes

- Prior attitudes toward PLA
- Current attitudes toward PLA
- Likelihood of success of PLA

Webinar Response

- Participation in each webinar, task force meetings, and summit
- Awareness of Webinar
- Perceived Effectiveness of webinar
- Influence of webinars on attitude toward PLA
- Webinar data: who accessed number of uses, etc.?

Appendix B

Dear Respondent,

You are invited to participate in a research project because you were enrolled in either an online program (EdReady) or a developmental mathematics course (090 or 091) in the summer and/or autumn of 2013. This online survey should take about 20-30 minutes to complete. Participation is voluntary, and responses will be kept anonymous. All study data will be collected through an online survey-collection program called Qualtrics. Qualtrics is a secure site with SAS 70 certification for rigorous privacy standards. Any data that you provide through this program will be encrypted for security purposes using Secure Socket Layers (SSL). Only the study investigators will have access to the data on Qualtrics. To protect your privacy, all participants' IP addresses will be masked by Qualtrics and will be unavailable to, and unidentifiable by, investigators or others.

You have the option to not respond to any questions that you choose. Participation or nonparticipation will not impact your relationship with the University of Montana. Submission of the survey will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age.

If you have any questions about the research, please contact the Principal Investigator, Dr. john Matt, via email at john.matt@mso.umt.edu. If you have any questions regarding your rights as a research subject, contact the UM Institutional Review Board (IRB) at (406) 243-6672.

Please print or save a copy of this page for your records.

** I have read the above information and agree to participate in this research project.*

____ Enter survey

- - - - - NEW SCREEN - - - - -

PART A

DIRECTIONS: Think back to the summer or autumn of 2013 when you took EdReady, M090 or M095. Read the following statements then rate your agreement with each. (1= Disagree, 2= Slightly disagree, 3= Neither agree or disagree, 4= Slightly agree, 5= Agree)

1. I believed that I would receive an excellent grade.
2. I was certain that I could understand the most difficult material presented.
3. I was confident that I could understand the basic concepts taught in this course.
4. I was confident that I could do an excellent job on the assignments and tests/quizzes.

5. I expected to do well in the course.
6. I was certain that I could master the skills taught.
7. Considering the difficulty of the course and my skills I think I did well in the course.

- - - - - NEW SCREEN - - - - -

PART B

DIRECTIONS: The following items are an assortment of mathematics problems. Read each problem then rate you confidence in your ability to solve the problem correctly. *Do not solve the problems.* (1= Unconfident, 2= Slightly unconfident, 3= Neither unconfident or confident, 4= Slightly confident, 5= Confident

8. Add two large numbers (e.g., 5,739 + 62,543) in your head.
9. Determine the amount of sales tax on a clothing purchase.
10. Figure out how much material to buy in order to make curtains.
11. Determine how much interest you will accumulate paying on a ^645.00 loan over two years at 14.75% interest.
12. Use a scientific calculator.
13. Calculate receipt quantities for a dinner for 41 when the original recipe is for 12 people.
14. Balance your checkbook without a mistake.
15. Understand how much interest you will earn o your savings account in six months and how that interest is computed.
16. Figure out how long it will take to travel from City A to City B driving at 55mph.
17. Set up a monthly budget for yourself.
18. Compute your income taxes for the year.
19. Understand a graph accompanying an article on business profits.
20. Figure out how much you would save if there is a 15% markdown on an item you wish to buy.
21. Estimate your grocery bill in your head as you pick up items.

22. Figure out which of two summer jobs is the better; one with a higher salary but no benefits, the other with a lower salary plus room, board, and travel expenses.

23. Figure out how much lumber you need to buy in order to build a set of bookshelves.

24. In a certain triangle the shortest side is six inches. The longest side is twice as long as the shortest side, and the third side is 3.4 inches shorter than the longest side. What is the sum of the three sides in inches?

25. There are three numbers. The second is twice the first and the first is one-third of the other number. Their sum is 48. Find the largest number.

26. Five points are on a line. T is next to G. K is next to H. C is next to T. H is next to G. Determine the positions of the points along the line.

27. If y= 9 + x15, find x when y = 10.

28. A baseball player got two hits for three times at bat. This could be represented by 2/3. Which decimal would most clearly represent this?

29. If P = M + N, then which of the following will be true?

    a. N = P - M
    b. P - N = M
    c. N + M = p

30. The hands of a clock form an obtuse angle at _____o'clock.

31. Bridget buys a packed containing 9-cent and 13-cent stamps for $2.65. If there are 25 stamps in the packet, how many are 13-cent stamps?

32. Pm a certain map, 7/8 inch represents 200 miles. How far apart are two towns whose distance apart on the map is 3 ½ inches?

33. Fred's bill for some household supplies was $13.64. If he paid for the items with a $20 bill, how much change should he receive?

34. Some people suggest that the following formula be used to determine the average weight for boys between the ages of one and seven: W = 17 + 5A where W is the weight in pounds and A is the boy's age in years. According to this formula, for each year older a boy gets, should his weight become more or less, and by how much?

35. Five spelling tests are to be given to Mary's class. Each test has a value of 25 points. Mary's average for the first four tests is 15. What is the highest possible average she can have on all five tests?

36. 3 4/5 – 1/2 = _____.

37. In an auditorium, the chairs are usually arranged so that there are x rows and y seats in a row. For a popular speaker, an extra row is added, and an extra seat is added to every row. Thus, there are x + 1 rows and y + 1 sears in each row, and there will be (x + 1), and (y + 1) seats in the auditorium. Multiply (x + 1) and (y + 1).

38. A Ferris wheel measures 80 feet in circumference. The distance on the circle between two of the seats is 10 feet. Find the measure in degrees of the central angle SOT whose rays support the two seats.

39. Set up the problem to be done to find the number asked for in the expressions, "six less than twice 4 5/6".

40. Two circles in the same plane with the same center and different radii are called _____.

THANK YOU FOR YOUR TIME

Appendix C

EdReady Interview Protocol

Date: _____ Time: _____ Male: _____ Female: _____

EdReady: DNF 1 ALEK >1 ALEK Subject Code: ERP1Q _____

Year in School: _____ Major: _____

Thank you for agreeing to take time from your busy schedule to participate in this research study regarding the EdReady online math program.

- I will be asking you some general questions and writing notes as we proceed regarding your experience as a student using the EdReady online math program.
- All information from this interview will be kept confidential. You will not be identified by name in any reports from this study. The confidentiality of your identity is also under the purview of the Institutional Review Board at the University of Montana.
- A confidential subject code will be used to identify you for any follow up questions and during this research process.
- Your identity will only be known by the Research Team.
- You may stop this interview at any time without any negative consequences.
- You will hear the term "EdReady" which will be used throughout the interview. I am referring to your experience using the EdReady online math program.
- Please be assured that there are no correct answers to the questions asked during this interview. What is important, are your thoughts, feelings, and experiences using the EdReady online math program.

Before we can begin this interview, I need to provide you with a Consent to Participate Form. Please read this form in its entirety and sign if you agree to participate in this study.

Qualitative Questions: EdReady Phase I Study

Core Questions

1. What led you to try EdReady?
2. How would you describe your experience with EdReady?
3. How did your effort in EdReady compare to other math learning experiences?
4. How has your EdReady experience impacted your attitude toward mathematics?
5. How has your EdReady experience impacted your college plans?

Did not finish EdReady

6. Tell me about the most challenging aspects of EdReady?
7. What was the factor that led you to not complete EdReady?
8. If you were able, how would you improve the EdReady experience for future students

Increased ALEKS by 1

6. What factors led you to complete EdReady?
7. Tell me how EdReady prepared you to take college level math.
8. What was the most helpful aspect of EdReady?
9. If you were able, how would you improve the EdReady experience for future students?

Increased ALEKS by >1

6. What factors led you to complete EdReady?
7. Tell me how EdReady prepared you to take college level math.
8. What was the most helpful aspect of EdReady?
9. If you were able, how would you improve the EdReady experience for future students?

Final question for all

Is there anything additional you would like to share?

Appendix D

Invitations to Participate

First Invitation to Participate in an Interview

Dear [potential participant]:

You are being invited to participate in an important study regarding EdReady, the online math readiness system available to students beginning in the summer of 2013. You have been invited to participate because of your experience with EdReady. If you agree to take part in this research study, you will be asked a series of interview questions regarding your experiences with EdReady and its comparison with other math learning experiences. The study will take place in an office in the Phyllis J. Washington Education Center on the University of Montana Campus. It will take approximately 30 minutes to complete the interview. Your identity will be kept confidential and be known only by the researchers. You must be 18 or older to participate in this research.

If you would like to participate in this study, please reply to this e-mail noting your interest in participating or call the Educational Leadership Office at 243-5586 to schedule an interview.

Second Invitation to Participate in an Interview

Dear [potential participant]:

Happy New Year.

This message is an invitation for you to take part in an important research study regarding EdReady, the online math readiness system. You have been invited because of your experience with EdReady during the summer of 2013. If you agree to be part of this study, you will be asked to participate in a brief interview consisting of approximately 10 questions concerning your experience with the EdReady program. Your identity will be kept confidential and be known only by the researchers. You must be 18 years or older to participate in this research.

If you would like to participate in this study, please reply to this e-mail noting your interest in participating or call the Educational Leadership Office at the University of Montana (243-5586) to schedule an interview.

Thank you for your consideration of this invitation.

Appendix E

EdReady Phase I Study

Prior Learning Assessment Questionnaire

You are invited to participate in a research project because you are a member of the Montana Prior Learning Assessment (PLA) Taskforce. This online survey should take about 20-30 minutes to complete. Participation is voluntary, and responses will be kept anonymous. All study data will be collected through an online survey-collection program called Qualtrics. Qualtrics is a secure site with SAS 70 certification for rigorous privacy standards. Any data that you provide through this program will be encrypted for security purposes using Secure Socket Layers (SSL). Only the study investigators will have access to the data on Qualtrics. To protect your privacy, all participants' IP addresses will be masked by Qualtrics and will be unavailable to, and unidentifiable by, investigators or others.

You have the option to not respond to any questions that you choose. Participation or nonparticipation will not impact your relationship with the University of Montana. Submission of the survey will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age.

If you have any questions about the research, please contact the Principal Investigator, Dr. John Matt, via email at john.matt@mso.umt.edu. If you have any questions regarding your rights as a research subject, contact the UM Institutional Review Board (IRB) at (406) 243-6672.

Please print or save a copy of this page for your records.

** I have read the above information and agree to participate in this research project.*

____ Enter survey

.

Please rate your opinion from 1-10 noting the descriptor for each prompt.

1. Belief that PLA aims to replace classroom learning
   Weak 1 2 3 4 5 6 7 8 9 10 Strong

2. Importance of recognizing learning that has already taken place.

Not Important 1 2 3 4 5 6 7 8 9 10 Very Important

3. The belief that it is possible to assess prior learning
   Weak 1 2 3 4 5 6 7 8 9 10 Strong

4. Learning only occurs in classroom structured environments
   Disagree 1 2 3 4 5 6 7 8 9 10 Agree

5. Rate the campus comfort level for PLA
   Uncomfortable 1 2 3 4 5 6 7 8 9 10 Comfortable

6. Do you feel there is an issue with the quality of learning that is assessed by a PLA?
   Disagree 1 2 3 4 5 6 7 8 9 10 Agree

7. To what degree do you believe course objectives can be achieved outside of the regular classroom environment?
   Disagree 1 2 3 4 5 6 7 8 9 10 Agree

8. To what degree do you believe the greater university system is aware of PLA?
   Disagree 1 2 3 4 5 6 7 8 9 10 Agree

9. How do you see the likelihood of success of PLA at your institution?
   No success 1 2 3 4 5 6 7 8 9 10 High Success

10. Students should be able to receive college credit for knowledge and skills acquired outside of the classroom?
    Disagree 1 2 3 4 5 6 7 8 9 10 Agree

11. Credit should only be given for learning not for experience.
    Disagree 1 2 3 4 5 6 7 8 9 10 Agree

12. Should the assessment criteria be standardized for all MUS institutions?

Disagree 1 2 3 4 5 6 7 8 9 10 Agree

13. To what degree do you believe PLA can increase retention and completion?

Disagree 1 2 3 4 5 6 7 8 9 10 Agree

14. Who should evaluate prior learning?

- Discipline appropriate faculty from within the institution
- Subject matter experts
- Business/industry colleagues
- Individual providing the experience
- A panel of higher education professors and business/industry leaders

15. What do you believe are the barriers to implementation of PLA? (written answer)

16. What barriers have faculty members expressed? (written answer)