Multiple Measures: Research Action Plan

The following are beginning thoughts on the research and evaluation focus needed to evaluate the efficacy of the new Multiple Measure (MM) Placement System at Mt. San Antonio College (Mt. SAC). In order to provide a robust, student-focused *Research Action Plan*, the Research and Institutional Effectiveness (RIE) Department will meet with:

- ✓ English and Math Departments,

- ✓ other sub-groups as needed,

- ✓ MM workgroup, and

- ✓ administration to ensure the research captures all aspects needed to satisfy AB 705 requirements.

Within the Plan are references to AB 705 which defines assessment as a "…process of gathering information about a student regarding the student's study skills, English language proficiency, computational skills, aptitudes, goals, learning skills, career aspirations, academic performance, and need for special services. Assessment methods may include, but not necessarily be limited to, interviews, standardized tests, attitude surveys, vocational or career aptitude and interest inventories, high school or postsecondary transcripts, specialized certificates or licenses, educational histories, and other measures of performance."

For AB 705:

"*The bill requires that a community college district or college maximize the probability that a student will enter and complete transfer-level coursework in English and math within a one year timeframe and use, in the placement of students into English and math courses, one or more of the following: high school coursework, high school grades, and high school grade point average.*

The bill also authorizes the Board of Governors to establish regulations governing the use of measures, instruments and placement models to ensure that these measures, instruments and placement models achieve the goal of maximizing the probability that a student will enter and complete transfer-level coursework in English and math." (per CCCCO's office)

Requirements for AB 705 are noted within the Research Action Plan table that guides our work as well as in the Appendix.

Foundational Work

The MM Workgroup and MM Convenings provided the foundational work for this project. The culminating product is a valid and reliable Assessment Questionnaire (AQ) that students use to place themselves in English and math courses. The AQ went "live" April 2, 2018.

Research Action Plan

The following outlines the beginning Research Action Plan to evaluate the impact of the AQ. When shaping this plan, Research and Institutional Effectiveness (RIE) uses an ethical, collaborative inquiry, and unbiased approach to:

(1) understand the requestors' research questions,
(2) advise on the quality of data available,
(3) recommend the data to be used,
(4) recommend the research methodology,
(5) collect the data
(6) analyze the data,
(7) provide a first draft of the findings,
(8) dialogue about the report and make edits where necessary in keeping with a reliable and valid reporting process.

While RIE has the research and database expertise, requestors have the context expertise. It is the synergy of this expertise that lends itself to a high quality, usable report. This collaborative inquiry process helps the requestors, as the user of the data, take ownership in the findings and decide on the appropriate next actions. Beyond this report, requestors use other information sources to make informed decisions.

RIE does their work under the research ethics per the Association for Institutional Research (AIR) Code of Ethics: http://www.airweb.org/Resources/Pages/Code-of-Ethics.aspx

Below is the table outlining the beginning MM research. Participants at the March 23, 2018 MM Convening helped to shape this work by answering the question, "Think into the future. What would you like to know about this project?" Their responses brought into the Plan more student and faculty voices. Their ideas will be used as RIE meets with different groups to further refine the research methodologies.

Student Equity metrics will also be used to allow the College to view outcomes by different groups:

- First time, continuing, returning (if they miss 2 regular terms then they need to reapply –track how long they were away)
- Equity: race/ethnicity by gender, disability, age, foster youth, Veterans, low income, Dreamers, Honors, Athletes, etc.
- Special populations (International students, ACCESS, EOPS/CARE, noncredit students, etc.)

Table 1. Research Action Plan

Sequence #	Students' Pathway	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
1	Being Placed with Assessment Questionnaire (AQ)	Comparison of placement rates pre/post AQ (English, Math) -Are we not requiring students to enroll in remedial credit or noncredit English or math coursework unless placement research that includes consideration of HS GPA and coursework shows that those students are highly unlikely to succeed in transfer-level coursework in English and math? (AB 705) (?what is the CCCCO directive? 10-12%? How do we measure it? How do we predict it? -Cross reference AQ and AWE/Math placement test taking. Are students taking AQ and then the AWE, for example, to see if they can get into a higher level course. -Are we allowing for Multiple Measures in the placement of all students in such a manner so that: 　　(1) low performance on one measure may be offset by high performance on another measure (compensatory), or 　　(2) the student can demonstrate preparedness and thus bypass remediation based on any one measure (disjunctive)? (AB 705) -prediction versus reality (e.g., we predicted the new placement levels of students based on historical data and then we actually placed students (aka prediction) via the AQ and found the true placement (aka reality) -Disproportionate impact evaluation -student voices -faculty voices (Math, English, Counselling) -Classified, manager voices		Maria Tsai, IT, Math, English, Michelle Sampat	Report/Tool

Sequence #	Students' Pathway	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
		-assessment testing will be an option for all students to use as an additional advisory placement			
2	Being Placed without AQ	Students who are not eligible to use AQ: What research is needed? - What do we know about English language learners? How might a language barrier (versus skills) affect placement for various disciplines, such as math and chemistry. -Is our 3-year marker for HS English okay? How does AP English impact their skills (equity issue with Dreamers, for example). Do we need to change the AQ to allow students to identify which specific HS courses they passed. -May apply to Language Learners, noncredit or adult education, and possibly International Students -Are we using self-reported HS information or equivalency guided placement (including self-placement) for students when HS data is difficult to obtain, logistically problematic to use, or not available? (AB 705) -prediction versus reality -Disproportionate impact evaluation -student voices -faculty voices -guided placement: develop and implement the guided placement process.		Maria Tsai, IT, Math, English, ABE/ESL, Michelle Sampat	Report/Tool
3	Enrolling	Enrollment Management patterns (Is it enough? Predictions?) • What % enrolled within a year? (need to think more about this aspect and related aspects such as timeperiod, satisfaction with placement, etc.)		Enrollment Mgt Researcher, Joumana McGowan, IT, Math, English, Michelle Sampat	[need position hired] Report/Tool

Sequence #	Students' Pathway	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources

		• In placed courses (new students)
		    ○ What percentage of students who took the AQ enrolled in the Math/English course they placed(or higher/lower) into compared to historical data?
		    ○ How soon are they enrolling in Math/English (1st semester?)?
		    ○ Idenfity students who have Educational Plans versus enrollment
		    ○ What % of students take math during their first semester at Mt. SAC? Compare with historical statistics.
		• Courses with English/Math pre-reqs
		• Courses with co-requisites for Math/English
		    ○ Filling with priority registration students versus those taking it as alternative when all other sections are full (monitor class fill rates by sections). Day-by-day fill rate versus fill speed (number of students who register for classes each day??)?? When do you panic (e.g., Bridge students haven't met yet…)
		    ○ What are we worried about? What information/data could help?
		• Registration attempts
		• Overrides
		• Fill rate & open classes
		• Type of Course
		    ○ Day/evening/weekend
		    ○ Online, hybrid, traditional			

Sequence #	Students' Pathway	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
		• Predicting course offerings based on course success rates & enrollment -Disproportionate impact evaluation -student voices -faculty voices -Departments voices (A&R, Division Staff, Student Services)			
4	Using services	Support system usage & impact (e.g., Writing Center, WIN Program, MARC, TMARC, Math Success Lab, TC, SI, Library and Learning Resources, Counseling, Math Club) -success rates in computer classrooms is different than non-computer classes Student Services Support usage & impact: (e.g., FA, ACCESS, EOPS/CARE, Veterans, Dreamers, Assessment Center, Advising, etc.) -Are we using concurrent support along with the transfer-level English or math course during the same semester only if it is determined that the support will increase their likelihood of passing these courses. -Disproportionate impact evaluation -student voices -faculty voices -services voices (align with Academic Support Groups) (*future strategy: Link to Student Support System that is being reviewed by the Work Group*)		Lisa DiDonato, Support Services, IT, Math, English, Michelle Sampat	Report/Tool

Sequence #	Students' Pathway	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
5	Completing Courses	Comparison of course success rates of those placed courses and co-requisites, pre/post AQ - Are we keeping the same rigor? •This is a deep concern, but how could we research this? - Ensure we are aligned with the CCCCO Metrics Simplification work. - Are course success rates staying the same or changing compared with historical course success rates? - How do success rates compare for students placed by the AQ only, by the test only, and by both the AQ and the test? -equate course success to high school grades -progression in course sequence- prediction for highly unlikely to succeed -co-requisite course research -How do success rates of students taking first math course compare with students who took prerequisite? -cross reference with usage of services to see impact on probability of passing course -Is it necessary to create mirrored noncredit co-requisites to minimize accumulation of units for those repeating English and math? -Are we able to maximize the probability for students to enter and complete transfer level coursework in English and math within a one-year timeframe? (AB 705) -Are we able to use placement models that maximize the probability for credit ESL (AmLa) students to enter and complete degree and transfer requirements in		Maria Tsai, IT, Math, English, Michelle Sampat	Report/Tool

Sequence #	Students' Pathway	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
		English and math within a timeframe of 3 years? (AB 705) -Are we able to use evidence-based multiple measures for placing students into credit ESL coursework? (AB 705) -Are we able to use placement models that maximize the probability for students in certificate or degree programs to enter and complete required college-level coursework in English and math within a one-year timeframe? (AB 705) -Disproportionate impact evaluation -student voices -faculty voices			
6	Progressing	Progression & Academic Standing -course-to-course in sequence -program of study (degree/cert) -transferring -Impact on student financial aid and units earned for degree/cert -Stopouts? -Did we minimize the impact on student financial aid and unit requirements for the degree by exploring embedded support and low or noncredit support options? (AB 705) -Is throughput increasing? •What percent of students are passing a transfer-level math course within two attempts (how long does this take them?)? How does this compare with historical statistics? Academic resilience versus		Maria Tsai, IT, Math, English, Michelle Sampat	Report/Tool

Sequence #	Students' Pathway	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
		resilience – how do we measure and impact it? • How will we examine the issue from the faculty member's perspective? -How does throughput compare with specialized programs, like Pathways? •If Pathways can help maximize throughput, then we'll want to know. -Compare transfer rates, associate's degree numbers, and certificates for students who took AQ vs. placement test. -Disproportionate impact evaluation -student voices -faculty voices			

Table 2. Follow-Up Research

Sequence #	Follow-Up	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
7	Validation	Placement Rules Validation: Overall - Is self-reported high school data accurate? GPA, Courses, Grades -are placement rules working? -student and faculty satisfaction with placement -Disproportionate Impact study (equity examination) -course success and progression (if appropriate) in sequence - Does the new model place accurately?		Maria Tsai, Assessment Center, IT, Math, English, Michelle Sampat	Report/Tool

Sequence #	Follow-Up	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
		•What % of students get placed via the AQ but then take a placement test? •This will help measure whether students think they are being placed too low. What % of students take a course that is lower than the course they place into via the AQ? •This will help measures whether students think they are being placed too high. -Is the AQ considered an assessment instrument? If so, is our AQ for placement authorization by the Board of Governors (BOG)? (AB 705) If not, what is the validation process for AQ? -Disproportionate impact evaluation -student voices -faculty voices			
8	Evaluating	Evaluation of the major steps in the process: • Being placed with AQ • Being placed without AQ • Enrolling • Using Services • Completing Courses • Progressing • Validation - Benchmarks? Yearly, evaluate efficacy of benchmark metrics and make adjustments & alignment with AB705			

Sequence #	Follow-Up	Research Project Description (all by Demographics and by Subject)	Dates	Responsible Party	Resources
		-Disproportionate impact evaluation -student voices -faculty voices			

Appendix A: Summary of AB705 Requirements

The AB 705 requirements noted below are also within the Research Action Plan table. They are placed here to provide the reader with an easier view of all requirements in one place.

1	Use placement models (which include HS coursework, HS grades, or/and HS GPA) that maximize the probability for students to enter and complete transfer level coursework in English and math within a one-year timeframe.
2	Use placement models that maximize the probability for credit ESL students to enter and complete degree and transfer requirements in English and math within a timeframe of 3 years.
3	Use placement models that maximize the probability for students in certificate or degree programs to enter and complete required college-level coursework in English and math within a one-year timeframe.
4	Prohibited from requiring students to enroll in remedial English or math coursework unless placement research that includes consideration of HS GPA and coursework shows that those students are highly unlikely to succeed in transfer-level coursework in English and math.
5	Authorized to use concurrent support along with the transfer-level English or math course during the same semester only if it is determined that the support will increase their likelihood of passing these courses.
6	Shall minimize the impact on student financial aid and unit requirements for the degree by exploring embedded support and low or noncredit support options.
7	Assessment instruments for placement must be authorization by the BOG.

8	Shall use evidence-based multiple measures for placing students into <u>credit ESL</u> coursework.
9	Multiple Measures shall apply in the placement of all students in such a manner so that: (1) low performance on one measure may be offset by high performance on another measure (compensatory), or (2) the student can demonstrate preparedness and thus bypass remediation based on any one measure (disjunctive).
10	Use self-reported HS information or guided placement (including self-placement) for students when HS data is difficult to obtain, logistically problematic to use, or not available.