ASSESSMENT PLAN FOR PLACEMENT

September 2015

The information contained in this Assessment Plan was developed by the San Diego Community College District MMAP Work Group.

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Table of Contents

Prologue

Student Success Act of 2012

The Student Success Act was signed into legislation in 2012 as AB 1456. It is intended to improve student pathways to successful completion of degrees, certificates and transfer, primarily by refocusing matriculation services. The legislative bill specifically states that the Student Success Act will:

> Restructure the way student support services are delivered to improve the assistance that students receive at the beginning of their educational experience. The bill targets existing student services resources to support orientation, assessment and education planning services and lays the groundwork to expand these services as more resources become available.
>
> **Provide that campuses using an assessment instrument for student placement utilize a statewide system of common assessment once available, to improve consistency and efficiency within the 112-campus system.**
>
> Require colleges receiving student support service funds to post a student success scorecard to clearly communicate progress in improving completion rates for all students and closing the achievement gap among historically under-represented students.
>
> Require students whose fees are waived because of their economic need to meet minimum academic standards

The AB 1456 legislation resulted in eight major recommendations by the Student Success Task Force. One of these recommendations called for a statewide system of assessment that will improve the way in which students are placed into English, math, and ESOL. The Common Assessment Initiative (SB743), grew out of this recommendation, and includes provisions for multiple measures.

Common Assessment Initiative

The Common Assessment Initiative (AB743) is designed as a statewide system for student placement and assessment, which is intended to benefit students and their pathways to successful completion. The Common Assessment will contain test preparation, test delivery, test administration, data collection, and course placement guidance, and will use centralized and integrated technology solutions to support

assessment and placement. A coalition led by Butte-Glenn Community College District, in partnership with San Joaquin Delta College, Saddleback Community College, the California Community Colleges Technology Center, the California Partnership for Achieving Student Success (Cal-PASS Plus), and the Academic Senate, will leverage and collaborate with existing statewide technology services and projects to develop a comprehensive common assessment system (CAS) containing test preparation, delivery and administration, data collection and placement guidance, and research. The goal of the CAI is to develop a centralized common assessment system that effectively supports faculty and staff to ensure accurate student placement, reduce the need for remediation, and results in more successful student outcomes. The development of the CAI will happen in four phases: the Development phase, the Pilot phase, Implementation phase, and the Maintenance phase.

Multiple Measures Assessment Project (MMAP)

The Multiple Measures Assessment Project (MMAP) is an extension of the STEPS project, and is a collaborative effort led by Cal-PASS Plus, and the RP Group, with support from the California Community Colleges Chancellor's Office. Under the new AB 743 Common Assessment Initiative (CAI), the CAI steering committee will leverage the work of MMAP to create a comprehensive, web-based platform for a common assessment in English, Math, and ESL. The platform will include tools based on multiple measures to support faculty and staff in the effective assessment and placement of students. The MMAP will result in the development of a longitudinal data warehouse, a comprehensive analytical model, and fully-developed user tools to support college-level analysis of multiple measures for assessment and student placement.

The Multiple Measures Assessment Project has three primary objectives:

1. Develop a secure, large and robust longitudinal data warehouse to collect, store and analyze multiple measures which will include high school transcript and test data, as well as MIS and placement test data for each community college.
2. Identify, analyze and validate known multiple measures data points, drawing directly from research obtained through the STEPS pilot, and leverage predictive analytic software to identify new data points that can serve as effective multiple measures.
3. Engage pilot colleges throughout the process to assist in the development of the analytic tools and user interface, and to test the tools and models using local college data supplied through the data warehouse.

The MMAP research team is engaged with approximately 14 pilot colleges from across the state, who have agreed to provide feedback on the predictive models and the user tools to help inform the process. Once the MMAP longitudinal data warehouse is complete, it will be made available to pilot colleges through analytic tools and downloadable data. Participating pilot colleges will be asked to provide feedback on the results of the analysis, and to test the interactive analytic tools. In addition, pilot colleges are expected to organize teams or task groups around developing internal capacity for implementing multiple measures in assessment and placement in order to discuss the following considerations:

- Logistics and systems for fully implementing multiple measures
- Placement protocols, and use of multiple measures
- Validation of the multiple measures

Pilot colleges will begin testing the multiple measures tools and applications in Spring 2015, and may begin developing plans for implementing multiple measures beginning Fall 2015.

Retrospective Analysis

A set of placement rules were developed by the statewide Multiple Measures Assessment Project (MMAP) team using classification and regression analytics (CART) that resulted in a series of decision trees for establishing placement protocols. The placement rules were tested for their predictive quality to determine successful course completion in community college math and English courses. To assess the predictive value of these rules for the San Diego Community College District (SDCCD) a retrospective analysis was conducted by the District Office of Institutional Research and Planning. High school student transcript data for San Diego USD, Poway USD, Grossmont USD, and Sweetwater USD from 2007/08, 2008/09, and 2012/13 were matched with SDCCD grade data for students who took English (*N*=33,543) or math (*N*=33,543) courses. The data were processed, and analyzed using two different methods: 1) a bivariate regression to determine the correlation coefficients, and 2) a comparison of successful course completion rates (the percent of grades A,B,C,and P out of all grades).

First, correlation coefficients were calculated in order to analyze the direction and strength of the relationship between 11th grade, and 12th grade cumulative high school GPA, and the community college grade points earned in the first math or English course taken. These were then compared to the correlation coefficients of placement test scores (Accuplacer) and community college grade points in the first English or math course taken. The results showed that all of the correlation coefficients were statistically significant (the probability that the results are due to chance is low), and although relatively small, showed positive correlations rather than negative. The correlations for high school GPA and community college math and English grade points were consistently higher when compared to the correlations between Accuplacer test scores and community college course grade points. For example, the correlation coefficient for cumulative high school GPA and

transfer level math grade points (r=.41, N=3,482, p<.001) was twice the size of the correlation between Accuplacer test scores and community college math grade points (r=.18, N=1,871, p<.001). These results show that cumulative high school GPA is a valid predictor of success in college English and math, and has a stronger association with college course grade points than Accuplacer. This establishes the multiple measures rule set as a valid measure for placement.

To further determine the predictive quality of high school transcript data, successful course completion rates (grade notation of A, B, C, and P) in students' first math or English course were analyzed. Analysis groups were formed based on the various MMAP placement rules, and success rates were compared to groups placed with Accuplacer. The results showed the MMAP groups had higher success rates compared to the groups placed with Accuplacer across the different transfer-level subject areas for math. For example, for transfer level math statistics (Math 119) the MMAP group based on 11th grade GPA greater than or equal to 3.2 had a success rate of 79% (N=563) compared to the Accuplacer placement group (54%) (N=217). Results also showed higher success rates for the MMAP groups when compared to the Accuplacer groups, across all levels in English. For example, success in transfer-level English (ENGL 101 and ENGL 105) was higher for students whose 11th grade GPA was equal to or greater than 2.7 (78%, N=3,140) compared to the Accuplacer placement group (56%, N=255). These results, along with the statewide results, indicate that high school cumulative GPA is a valid predictor of grades in college, and reliable as a multiple measure when used in conjunction with standardized testing, or disjunctively (selecting the higher placement of the two methods).

Correlation Analysis

Success in first college English course: Analyses were conducted to examine students' success in first college-level English and math courses. Results indicated that students' success in their first college-level English course was related to their cumulative 11th grade high school GPA, Accuplacer exam English sentence skills score, and Accuplacer exam English reading comprehension score. Success was related to higher gpa, and higher Accuplacer English exam scores. Success in first college-level English course was also related to delay between high school English course and college-level English course. Specifically, greater delay between students' last high school English course and first college English course was related to success in the college English course. Additionally, greater Accuplacer English exam scores (sentence skills and reading comprehension) were related to higher college English course grade points.

Additional analyses were conducted to identify predictors of students' success in their first college-level English course. Results showed that higher GPA was associated with greater odds of success in first college English course. However, higher level English courses were related to lower odds of success in the course. Delay between high school English course and college English course was not found to be predictive of success in first college English course. Accuplacer

sentence skills and reading comprehension exam scores were also not found to be associated with greater odds of success in first English college course.

Success in first college math course: Results showed that success in first college-level math course was related to higher 11th grade cumulative high school GPA, higher college math course level, and higher Accuplacer arithmetic and algebra exam scores. Additionally, higher college math course grade points were related to higher 11th grade cumulative gpa, longer delay between high school and college math course, higher math course level, and greater Accuplacer exam scores (arithmetic, algebra, and overall).

Analyses to identify predictors of success in college-level math course did not identify significant predictors. High school gpa, college math course level, delay between high school and college math course, and Accuplacer exam scores were not found to be related to success in first college-level math course.

Engagement Strategies

Background

The Student Success Act Common Assessment Initiative provides an exciting opportunity to improve some of our most fundamental practices and approaches to student placement, leading to improved student success. In order to fully leverage this opportunity, we must consider the likely changes that will occur in student composition within the English and math basic skills and transfer-level classes as a result of the new common assessment and multiple measures protocols. If students will be more accurately placed using the new assessment protocols, then the higher level students will no longer be in the basic skills classes. Consequently, those higher level students who raise the skill level will no longer be in these classes, and the students in basic skills classes will be more truly basic skills level students. Similarly, more first-time to college students might very likely be placed in the transfer-level classes that better match their skill level. This introduces possibly a younger and/or less college-ready or experienced group of students to the transfer-level classes. Both of these scenarios speak to the need for faculty who teach English or math basic skills or transfer levels to recognize that teaching and learning may well be impacted by a new composition of students.

Strategies for Engaging Key Stakeholders

Informational Discussions. These mini-discussions on the new assessment protocols will help inform, and engage key stakeholder groups (e.g., Academic Senate, Student Success committees, Student Services councils, and instructional department meetings), and help raise awareness across the campus.

Primary Audience: All constituent groups on campus, including: faculty, student services personnel, and faculty. Members of the Districtwide MMAP Workgroup will team up to facilitate approximately five informational discussions each to the key constituent groups.

Timeframe: Fall 2015

Required Resources: The District IRP, along with the Districtwide MMAP Workgroup members will develop materials, and receive training prior to facilitating the discussions. The MMAP Workgroup members will prepare a schedule for the series of informational discussions for each of their respective colleges.

Student Success Assessment Forum. The District will host a districtwide half-day forum that will target English and math faculty, counselors, assessment coordinators, special program coordinators and researchers. The

forum may include an opening panel discussion by faculty and staff from Long Beach City College and Bakersfield College discussing their MMAP implementation experiences, as well as members of CalPASS Plus, and the grant directors and workgroup members from the Common Assessment Initiative. In addition, the forum may include break-out sessions that will be facilitated by each of the panelists to discuss in further detail the implementation of the common assessment and MMAP.

Primary Audience: English faculty, math faculty, counselors, assessment coordinators, special program (e.g., FYE, MESA, DSPS, Honors) coordinators and researchers.

Timeframe: Spring 2016

Required Resources: One to two faculty with reassigned time will organize, and coordinate the forum with input from the Districtwide MMAP Workgroup. The District will identify funds for the faculty reassignment needed, as well as reimbursement for travel expenses incurred by panelists, and expenses for morning and afternoon refreshments for the forum.

Strategies for Professional Development Needs

On-going Feedback Loops. An assessment survey will be administered to English and math faculty, as well as to counselors to assess the changes that have occurred in class composition, student performance, workload for counselors as a result of the change in placement protocols. In addition, the survey may seek out professional development needs, and other topics of interest. Follow up focus groups may also be used as a way to gain a deeper understanding into any of the areas of interests.

Primary Audience: The District Office of Institutional Research and Planning will develop and administer the surveys, collect, analyze and share the information with the MMAP Workgroup. MMAP Workgroup members will share results with their respective campuses so that action may be taken accordingly.

Timeframe: Spring 2016, Fall 2016, and Spring 2017

Required Resources: The District IRP, along with the Districtwide MMAP Workgroup member will develop the survey, and IRP will administer, collect and process the results.

Strategies for Engaging Special Programs

Cohort Matriculation Process. The MMAP and other multiple measures protocols will be incorporated into the matriculation process (e.g., orientation and assessment) for the learning community and special program students. Students will receive information on the multiple measures protocols during orientation, and from peer mentors, and will work with the program faculty, and counselors on their placement 'bumps'.

Primary Audience: The MMAP Workgroup members, and the District Student Services Office will provide information and resources, as well as necessary training for faculty and counselors on the new common assessment and multiple measures protocols.

Timeframe: Beginning Fall 2015, and each term thereafter

Required Resources: Each college will identify the learning community and/or special program cohorts (e.g., FYE, Umoja, Puente, high school bridge, etc.) so that faculty and counselors can incorporate the new common assessment and multiple measures protocols into their orientation and assessment activities.

Assessment Strategies

Background

The proposed implementation of the new common assessment and multiple measures protocols will involve changes in assessment policies, as well as accompanied changes in other areas. There are multiple methods for combining traditional assessment tests and multiple measures for placement. The impact of incorporating multiple measures into existing college processes must be considered and discussed among all of those involved. Thus, districtwide communication and collaboration between academic senate leaders, discipline experts, and counseling faculty is necessary for the implementation of multiple measures policies and procedures to increase students' likelihood for success. The implementation of additional support and services for students affected by placement policies must also be considered to ensure student success. Program development will be an ongoing process as the recommended strategies are formulated, implemented into existing procedures, and evaluated.

Strategies for Developing Research for Trainings and Discussions

Retrospective Analysis. To assess the predictive validity of the statewide MMAP placement rules locally for the San Diego Community College District (SDCCD), a retrospective analysis was conducted by the District IRP office. The data were processed, and analyzed using two different methods: 1) a bivariate regression to determine the correlation coefficients, and 2) a comparison of successful course completion rates. Results demonstrated that the associations between high school GPA and math/English course grades were stronger than the relationship between Accuplacer and grades. The IRP group also used R[1] to build predictive models to examine how well the statewide rules fit the local data, since diverse contexts across colleges may influence results. Using R, decision trees were built to establish the decision rules predictive of success in a math or English course for SDCCD students. Consistent with statewide results, the local analysis indicated that high school GPA was the strongest predictor of community college success.

Target Audience: The District Office of Institutional Research and Planning has analyzed retrospective data to test the predictive quality of the statewide MMAP model. Results have been shared with the MMAP Workgroup members, who will share results during departmental discussions.

1. R is an open source analytical tool for developing conditional models or loops that are recursive. For this project, student data were imported into R to generate decision trees used to establish the MMAP placement rules.

Timeframe: Spring 2015

Required Resources: The District IRP has been working with CalPASS to obtain K-12 data for the retrospective analysis. The IRP group will continue to work with CalPASS to obtain data for the MMAP Pilot project.

Strategies for Implementing Other Assessment Program Components

Non-cognitive Measures. Non-cognitive measures are an important component of assessment that may help to reduce disparities for students from underrepresented groups. These measures can be used to complement existing assessments and other multiple measures (e.g. students' high school GPA), and may help to inform program development. Non-cognitive measures may be collected by academic counselors during an interview with students prior to registration, or may be incorporated into the standardized assessment (e.g., Gallop Hope Scale). Along with the students' assessment results, the counselor will use multiple measures information and non-cognitive assessment results to make the recommendation for math and English placement.

Target Audience: Counselors, math/English faculty

Timeframe: Beginning in Fall 2015, and continuing indefinitely

Required Resources: Members of the MMAP Workgroup will first determine whether non-cognitive measures should be collected. If non-cognitive measures are included as part of MMAP, measures will be reviewed and selected by the MMAP Workgroup. Counselors will be trained to administer, score, and interpret scores.

Strategies for Determining Contingency Plans

Early Intervention. Some students who are placed directly into transfer level courses may need additional support to navigate these courses. Increasing support can be done by connecting students to others at the college. Advisors may include math or English faculty, and counselors. One requirement of receiving a higher math or English placement will be a check-in with advisors at set time points in the semester to discuss grades, course difficulties, or any other obstacles the student encounters. Students also will have the option to connect with a peer mentor that may share a similar background and experience with the student. During appointments students will have the opportunity to formulate goals, obtain feedback, and assess progress early in the semester. If needed, the faculty or peer mentor will help the student connect to on-campus activities or programs (e.g. tutoring services) that will increase the students' likelihood for success. Additionally, for students receiving a higher math or English placement another suggested requirement of the assessment plan will be that students receive tutoring throughout the semester, and the colleges institutionalize and support tutoring as a practice.

Target Audience: Math/English faculty and academic counselors.

Timeframe: Beginning in Fall 2015, and continuing indefinitely

Required Resources: Counselors, and math and English faculty will need to be made aware of the MMAP program requirements. Peer mentors will need to be identified, recruited, and trained to provide peer-to-peer mentoring. Districtwide on-going funding and support for math and English tutoring services will be needed.

Implementation Strategies

Background

With the implementation of the new common assessment and multiple measures assessment protocols the accuracy of placement into English and math sections will increase. One result of placing students correctly will be an increase in the number of transfer sections needed. This will lead to a shift in the number and composition of course offerings with students being bumped (advanced to transfer level) from remedial courses to higher level courses. The new assessment protocols will not lead to additional courses being offered overall, but a shift in the offerings. Due to the timing of high school students submitting an application to the community college and the availability of transcript data from local high schools, scheduling block classes (e.g. empty sections and late starting sections) would support any necessary course scheduling adjustments. These section changes could result in several different staffing adjustments. Faculty, counselors, and special program staff will need guidance on the multiple measures criteria, and how their position might be affected. The traditional timeline of when students register for classes will also need to be updated, and must be considered.

Strategies for Determining Class Offerings

Class Scheduling. To determine how many English and math sections will need to be added each semester, there will need to be a review of enrollment and section data for the last three years will be completed. Data will be separated by fall and spring to analyze different patterns. The number of transfer and basic skills sections offered will be reviewed by term and college. Fill-rates will be used to measure the productivity of current course offerings. This information will be used to project the headcount and demand for the students who will be bumped using the multiple measures protocols.

Primary Audience: The Vice Presidents of Instruction and instructional deans.

Timeframe: Beginning Fall 2015, and continuing indefinitely

Required Resources: The campus-based researchers will compile the required enrollment data and information for the VPIs and deans..

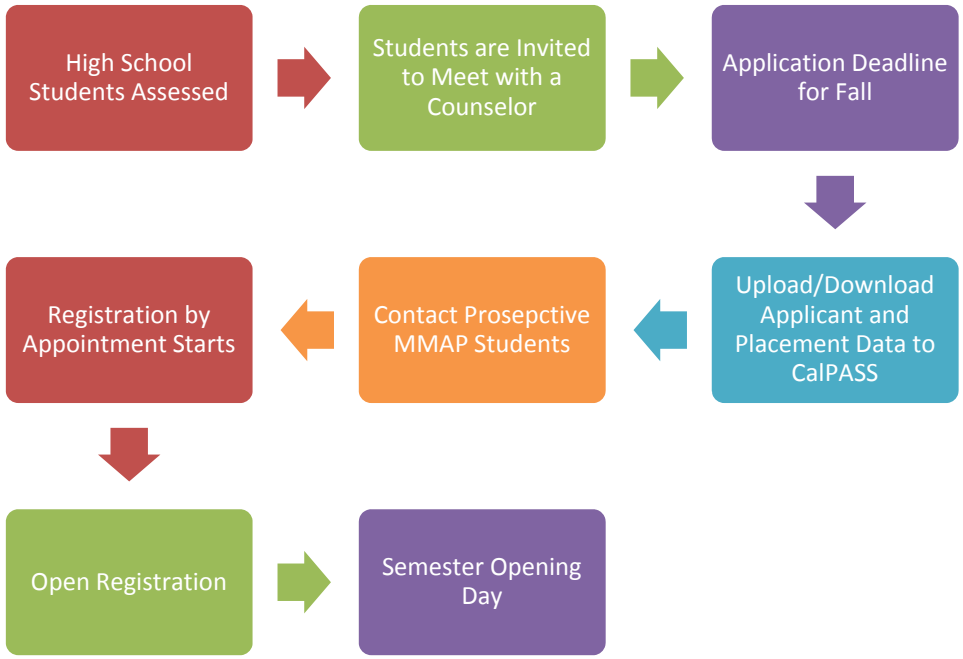
Strategies for Determining Implementation Process

Timeline. A new timeline and flowchart for application, assessment and registration will be needed in order to accommodate the new multiple measures protocol. Below is a sample flowchart.

Primary Audience: Students, faculty (content/subject matter experts) staff and administrators.

Timeframe: Beginning Fall 2015, and continuing indefinitely

Required Resources: The District Office of Institutional Research and Planning in collaboration with key campus Student Services, and District Student Services personnel, will develop the key activities, dates and deadlines to implement the application, multiple measures assessment, and registration process.



Communication Strategies

Background

Communication is key to any successful endeavor, and implementing new assessment protocols is no exception. In order to maintain total transparency, and to keep all key stakeholders engaged in the process, a good set of communication strategies that will deliver the information in a clear, concise and scheduled manner will be needed. Not only will faculty, staff, and administrators benefit from the communication, but external K-12 partners and transfer institutions will as well. Students will also need to clearly understand how the placement system at the college and within the district functions. They need to know that the district/college has spent a great amount of time to develop a system to better/more accurately understand their capacity. Many students feel that a single standardized test does not provide the full story of what they can accomplish as a student. In fact, a great deal of evidence suggests students are likely to succeed, if permitted to enroll, at a level above where they have been placed by a standardized test.[1] Faculty also believe that a single standardized assessment may not accurately place the students, and so describing the full set of placement options may give them a more realistic perspective.

Strategies for Keeping Stakeholders Informed and Current

Website. An assessment webpage that provides information and updates on the development and implementation of the common assessment, and multiple measures protocols will be developed in order to ensure transparency across the district. The website may include any or all of the following: FAQs, campus and district project point people (e.g., MMAP Workgroup members), project and assessment plans, timelines, and progress decisions, notes, agendas, and minutes, calendar of events and deadlines, references and other related studies and projects, related statewide news and information, related internal research and evaluations, and opportunities to provide feedback.

Target Audience: All internal and external stakeholders

Timeframe: Beginning in Fall 2015, and continuing indefinitely

Required Resources: Members of the Districtwide MMAP Workgroup will storyboard the website, and develop content (e.g., FAQ) for the website. A District webmaster will create and maintain the website.

Internal Communications. The colleges and the District will provide regular information and updates to faculty, staff, administrators, and students regarding the common assessment and multiple measures placement protocols. This may be accomplished through existing newsletters, convocation and flex activities, K-12 partnership meetings, board meetings, SDICCA meetings, and other venues where assessment and student success would be discussed.

Target Audience: All internal and external stakeholders

Timeframe: Beginning in Fall 2015, and continuing indefinitely

Required Resources: Members of the Districtwide MMAP Workgroup will provide informational materials that can be discussed and distributed by anyone interested in sharing the information.

Strategies for Informational Materials

FAQ. A curated online repository of questions with answers will be added to a set of FAQs on an on-going basis. The FAQs may be used in a variety of venues (e.g., meetings and presentations), and for various purposes (e.g., website posting and trainings). The colleges and the District will collaborate on this process so that there are dedicated people to collect, vet, and respond to incoming questions, with a place for questions to be submitted.

Target Audience: All internal and external stakeholders

Timeframe: Beginning in Fall 2015, and continuing indefinitely

Required Resources: Existing FAQs from the state and CalPASS/Ed Results will be used as a starting point for building a more custom set of FAQs. The IR staff at each college will collect questions from their respective colleges, and the MMAP Workgroup will develop responses once or twice per year so that the FAQs can remain current.

Evaluation Strategies

Background

Planned research and evaluation of the impact of the MMAP protocol are essential to the success of the overall assessment system. The District Office of Institutional Research and Planning will lead this effort, and support the individual college's effort to evaluate the impact of MMAP. The research and evaluation will initially answer the following key questions:

Snapshot Analysis

1) How many students that tested with Accuplacer were bumped to transfer level English or math, and what was the ethnicity breakdown?

2) How many students that received emails about being bumped to transfer level English or math registered in the fall or spring semester?

Longitudinal Analysis

3) How do the success, retention, and persistence rates of the MMAP cohorts compare to the other cohorts (i.e., Accuplacer and those students who moved through the sequence)?

4) What is the predicted number of semesters that the bumped students averted as a result of being bumped?

Process Analysis

5) Do the MMAP cohorts and the faculty believe that the MMAP bumped students were placed appropriately?

The research and evaluation will be on-going, and will begin in Fall 2015.

Index - Resources

Additional Resources for MMAP Pilot Colleges

- Judith Scott-Clayton on parallels between overdiagnosis problem in medicine (and its consequences for both outcomes and costs) and overdiagnosis of need for remediation in assessment and placement in the Economix blog at the NY Times:
    - http://economix.blogs.nytimes.com/2012/04/20/are-college-entrants-overdiagnosed-as-underprepared/

- NPR Morning Edition coverage of *Defining Promise*, an article by Hiss and Franks detailing their research on highly parallel problems with the use of SAT in admissions at 4-year colleges. Their research highlights the higher predictive utility of GPA for college performance and graduation (than the SAT) as well as the equity consequences of underutilizing GPA:
    - http://www.npr.org/2014/02/18/277059528/college-applicants-sweat-the-sats-perhaps-they-shouldn-t
    - The full article by Hiss and Franks is available here:
        - http://www.nacacnet.org/research/research-data/nacac-research/Documents/DefiningPromise.pdf
        - highlights equity consequences in admissions and merit awards for students of color, women, low-income students, and first-generation college students.

- An executive summary of Pamela Burdman's overview of placement testing for Jobs for the Future: *Where to Begin: The Evolving Role of Placement Exams for Students Starting College*:
    - http://www.jff.org/sites/default/files/publications/WhereToBegin_ExSumm_082712.pdf
    - The full report is available here:
        - http://www.jff.org/sites/default/files/publications/ATD_WhereToBegin_050213.pdf

- *Predicting Success in College*, by Belfield and Crosta, that came out at the same time as Judith Scott-Clayton's article and uses very similar methodology but using a different, but similarly large community college system:
    - http://ccrc.tc.columbia.edu/media/k2/attachments/predicting-success-placement-tests-transcripts.pdf

- The Academic Senate for the California Community Colleges white paper on Multiple Measures from the Spring 2014 Plenary in support of resolution 18.01 S14 (page 25 here)
    - Full paper: http://www.asccc.org/sites/default/files/Appendix%20F_Integrated_MM_Paper_final_March%207.pdf

- *The Bakersfield Californian* news article on multiple measures assessment and placement at Bakersfield College:
    - http://www.bakersfieldcalifornian.com/local/x855032896/Remedial-ed-costing-community-college-students

Common Assessment Initiative (CAI)

Summer/Fall 2014

1. CAI work groups in English, Math and ESL are formed and begin working on the Competency Maps that address the full range of prerequisite skills.
2. Professional development work group is formed to augment resources for faculty and staff throughout the CAI implementation.

Spring 2015

1. Vendor selected for development and support of Common Assessment.
2. Continued feedback from the field and refinement of the English, math, and ESL. Competency Maps, which will be used to develop the items for the test item bank.

Summer 2015

3. Item bank development and review by CCCO Assessment Standards workgroup.
4. Item bank testing/piloting by pilot colleges.

Fall 2015

5. Item bank testing/piloting by pilot colleges.
6. Item bank review and revision by CCCO Assessment Standards Work Group and Link-Systems.
7. **Multiple Measures Assessment Project piloting by pilot colleges, as well as piloting of non-cognitive measures.***
8. Professional development workshops: Best practices gathering/sharing.
9. **Organize district/college-level CAI work group to plan implementation of pilot, and final release.***

Spring 2016

10. **Field testing statewide: colleges will pilot instruments with cohorts of students, validate, and establish cut scores.***
11. Item bank review and revision.
12. **Platform/technology piloting by all colleges.***
13. Final approval of Common Assessment by CCCO Assessment Standards Work Group.
14. Professional development workshops: best practices gathering/sharing.

Summer 2016

15. **Programming of CAI placement rules for internal student system.***
16. Professional development workshops.

Fall 2016/Spring 2017

17. **Begin phased release of Common Assessment statewide.***

*SDCCD is expected to participate.

Note: Unicon, an IT consulting, technology services and open-source support company, will develop a standardized, flexible platform for student assessment and administration. Link-Systems, an educational technology company, will be responsible for curricular content and assessment development in Reading and English, English as a Second Language and Mathematics.

Multiple Measures Assessment Project (MMAP)

Spring 2015

1. The SDCCD MMAP Workgroup will meet regularly to discuss the MMAP pilot, and to review the retrospective analysis that the IRP office has conducted, as well as discuss implementation of the pilot in the Fall 2015.

Summer 2015

2. Students will be contacted regarding the opportunity to participate in the MMAP pilot.
3. Fall 2015 applicant data for a pilot cohort of approximately 250 will be submitted to CalPASS in order to be matched for placement using the multiple measures assessment criteria.
4. The pilot cohort will be contacted regarding their options for placement.
5. Final placement decisions for the pilot group will be loaded into ISIS.

Spring 2016

6. An analysis of the successful course completion of the pilot group will be conducted by the IRP office.
7. Steps 2-6 may be repeated.
8. Provide professional development for faculty and staff on implementation of multiple measures.

Summer 2016

1. CAI and MMAP placement rules programmed in internal systems*

Fall 2016/Spring 2017

2. Begin phased release of Common Assessment and MMAP statewide*

*SDCCD is expected to participate.

Multiple Measures Assessment Project - FAQs

(Questions collected from the pilot colleges via survey. This is a working document which will be expanded as additional questions arise.)

Common Assessment Initiative

How is MMAP research related to the Common Assessment Initiative?

The MMAP research is an extension of the Student Transcript Enhanced Placement Study conducted by the RP Group to evaluate the effectiveness of using high school transcript data to predict students' abilities in passing college-level English and/or math coursework. The research being conducted under the MMAP can be used to support the use of multiple measures along-side the statewide implementation of the new placement test system being built by the Common Assessment Initiative.

How will results from the MMAP Pilot Colleges be used to inform the Common Assessment Initiative?

The MMAP will be conducting extensive analyses to identify the most effective measures that can be used to predict student success in community college courses in the math and English sequences. Once such measures have been identified, recommendations will be made to the Multiple Measures Workgroup, a subcommittee of the Common Assessment Initiative Steering Committee for how the findings can be most meaningfully and practically implemented.

Data Concerns

How are data being analyzed in MMAP research when colleges and K-12 schools have different data coding and reporting practices?

To the extent possible, the data that are being used are those that reflect common data coding and reporting practices. For data from the community colleges, the Chancellor's Office Management Information Systems (CO-MIS:http://extranet.cccco.edu/Divisions/TechResearchInfoSys/MIS.aspx) data is being used. For K-12, data that K-12 districts are required to report to the California Department of Education for California Longitudinal Pupil Achievement Data System (CALPADS: http://www.cde.ca.gov/ds/sp/cl/) are being used wherever possible. For older K-12 data, K-12 districts provide data using a standard format still available for districts that wish to upload legacy data: http://www.calpassplus.org/MediaLibrary/calpassplus/publicweb/Documents/CalPASSK12DEDV2012_1.pdf

While there can be occasional gaps in data quality and completeness, the quantity and quality of the remainder of the data provide a comprehensive foundation upon which to powerfully supplement assessment and placement methods built around more typical single method, single incidence standardized assessment. Further, as the project progresses, many of the gaps are closing significantly as additional districts and data sources become available and as reporting irregularities come to light and are repaired.

How can colleges access feeder high school data to conduct analyses?
Cal-PASS Plus is developing a statewide data infrastructure to support access to high school transcript data, along with MIS data from the CCCCO, data from the California Department of Education, and data from other testing services (and ultimately data from the new statewide common assessment).

How reliable/valid are K-12 grades in predicting college course success?
Analysis has shown that GPA, which accumulates and combines many indicators of student behavior and performance across disciplines, instructors, and time, is the most reliable and valid predictor of student success in college courses, substantially outperforming other predictors of student performance, including standardized testing. Typically, the next most reliable predictor is students' grade in the most recent course in the discipline.

How will colleges collect noncognitive variables to include in the assessment process?
The CAI Steering Committee is developing a standard test which will include noncognitive measures to the extent that valid and reliable non-cognitive variables can be identified and assessed. Additional information as collected in CCC Apply will also be examined for its utility in assessment and placement. As they become available, these measures will then be included in the data warehouse and feed into subsequent MMAP models.

What are the requirements/criteria for a placement approach to considered "multiple measures?"

Title 5 Section 55522(a): The Chancellor shall establish and update at least annually, a list of approved assessment tests for use in placing students in English, mathematics, or English as a Second Language (ESL) courses and guidelines for their use by community college districts. When using English, mathematics, or ESL assessment for placement, it must be used with one or more other measures to comprise multiple measures.

Title 5 Section 55502(i): Multiple measures are a required component of a district's assessment system and refer to the use of the more than one assessment measure in order to assess the student. Other measures that may comprise multiple measures include, but are not limited to, interviews, holistic scoring processes, attitude surveys, vocational or career aptitude and interest inventories, high school or college transcripts, specialized certificates or licenses, education and employment histories, and military training and experience.

What percentage of students in the MMAP pilot colleges have missing information?
The vast majority of students have valid data for the major high school variables that are being included in the analyses. Where students are missing data for one or more grade levels, averages of the remaining grade levels are used to represent overall high school performance.

To date, only Accuplacer placement scores are available; approximately 35% of students have English Accuplacer scores and 29% have math Accuplacer scores.

Who can the colleges contact to get additional information about feeder high school data? To view a list of the participating K-12 data available for each school in a region, visit the Cal-PASS Plus webpage: https://www.calpassplus.org/calpass/join/members#

Pilot Logistics

How can results from the MMAP research be implemented at the local level?
Pilot implementation is determined by the pilot colleges. Since colleges maintain local control over multiple measures and cut scores, each college will need to come to a consensus on their own. However, the research will provide information for discussion and experimentation around multiple measures assessment.

What are some methods for how multiple measures assessment and placement might be implemented?
There are multiple broad categories or templates that colleges can use in combining traditional assessment tests and multiple measures in assessment:

1) Disjunctive (either/or) methods where students are placed using a traditional standardized test as well as provided a separate multiple measures placement and students are placed in the higher placement of the two methods or are given the opportunity to choose their placement
2) Compensatory or blended methods where the two methods are combined to produce a single placement for each student. The way the methods are blended can vary: the two methods can be weighted and combined, one method can be used in a supplementary way to adjust the placements of the other method, or one method can be used in an advisory way to help inform the student and college faculty staff to allow for the placement to be adjusted.
3) Conjunctive (both/and) methods, as with disjunctive methods, again place students using both the traditional standardized test and a separate multiple measures placement. However, students are placed at the lowest level achieved between the two placement methods.

What are some specific examples of how findings from MMAP research can be implemented at the local level?
Bakersfield, Sierra College, Rio Hondo, and Long Beach City College (among others) have all implemented multiple measures assessment and placement research at their institutions in a variety of ways. Additional specifics will be added to this answer as soon as possible.

What are some specific examples of how MMAP can be validated at the local level?
Local replication of MMAP research can be conducted through procedures similar to those that colleges that participated in Student Transcript Enhanced Placement Study (STEPS) went through.

For a summary, please see: http://www.rpgroup.org/projects/steps and more detailed information can be found here: http://www.rpgroup.org/content/participation-instructions.

What is expected for the fall 2015 pilot?
At the very least, pilot colleges should be working to develop the internal capacity for collecting and reviewing data with the goal to assess the potential impact of the use of multiple measures in assessment and placement. Colleges can either use the multiple measures models as a placement tool for a pilot cohort of students or use the models to foster discussions on their campus in an effort to move towards multiple measures assessment. Pilot colleges are expected to engage in dialogue with other pilot colleges, Cal-PASS Plus, and the Common Assessment Initiative about the issues and opportunities created by the piloting process.

By May 2016, the intention is for the work of the pilot colleges to inform the ongoing work to enable all colleges to have access to multiple measures data from an online tool hosted by CalPASS Plus.

What is the timeline for MMAP implementation for the MMAP pilot colleges?
Starting in late fall 2014/early spring 2015, MMAP pilot colleges are expected to begin meaningfully working toward being prepared to collect and analyze multiple measures data for students enrolling in fall 2015.

What type of support will be provided to pilot colleges for implementing a multiple measures approach?
The MMAP team will be providing background information and a solid research foundation for the understanding and developing the use of multiple measures in assessment and placement. Additional support from the MMAP team and CalPASS Plus will be available to the pilot college's local institutional research office and the multiple measures implementation teams.

Who will be responsible for conducting validation studies at the college?
The individuals responsible for validating the studies at the Colleges will vary depending on the type of validation being established.

In most cases, faculty in the target content areas will need to be involved in the process as well as individuals at the college's institutional research office to provide support in collecting, analyzing, and interpreting test and course outcome data.

Multiple Measures Model Summary – Presented to the Common Assessment Initiative Steering Committee on January 12

Authors: Multiple Measures Research Team – The RP Group and Educational Results Partnership

This document provides a preliminary set of recommendations derived from individual decision tree models that were conducted for each level in Math and English. The summary being provided represents a disjunctive approach to placement whereby the columns represent the varying placement levels in an assessment test and the rows represent the decision rules that would place students in each level based on high school transcript data. The following is a summary of how the decision rules would be applied:

- Progressively: where higher level rules trump lower level rules.
- Disjunctively: Students can be placed in each level either by assessment test results (column) or by high school transcript information (rows). Each row in each column represents an "or" statement.

Table 1. English Model Summary - Apply rules progressively so that higher level rules trump lower levels rules

Four Levels Below **(Rsq.=0.038)**	**Three Levels Below** **(Rsq.=0.026)**	**Two Levels Below** **(Rsq.=0.085)**	**One Level Below** **(Rsq.=0.081)**	**Transfer-Level** **(Rsq.=0.110)**
HS GPA >= 2.4* CST >=330 If this is lowest level, then place students here who do not qualify for higher levels via other means.	HS GPA >=2.8* HS GPA >=2.1 and CST >= 290* If this is lowest level, then place students here who do not qualify for higher levels via other means.	HS GPA >=2.2 and CST >= 308* If this is lowest level, then place students here who do not qualify for higher levels via other means.	HS GPA >= 2.4*	HS GPA >= 2.1 C+ or better in AP English course

* Completely overridden by higher-level rules

Table 2. Comparison of Placement Levels: Proportion in First English Course vs. Proportion Based on Decision Rules (*N* = 383,392)

Placement Levels	First English Course (proxy for current placement practice)		Placed Based on Decision Rules		Percentage Difference
	Total Number of Students	Percentage	Total Number of Students	Percentage	
Four Levels Below Transfer	7,809	2.0%	2,433	0.6%	-1.4%
Three Levels Below Transfer	18,711	4.9%	5,649	1.5%	-3.4%
Two Levels Below Transfer	61,376	16.0%	16,722	4.4%	-11.6%
One Level Below Transfer	111,001	29.0%	26,563	6.9%	-22.1%
Transfer Level	184,495	48.1%	332,025	86.6%	+38.5%

Plain English Logic

if high school cumulative GPA is a C or better, then place into transfer level

if AP English course grade was C or better, then place into transfer level

if neither of the above are met, then place one level below (or lower based on testing or other evidence) and provide robust supports

Table 3. Math Model Summary - Apply rules progressively so that higher level rules trump lower levels rules

Arithmetic **Four Levels Below** **(Rsq = .032)**	**Pre-Algebra** **Three Levels Below** **(Rsq = .068)**	**Algebra** **Two Levels Below** **(Rsq=.094)**	**Intermediate Algebra** **One Level Below** **(Rsq.=.128)**	**Transfer-level Liberal Arts Math** **(Rsq.=.109)**	**Transfer-level Statistics** **(Rsq.=.160)**	**Transfer-level STEM-related** **(Rsq.=.090)**
Does not qualify for any of the above levels	HS GPA >= 2.3 AND CST >= 278	HS GPA >= 3.0	HS GPA >= 3.1	HS GPA >= 3.2	HS GPA >= 3.2	HS GPA >= 3.5
HS GPA >= 1.8 AND CST >=292	HS GPA >= 1.6 AND CST >= 282 AND CST Subject Areas in (0,2,7 or 8)	HS GPA >= 2.3 AND CST >= 284 AND CST Subject Areas in (0,2,7 or 8)	HS GPA >= 2.4 AND C+ or better in HS Algebra II AND CST >= 308	HS GPA > 2.4 AND CST >= 302	HS GPA >=2.7 AND CST >= 310	HS GPA >= 2.8 AND CST >= 336
HS GPA >= 2.0 AND CST >= 259 AND CST Subject Areas in (0,2,7 or 8)	HS GPA >= 2.3 AND CST Subject Areas in (0,2,7 or 8)	HS GPA >=2.6 AND CST >= 284 AND CST Subject Areas in (1,3,4,5,6 or 9)	HS GPA >= 2.1 AND CST >= 292 AND C or better in HS Trigonometry	C+ or better in HS Pre-Calculus	Enrolled in HS Calculus	HS GPA >= 3.1 AND Enrolled in HS Algebra I
	HS GPA >= 1.9 AND >= 10 semesters since HS graduation		HS GPA >=2.8 AND C or better in HS Pre-Calculus	CST >= 302 AND Enrolled in Algebra I in HS	C+ or better in Statistics in HS AND CST >= 242	
	CST Subject Areas in (0,2,7 or 8) AND		HS GPA >= 2.8 AND CST >= 310		B- or better in HS Trig AND	

	CST >=253		AND B- or better in HS Algebra II		CST >= 369	
	Place any who do not qualify for higher levels here if this is lowest level at College				B- or better in Trigonometry in HS AND CST >= 271 AND C or better in HS Algebra 1	

Data Notes. CST Subject Codes: 0 = Grade-level mathematics (grade 7); default if unknown, 2 = Summative High School Mathematics (grades 9–11) - PreCalc, 7 = Algebra II, 8 = Integrated Mathematics 3.

Table 4. Comparison of Placement Levels: Proportion in First Math Course vs. Proportion Based on Decision Rules (*N* = 381,476)

Placement Levels	First Math Course (proxy for current placement practice)		Placed Based on Decision Rules		Percentage Difference
	Total Number of Students	Percentage	Total Number of Students	Percentage	
Four Levels Below Transfer	22,619	5.9%	19572	5.1%	-0.8%
Three Levels Below Transfer	53,609	14.1%	49907	13.1%	-1.0%
Two Levels Below Transfer	91,446	24.0%	79249	20.8%	-3.2%
One Level Below Transfer	101,293	26.6%	77012	20.2%	-6.4%
Transfer Level	112,509	29.5%	155736	40.8%	10.3%