

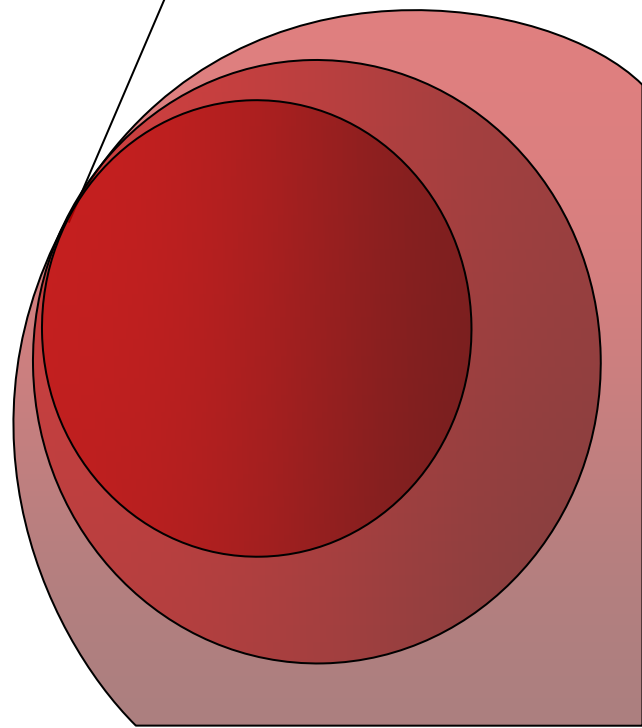
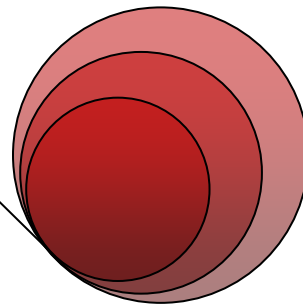
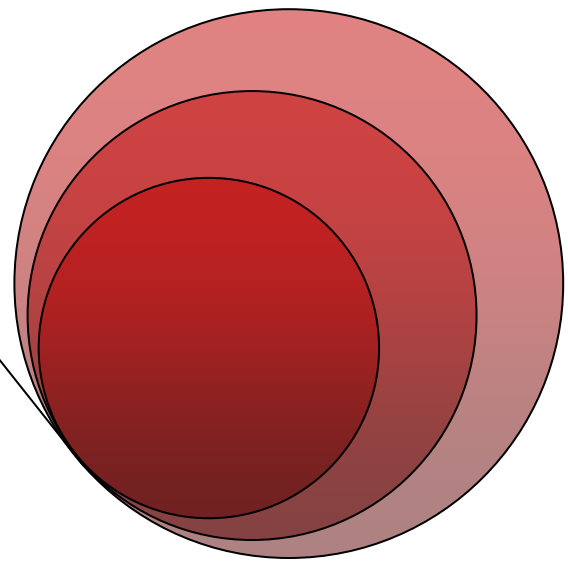


# SmarterMeasure Research Findings

## Results of Institutional Level Research Projects

The document provides summaries of research projects conducted by educational institutions using their SmarterMeasure data.

SmarterServices  
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# MIDDLESEX COMMUNITY COLLEGE

*Middletown, Connecticut*

To answer whether SmarterMeasure™ scores affect students' grades in online learning, a correlation study was conducted to see the relationships between the scores of SmarterMeasure™ and the students' grades.

The preliminary study done in Spring 2009 and Summer 2009 on 750 cases showed a significant correlation between the score of personal attributes and grades. They were significantly correlated with a positive coefficient, meaning that the higher a score of personal attributes, the higher grade a student would receive. This result implies that personal attributes, represented by self-motivation, self-discipline, and time management, plays a very important role in student success of online learning.



Based on this finding, in Fall of 2009, a web page titled as "Success Tips" was developed and linked to the distance learning web site. The success tips were added to one section, Step 3, in the online orientation at <http://www.mxcc.commnet.edu/ContentSuccessTips.asp>. The page of "Success Tips" was added to the Quick Reference, which was accessible by students in the Records' Office, Library, Communication Center, and campus buildings. The Quick Reference was mailed to online students with no personal emails in the college system. It was also downloadable from the distance learning web site. In the beginning of a semester, we sent the success tips in the email to all online students and posted them on the distance learning Facebook page.

During the campus orientation sessions, the success tips were introduced after showing students how to use basic tools in online courses. The research finding was shared with academic advisors and online professors in the distance learning newsletters as well as with students in the student newspaper articles. During advising, registration, and orientation, students were advised that self-motivation, self-discipline, and time management were major factors affecting their success. It was highly emphasized to students that distance learning staff was able to help navigate a course, use tools, and troubleshoot technical problems, but it was the student's responsibility to complete all course works on time to receive a good grade.

Ultimately, the correlation study was conducted between the SmarterMeasure™ scores and students' grades on 3228 cases collected from six semesters, Spring 2009 to Fall 2010. The result showed a significant correlation between the score of personal attributes and students' grades. This finding reconfirms the new approach we used in supporting online students: providing technical assistance to online students while stressing the students' self-driven responsibilities in studying to ensure success.

### Percentage of Failed Online Students Before and After SmarterMeasure Implementation

#### SmarterMeasure - Implemented from Spring 2009 – Fall 2010

Years	Spring	Summer	Fall
Year 2010	24.6%	13.6%	27.9%
Year 2009	27.0%	13.5%	28.7%
Year 2008	31.3%	16.3%	33.5%
Year 2007	31.5%	23.3%	33.4%

## SMARTERMEASURE™ DECREASES FAILURE RATE IN ONLINE COURSES

Before SmarterMeasure™ was implemented, 6% to 13% more students failed online courses than students taking on-ground courses. After the implementation, the gaps were narrowed; 1.3% to 5.8% more online students failed than on-ground students.

The table in Figure 2 shows the percentage of failed students in online courses before and after the SmarterMeasure™ implementation. In the corresponding semesters, less percentage of students failed online courses after the implementation, decreased by about 5%. The finding implies that SmarterMeasure™ assessment helps “at-risk” students to do better in online learning. In other words, the use of the SmarterMeasure™ assessment has contributed to better success in online learning particularly for students who are more likely to fail.

In summary, the implementation of SmarterMeasure™ has helped students to achieve better academic success by identifying their strengths and weaknesses in online learning. When test results show a weak area, students are alerted to their shortcomings and therefore strive for improvement by seeking help. Additionally, based on the results of data analyses, personnel such as distance learning staff, faculty advisors, and academic counselors are able to pinpoint the key element contributing to student success: students’ self-driven force including self-motivation, self-discipline, and time management. This finding has moved the distance learning support beyond technical assistance to inspiring students to be highly motivated and disciplined, accompanied with using appropriate study strategies to ensure greater success.

## J. SARGEANT REYNOLDS COMMUNITY COLLEGE

*Richmond, Virginia*

As part of its Quality Enhancement Plan (QEP), J. Sargeant Reynolds Community College adopted SmarterMeasure, an assessment tool that assesses student readiness for learning within the online classroom. SmarterMeasure evaluates students' skills and attributes in seven distinct areas: Life Factors, Personal Attributes, Technical Competency, Technical Knowledge, Reading Rate and Recall, Learning Styles, and Typing Speed and Accuracy. After piloting SmarterMeasure in Spring 2010 through volunteer faculty in online courses, the College fully implemented the assessment in Summer 2010. At present SmarterMeasure is delivered to incoming students as a part of placement evaluations, and distance learning faculty are also asked to integrate the tool within their first-week assignments in order to reach returning students. Since its incorporation at the College, close to 4000 students have completed the SmarterMeasure assessment.

J. Sargeant Reynolds  
Community College



The QEP Team has begun its principal analyses of SmarterMeasure and what it reveals about JSRCC students. Information gleaned from these analyses is guiding the team in its development of a comprehensive student orientation to learning online and in its development of remediation modules that will help students to bolster their areas of weakness. The first round of data focuses upon all of the distance learning students who both completed the SmarterMeasure assessment and enrolled in at least one online course. The data will be investigated further as the team evaluates first-time distance learners, various demographic factors, and displaced workers (the specific focus of the College's FIPSE grant).

Within this first analysis, the QEP Team evaluated student performance in SmarterMeasure—an indication of student readiness for learning online—and student performance in online courses. SmarterMeasure provides quantifiable feedback on an individual's level of proficiency within various subscales of each attribute. Students' scores in the subscales were correlated with students' performance in online courses. Academic success is defined as a passing grade of A,B,C, or S (satisfactory); lack of success is defined as a grade of D,F,W, or U (unsatisfactory).



## Initial Results

Among the results, the top factors that demonstrate the highest correlation between SmarterMeasure performance and students' academic success are the following:

- Skills (assessed within the Life Factors attribute)
- Technology Vocabulary (assessed within the Technical Knowledge attribute)
- Resources (assessed within the Life Factors attribute)
- Place (assessed within the Life Factors attribute)
- Procrastination (assessed within Personal Attributes)

Three of the top five factors, as one can see, emerge from the assessment of the life factors that either impinge upon or provide support for a student's success in his or her academic efforts. In fact, out of the five subscales located within Life Factors, four emerged as having a significant impact upon student success rates within this college: Time also joins Skills, Resources, and Place as a major factor for student success.

**Life Factors:** The Life Factors section of SmarterMeasure quantifies variables in five areas: time, place, reason, resources, and skills. As SmarterServices, the vendor that distributes SmarterMeasure, points out in its literature: "Many students strongly desire to continue their education. However, often other situations in life deter them from being able to do so. The Life Factors section asks questions about other elements in their life that may impact their ability to continue their education. Students may be able to modify circumstances which impact some of these life skills. If so, they are encouraged to take appropriate action to help themselves succeed. But some of the circumstances in life may be beyond their control. If this is the case, just being aware of these realities and planning accordingly may be beneficial for the students."

The Life Factors section contains 20 items, and each of the five factors is measured by four items which are valued at 20 points apiece. A Life Factors score near 100 points indicates that the student's "situation in life is very conducive to online learning" (SmarterServices, LLC).

**Skills:** The College's results indicate that 66% of the students who scored Medium-High to High in the Skills factor succeeded in their online classes. By contrast, only 5% of students who scored Low-Medium in the Skills section were successful. The Skills section of Life Factors evaluates a student's level of preparation in tackling academic work, assessing the student's knowledge of how to work within an online classroom, his or her willingness to sacrifice time and energy, effective study skills, determination in task completion.

**Resources:** Similarly, in its evaluation of a student's resources, the College's results also indicate that 66% of the students who scored Medium-High to High in the Resources factor succeeded in their online classes, and only 5% of students who scored Low or Low-Medium in the Resources section were successful. The Resources section evaluates a student's access to financial resources, personal health, support in childcare issues, familial and employer support for academic goals.



**Place:** In SmarterMeasure, Place assesses a student's access to a regular space appropriately conducive to academic work. Among those who scored Medium-High to High, 72% were successful in their online courses.

**Time:** In assessing the amount of time that a student is able to devote towards his or her academic work, SmarterMeasure evaluates that student's commitment of their resource of time to employment, family responsibilities, personal care, and academic work. **Of those who scored Medium-High to High by demonstrating that they had an adequate resource of time, 62% were academically successful; only 10% of those who scored Low-Medium to Low were similarly successful.**

The QEP Team will continue to evaluate the data gleaned from SmarterMeasure and share results with the academic community.

*Adapted with permission from Dr. Ghazala Hashmi from <http://thereynoldsripple.blogspot.com/2011/03/some-preliminary-results-of-colleges.html>*

## ARGOSY UNIVERSITY

*Chicago, Illinois*

Argosy University enhances the student experience by integrating SmarterMeasure into its Freshman Experience course. As an activity in the course, students are assigned to reflect on their SmarterMeasure scores and articulate areas for improvement as a part of the Personal Development Plan that students develop. Also during the course, students are arranged in groups with other students with similar traits, as identified by SmarterMeasure, to reflect upon their readiness for online education.



Argosy University identified a four-part research project to Compare, Explore, Trend and Apply findings from an analysis of SmarterMeasure data.

**COMPARE** - Argosy University provides SmarterMeasure to students in its online as well as hybrid courses. The University was operating on the general assumption that students' traits and competencies were parallel across students in these two delivery systems. **The University used SmarterMeasure data and compared the traits, attributes, and skills of the online and hybrid students. The analysis did find substantial differences between the two groups.** As a result of this finding, changes were made to the instructional design process for each of these distinct delivery systems.

**EXPLORE** – The University conducted a correlational analysis to measure the relationships between SmarterMeasure scores and measures of student satisfaction, retention, and academic success. **Their findings did reveal a positive significance between each of these constructs. Statistically significant relationships were identified**

between the SmarterMeasure constructs of Technical Competency, Motivation, Availability of Time, and Retention.

**TREND** – The University conducted an aggregate analysis of SmarterMeasure data to identify mean scores for incoming students to gauge changes in the student body. In addition to the mean scores for their student population per term, a comparison was also made to the national mean scores that are published each year in the Student Readiness Report which provides aggregate data for around 300 higher education institutions.

**APPLY** – These analyses were not conducted then placed on a shelf. The findings were shared with the instructional design and student services groups and improvements in processes were made. For example, since technical competency scores increase as the students take more online courses, the instructional designers purposefully allowed only basic forms of technology to be infused into the first courses that students take.

## TARRANT COUNTY COLLEGE

*Fort Worth, TX*

Dr. Ryan McLawhon conducted research for his dissertation at the University of North Texas in 2009 using data from Tarrant County College. The title of the study is “Readiness Scores as Indicators of Online Faculty Satisfaction.” His research was about using SmarterMeasure as an indicator of online faculty satisfaction.



The purpose of this study was to determine the relationships between online readiness scores and online faculty job satisfaction. Online readiness was assessed using the SmarterMeasure assessment. The SmarterMeasure assessment tool incorporated the independent variables of learning preference, technical competency, technical knowledge, personal attributes, on-screen reading speed and comprehension, and typing speed and accuracy. Online faculty job satisfaction was assessed using the National Study of Postsecondary Faculty (NSOPF) job satisfaction questions. Analysis of variance was used to determine whether there was a difference in satisfaction based on individual instructor learning preferences. Correlation coefficients were used to analyze the relationships between the remaining independent variables and online instructor satisfaction. The sample population (N=110) consisted of online faculty members at Tarrant County College.

Most of the statistical analyses revealed non-significant results at the .05 alpha level. However, a significant difference in satisfaction with equipment and facilities was found based on instructor learning preference. Additionally, a statistically significant negative correlation was found between online instructor technical competency and satisfaction with benefits.

# NORTH CENTRAL MICHIGAN COLLEGE

*Petoskey, MI*

Leaders at North Central Michigan College recognize the value of multiple different assessments of students in the admissions process. In addition to using SmarterMeasure to measure levels of online student readiness, they also use the COMPASS exam (provided by ACT) to measure incoming student's skills in reading, writing and math. To determine the degree of relationship between measures of online learner readiness and measures of academic readiness they computed correlations between the scores for the two exams. Statistically significant correlations were found between four of the six SmarterMeasure scales and sections of the Compass exam.

SMARTERMEASURE	COMPASS			
	Math	English	Reading	E-Write
Learning Styles		X	X	X
Reading	X	X	X	X
Individual Attributes			X	
Life Factors			X	X

*X = Statistically Significant Correlation ( $p < 0.05$ )*