

Student Self-Tracking for Success in the Classroom

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Abstract

The success of students in the classroom translates to retention and completion. Early warning strategies with proper intervention would appear an intuitive method of increasing the likelihood of student success. We describe a method, Student Self-Tracking, to improve success in the classroom. Students in different Fall 2016 Biology gateway courses were given an assessment form to complete the first week of class which included a description of expectations, concerns, outside commitments, motivations for doing well and a checklist of 23 different study strategies they plan to use during the semester. After each exam they repeated the check list and explained why they did or did not do well on the exam and their plan of action in the future. The percentage of students who received $\geq 70\%$ increased on successive exams. The most telling categories between those who did and did not received a grade higher or equal to 70% was preparation each day, amount of time studying, note taking, completing assignments, using the tutor center, reading textbook, studying in groups and studying free of distraction. 78% of the students felt the process helped them with study habits and guided them in planning future strategies. Early intervention (counseling and guidance) through the use of this instrument was proven to be effective.

Introduction

Retention and completion are the rally words of today's colleges. This is especially true of community colleges. Community college students face unique challenges including many being first generation college students, having low income, needing to work, having families, lacking a family support system and having poor study habits (Hanover Research, 2014). The task for community colleges is to provide students the opportunity to achieve their dreams despite their many challenges.

Retention and completion methods do not necessitate lowering standards but raising students up to appropriate levels. Some colleges are using early alert systems to keep track of student progress and provide timely intervention if necessary. Multiple indices have been used by these systems to follow students including attendance, grades, poor performance on assignments, participation in class, difficulty in math or reading, college adjustment, financial or health concerns, etc. Students in high risk categories can be followed closely including first year students, student athletes, provisional admission students, remedial students, international students and students taking gateway courses. The goal of intervention is to keep students on the correct upward pathway. However, results from studies assessing alert systems are equivocal and these systems may not be a panacea (Hanover Research, 2014, D.Tampke, 2013). We proposed a different twist to this system, a Student-Self-Tracking process with early instructor intervention with appropriate advisement to mitigate the problem(s).

Purpose

The purpose of our study was to get students involved in their own success through a self-tracking process. We want students to be self-aware and responsible in their studying and learning. We want them to assess themselves, the course, and communicate with the professor to develop plans. Student self-tracking started the first week of the semester with each student describing their expectations of the course, motivations to be successful, commitments outside of class that might affect their ability to do their best in class, and perceptions of successful studying/learning strategies. Also after each exam students assessed why they did or did not do well and their plans to improve. This prompted timely faculty and student discussion to develop a plan of action. Instead of just having an alert process that is instructor driven, we included the student. The hope was to develop a communication between student and instructor with a mutual goal of developing strategies for success.

Method

Six Biology faculty investigators were involved in this study. The study was conducted during the Fall of 2016 semester. Nine different Biology classes with a total of 225 students participated in this study. Monroe Community College's (MCC) Institutional Review Board (IRB) approved this study under the category of minimal risk.

During the first two weeks of the semester, students were given a Self-Assessment Form. This form included the following:

Question	Purpose of question
Why are you taking this course?	Purpose and motivation for taking course
What are your expectations concerning this course?	Describe expectations
Do you have any concerns?	Illicit general concerns or concerns about learning/ studying deficits
What are your motivations to do well in this course?	Describe motivating reasons for doing well in the course
Do you feel there may be outside commitments such as family, work, significant other (boy or girl friend) that may take time or energy and affect your ability to do your best in this course?	List the commitments, challenges students are facing as they take the course.
What are your expectations concerning the instructor of this course?	What do they want from the instructor

What is your study plan for this course?

Check list of study habits. (Please check from the list below)

- | <u>Yes</u> | <u>No</u> |
|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> Attend class/ lab |
| <input type="checkbox"/> | <input type="checkbox"/> Bring your textbook (lecture); lab manual (lab) |
| <input type="checkbox"/> | <input type="checkbox"/> Pay attention in class |
| <input type="checkbox"/> | <input type="checkbox"/> Take careful notes |
| <input type="checkbox"/> | <input type="checkbox"/> Be organized (Bring writing material, i.e., a three ring binder or notebook) |
| <input type="checkbox"/> | <input type="checkbox"/> Read information before class/lab |
| <input type="checkbox"/> | <input type="checkbox"/> Complete all assignments on time |
| <input type="checkbox"/> | <input type="checkbox"/> Tape record lecture (with permission of your instructor) |
| <input type="checkbox"/> | <input type="checkbox"/> Be an active learner, asked questions, be engaged |
| <input type="checkbox"/> | <input type="checkbox"/> Form a study group |
| <input type="checkbox"/> | <input type="checkbox"/> Schedule time outside of lab period to come into lab and study models or materials |
| <input type="checkbox"/> | <input type="checkbox"/> Take advantage of the Science Education Tutor Center, Instructor office hours, or seek help from tutors |
| <input type="checkbox"/> | <input type="checkbox"/> Spend 2-3 hours studying and preparing each day |
| <input type="checkbox"/> | <input type="checkbox"/> While studying do you "Force Recall" after learning an item of information, force yourself to recall it and check to see if you got it right |
| <input type="checkbox"/> | <input type="checkbox"/> Don't cram for an exam |
| <input type="checkbox"/> | <input type="checkbox"/> Study in an area free from distractions (TV, phone) |
| <input type="checkbox"/> | <input type="checkbox"/> Set a schedule and stay with it |
| <input type="checkbox"/> | <input type="checkbox"/> Read textbook and lab manual |
| <input type="checkbox"/> | <input type="checkbox"/> Recopy notes, organize notes, summarize, repeat or re-phase orally, re-read text for understanding. |
| <input type="checkbox"/> | <input type="checkbox"/> Use Publisher website (such as Connect); do practice problems and activities |
| <input type="checkbox"/> | <input type="checkbox"/> Use DVDs, videos |
| <input type="checkbox"/> | <input type="checkbox"/> Write index cards |

Recommendations: Anxiety is worse when you do not feel confident or have not prepared well. So study and be prepared. Allow yourself to feel confident if you have studied and done your best. Also, get adequate sleep (8 hrs) and nutrition.

Instructors conveyed to students as they completed this form to be honest, straight-forward and transparent. We told them the form was being used as a learning instrument to improve student success, that all answers to questions were to be held in strict confidentiality and would not be held against them.

After each exam, students completed a form with the following questions.

1. Why did you do well on this exam?
2. Why did you not do as well as you would have liked on the exam? What are your plans to do better?

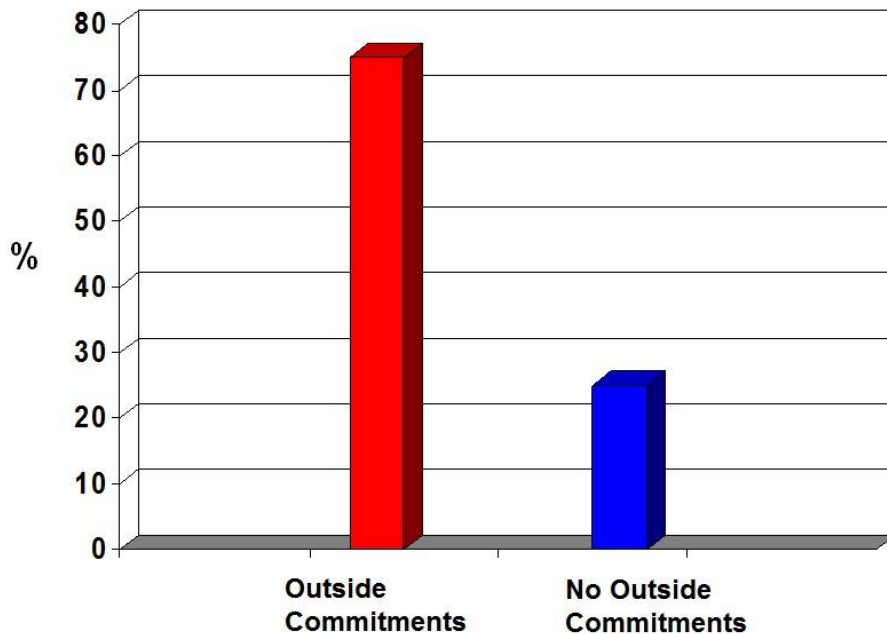
Then we repeated the initial checklist of study habits presented to them the first week (see above). This prompted early faculty and student discussion to develop a plan of action. Action plans included one or a combination of the following: assessment of study strategies, commitments outside of the classroom, time management, use of a tutor, working in study groups, and referral to appropriate college resources.

At the end of the semester students evaluated the process by answering two questions: Do you feel the self-assessment process was effective and helpful? Did it help you assess study habits and guide you in planning future strategies? Students received 10 pts for each assessment they completed.

We evaluated the process by assessing student grades and student assessment of the method. Efficacy of each study strategy was determined by assessing the number of students who used a certain study method and received a grade of $\geq 70\%$ on an exam. The cutoff value of $\geq 70\%$ was used because a C is the minimum prerequisite value a student needs to receive in a gateway course.

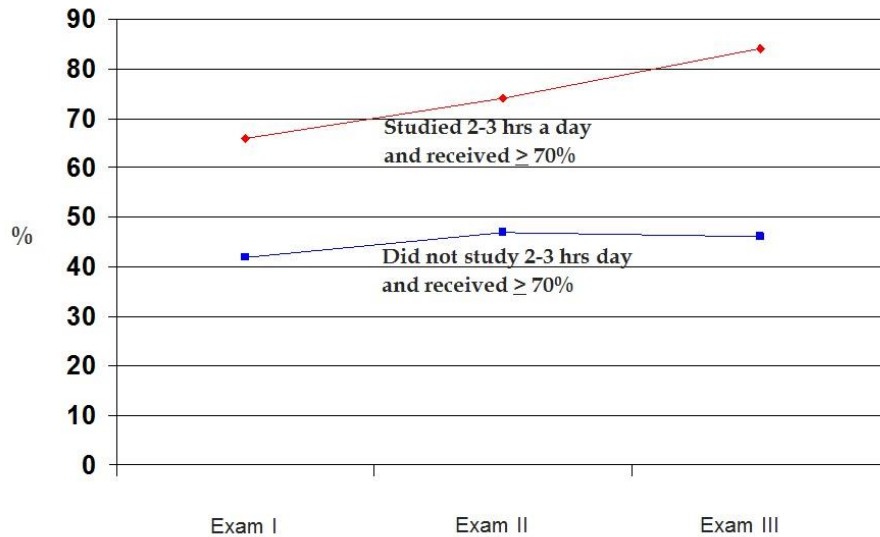
Results:

Graph 1 Comparison of the percent of students with outside commitments with those without outside commitments.



Seventy five percent of students in this study had outside commitments including work and/or had children (Graph 1).

Graph 2 A comparison of the percent of students who studied and prepared 2-3 hours each day and received a grade $\geq 70\%$ with the percent of students who did not study 2-3 hours each day and received a grade $\geq 70\%$.



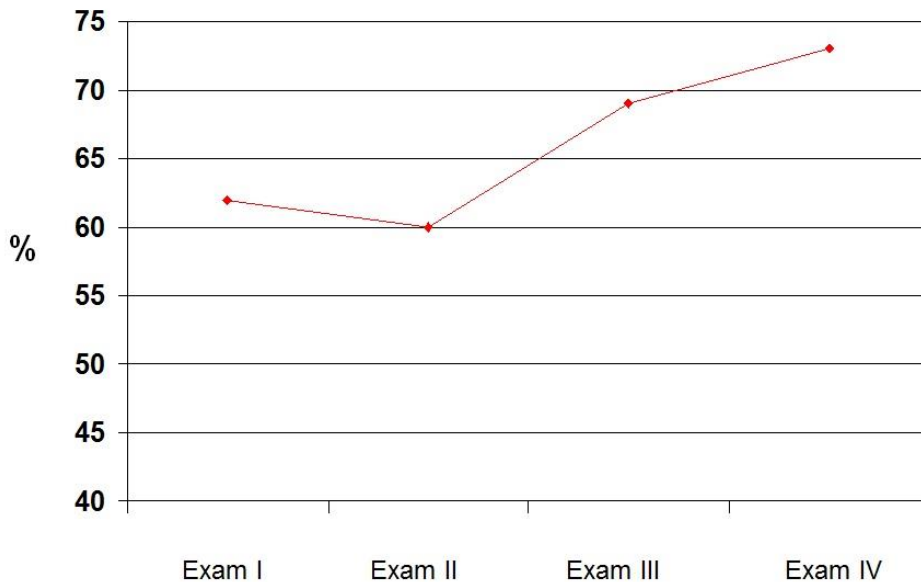
A greater percent of students who studied and prepared 2-3 hours a day received grades $\geq 70\%$ on the first three exams (66%, 74%, and 84% respectively) vs those who did not (42%, 47%, and 46% respectively) (Graph 2).

The first week of the semester 88% of students stated they would study and prepare 2-3 hours a day. There was a steady increase in the percentage of students who studied and prepared 2-3 hours a day from exam I to exam III (57%, 58% and 75% respectively).

Although the most prominent differences in study habits between students who received $\geq 70\%$ was preparation and time spent studying, other important influences included:

- setting and sticking to a schedule
- recopying notes
- completing assignments
- reading textbook
- studying in groups
- using the tutor center
- studying free of distraction

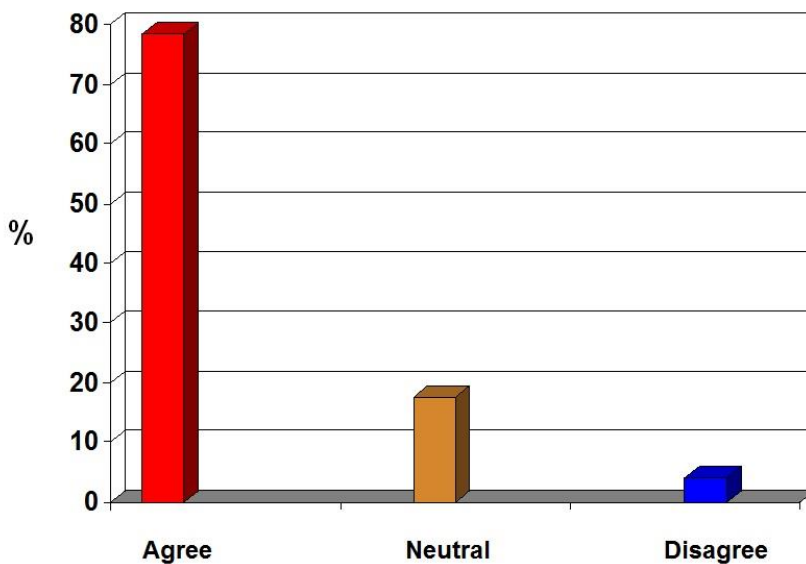
Graph 3 Comparison of the percent of students who received $\geq 70\%$ on four exams.



There was a progressive increase in scores 70% or above from the first to the fourth exam (Graph 3).

Students in previous semester classes, not using the Student-Self Tracking process, did not show the same upward progression in grades. Also there were fewer withdraws in classes using the Student-Self Tracking process.

Graph 4 Students felt the self-assessment process was effective and helpful. It helped them assess study habits and guided them in planning future strategies.



Students felt the self-assessment process was effective. It helped them assess study habits and guided them in planning future strategies (Graph 4).

Conclusion and Discussion:

Students in this study were taking gateway Biology courses such as Anatomy and Physiology or General Biology for professional careers. They are considered at-risk students. In addition, 75% of students in this study had outside commitments including work and/or marriage with/without children. The students were extending themselves to pursue a college degree to improve their opportunities. Although these are typically motivated students, many needed guidance as they navigated these rigorous courses.

Students who employed appropriate study habits did better than those who did not. Habits that appeared to impact the most included preparation and time spent studying each day, setting and sticking to a schedule, recopying notes, completing assignments, reading the textbook, studying in groups, using the tutor center, and studying free of distraction.

After each exam students explained why they did well and/or why they didn't and the methods they were going to use to continue doing well or improve. If students were finding it difficult to meet expectations, they met with instructors to discuss and implement plans. The strategies used by students were based on their needs including time management, use of tutors, entering study groups, applying different study strategies or seeking counseling. At the beginning of the courses, a high percent of students projected they would use most or all study and learning strategies on the list to succeed in the course. Not all students initially followed their intentions. However, there was a steady increase in the number of students using purposeful strategies through the semester. Advisement with implementation of appropriate strategies helped guide students to higher grades which was one purpose of this project, especially lifting students on the fringe.

As part of the process, students were given 10 points for completing each of the four assessment forms during the semester. Student grades were determined out of a possible 1,000 points, so the points they received for completing a form was a small incentive for their work. Students were honest and forthright in this process and that is the reason it worked. They took their studies and commitment to do well seriously and felt it was to their benefit to adhere to the method and take advantage of faculty advisement, strategies and resources.

Seventy eight percent of the students felt the method was helpful and effective. It required them to reflect on their approach to the course. It gave them direction and made them responsible for study habits and success. A smaller percent of students selected neutral on their assessment of the process. Many of those stated they already had the discipline and good study habits to succeed. All students felt the process promotes a close cooperative working relationship with the professor.

We used Microsoft Excel to store and analyze our data. Inputting data to keep track of students did take time. Our plan in the future is to place the forms in Blackboard to help automate the process. The maximum number of students in Biology classes at our college is 24. At this number, the process is manageable. The use of this method in larger classes may pose a challenge however having a platform like Blackboard to automate it may be helpful. Our study looked at one segment of at-risk students (those taking gateway courses). We plan on expanding this to other courses and at-risk students. We will keep track of the future effectiveness of this method by tracking retention and completion.

Success in a course is the ultimate goal of students and their teachers. This study described a face-to-face personalized method that involves students and instructors working together for success. This is a process where decisions are driven by data and that has been proven to be a successful approach (Achieving the Dream: Community Colleges Count, 2009). It is also a student-centered method that keeps them actively involved in their learning and development (G. Kuh, 2005). The process is simple and our results show it to be effective. Students appreciated this approach and were grateful for the sincere concern instructors had for them.

References:

Hanover Research. (2014) Early Alert Systems in Higher Education” Washington, DC.

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Kuh, G, Kinzie, J, Schuh, J, and Whitt, E. (2005) Student Success in College: Creating conditions that matter. San Francisco: Jossey-Bass.

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