

Combating Poor Passing Rates in Developmental Mathematics through the Synergy of ASAP and the Effective Implementation of WebAssign

A Student Tailored Pedagogical
Approach

Nadine Browne

Dale Dawes

National Issue

In recent years there has been an emergence of both federal and state focus on institutions' ability to increase graduation rates. In response institutions have turned their attention on searching for effective ways to increase student persistence toward graduation.

Among the emerging trends;

- ❖ Improving support services,
- ❖ Developing learning communities,
- ❖ Implementing early intervention processes
- ❖ Revamping curriculum
- ❖ Using innovations in pedagogy.

A Call to Action

A call to action places an increased challenge for community colleges where a large percentage of its student population place into Developmental course work.

According to Hoyt and Sorensen (2001), institutions report that **30–90% of all incoming freshmen need mathematical remediation.**

According to McGowen (2006), as of the fall 2000 semester 12% of the mathematics classes at four–year colleges and 57% at two–year colleges were remedial courses. **Enrollment in developmental mathematics courses has increased by 73% since 1980** (Brewer, 2009).

The National pass rates for developmental mathematics courses are abysmal. **The DWF rate is between 40–50% and in some populations has been reported as high as 90%** (Benford & Gess–Newsome, 2006; Herriott, 2006).

Why is this pertinent and of great concern for College administration, presidents and institutions nationally

Developmental courses are the gatekeepers to higher education, and repeated failure of these courses (e.g. elementary algebra) can often result in stagnant students who give-up on their education or burn through their financial aid without academic advancement

Possible Solution

The effective implementation of online educational technology **in tandem with the support of a comprehensive structured program, designed to improve retention and graduation rates and build student academic momentum to progress quickly through developmental coursework.**

The result was a **90.5% pass rate in Developmental Mathematics when online educational technology is effectively implemented and students are provided the key support services.**

Institutional Profile

The City University of New York (CUNY) enrolls **96,500 students in its community colleges**; approximately 37.8% of those students are Hispanic.

The Borough of Manhattan Community College (BMCC) enrolls approximately 24,500 students; approximately 36.7% of those students are Hispanic.

As an institution where Hispanics make up more than a third of its population there are thousands of Hispanic students enrolled in developmental courses in CUNY.

The Need

- ▶ Merseth (2011) noted that 60 % of students taking a mathematics placement exam need at least one remedial course. The developmental mathematics path may have 3–5 courses. With more than 1100 institutions, community colleges account for over 44 % of higher education students (Merseth, 2011, p. 2).

Scalable Technology Solutions

Online educational technology—with the potential to reach students throughout the country—is a growing trend among college administrators.

Currently the implementation of online homework and testing management systems (OHTMS)—commercial products (e.g. [WebAssign](#), MapleTA, MyMathLab), freely available systems (e.g. WeBWork, DRILL) and adaptive learning systems (e.g. ALEKS, HAWKES, Virginia Tech's Mathematics Emporium)—are part of the strategy of addressing this crisis.

Online Homework and Testing Management System

- OHTMS require students to login in to a website to access their assignments and enter their answers.
- Systems typically have different question types (e.g. numerical, multiple choice, fill in the blank, multiple select) and accept numerical answers as well as algebraic expressions.
- **Algorithmically generated questions** can individualize assignments by giving each student different numbers.
- Students have **access to feedback** (i.e. answer key, solution key) and **learning tools** (e.g. electronic textbook, video lectures, step by step tutorials)

Current Score : - / 34

Due : Friday, October 17, 2014 22:00 EDT

[Ask Your Teacher](#)[Print Assignment](#)

Question	1	2	3	4	5	6	7	8	9	10	11	Total
Points	-1/2	-1/1	-1/4	-1/6	-1/2	-1/3	-1/4	-1/5	-1/2	-1/4	-1/1	-1/34 (0.0%)

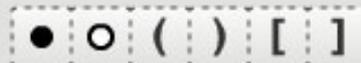
5. + -2 points[My Notes](#) | LarColAlg9 2.1.XP.501.

Solve the inequality and graph the solution on the real number line.

$$x^2 \leq 64$$

- $[8, \infty)$
- $(-\infty, 8]$
- $(-8, 8)$
- $[-8, 8]$
- $(-\infty, -8] \cup [8, \infty)$

Use the tools to enter your answer.

NO
SOL

Question Part	1	2	3	4	5	6	7	Total
Points	0/1 ✗	0.2/1 ✓✗	1/1 ✓	0.2/1 ✓✗	1/1 ✓	1/1 ✓	-1/1	3.4/7
Submissions Used	2/2	2/2	1/2	2/2	1/2	1/2	0/2	

What is the formula for calculating density?

- $\rho = m \times V$
 $\rho = \frac{V}{m}$
 $\rho = m^V$
 $\rho = \frac{m}{V}$
✗

For both of the samples at your lab station, measure the volume and mass. Then, calculate the density. Specify units for all values.

Sample	Mass	Volume	Density
A	2 53 kg ✗ Check your measurements.	3 40 ml ✓	4 1.33 kg/ml ⚠
B	5 206 g ✓	6 3.2 ml ✓	7

AMS Homework Software Survey (supported by NSF) spring 2009

- ▶ Online survey of 1230 U.S. mathematics and statistics departments to
 - i) assess the experiences of departments using homework software; and
 - ii) understand the concerns of departments that were considering such software.
- ▶ 467 of 1230 responded
- ▶ 260 departments had used such software
- ▶ **98 departments identified themselves as 'disinterested'**

Highlighted Key Findings

- Current users were more positive about the benefits of homework software than prospective users and much less concerned about drawbacks than prospective users: **the primary benefit being better student learning; the primary drawback being students not showing their work.**

Show My Work

$$2x^2 - x - 1 = 0$$

$$b^2 - 4ac = (-1)^2 - 4(2)(-1) = 1 + 8 = 9 > 0$$

👍 -2 points  Notes

To solve the equation $2 = 14b$, each side of the equation by 14. 1

Show My Work (Required)

Demonstrate the steps you went through to find the answer.

$\frac{\square}{\square}$ \square^\square \square_\square \square^\square_\square $\sqrt{\square}$ $\sqrt[\square]{\square}$ ∞ π \square° $|\square|$ (\square)

Edit Text

logsincos

\emptyset \leq \hbar

\pm \sum \square \cup

$\frac{\square}{\square}$ ∇ \int_\square^\square

$\langle \square \rangle$ $\vec{\square}$ $\hat{\square}$

θ λ ϕ

Functions ▾Symbols ▾Operators ▾Calculus ▾

Vectors ▾Greek ▾

NotationOperators

$\langle \square \rangle$ $\vec{\square}$ $\hat{\square}$

\times \bullet

Step One: Create a fraction with a over b:

Submit Answer

Save Answer

Highlighted Key Findings

- **Initial faculty resistance to using homework software occurred in most departments. Students and non-tenure-track faculty were more receptive to the software than tenured/tenure-track faculty.**

What AMS' Survey did not do.

- ▶ “This survey did not solicit information about studies measuring the effectiveness of homework software. For example, questions about the benefits and drawbacks of homework software are answered solely in terms of faculty’s beliefs (for prospective users
- ▶ **This survey did not consider the student experiences**

(The full report of the Task Force appeared in the AMS *Notices* 56, pp. 754–60

Inconsistent results “web-based versus paper-based homework”

- Several authors—Lenz (2010), Bonham (2003), Hauk (2005) and Deminci— concur with the generalization that there is **no statistically significant difference**
- LaRose (2010) found “that students working on homework on-line appear to **do no worse in the course than those with pencil-and-paper homework, and may do better**
- Moosavi (2009) said, “regardless of whether achievement is measured ... the results presented here indicate that **students perform better in traditional classes** than in CAI (computer aided instruction) classes regardless of the CAI curriculum used”.

These studies lacked Detailed OHTMS
Implementation Strategy

Dawes OHTMS–Altering Pedagogy Technique

- The instructor uses his interpretation of the real-time analytics of an online homework and testing management systems (OHTMS) to serve as indicators for altering his teaching approach (e.g. lecture, class discussion, group work, 1:1 tutoring); the approach is tailored to the needs of each class and each student.
- Instructor uses an OHTMS as a tool to create an atmosphere where students are constantly engaged, study groups form naturally and students are able to receive one-on-one assistance as necessary.
- The transparency of an OHTMS allows the instructor transform a classroom into an innovative teaching environment where he/she can reach the previously unreachable students.

This implementation strategy is called the Dawes OHTMS -Altering Pedagogy Technique.



WebAssign

An online homework and
testing management system

- Developed by
 - Aaron Titus (North Carolina State University)
 - Larry Martin (North Park University)
- Availability
 - Commercially available since January 1998

Test Drive

(14 Day Grace Period)

- Streamlines the grading process
 - Register on the 1st Day of Class
 - Electronic textbook available immediately
 - Cost
 - Students see the value immediately
 - Learning Tools
 - Instant Feedback

Description

Chapter 7 Rational Expressions

Assignment Submission

For this assignment, you submit answers by questions.

Assignment Scoring

Your last submission is used for your score.

Assignment Details

You must achieve 70% or higher on this assignment to access **Chp 8-9 Lesson 1 Summer**.

1. + 1/2 points | [Previous Answers](#) 6/10 Submissions Used

[My Notes](#) | McKEAlg8 7.1.005

Reduce the following rational expression to lowest terms, if possible.

$$\frac{c + 10}{c^2 - 100}$$

$$\frac{1}{c - 10}$$



Specify the restrictions on the variable. (Select all that apply.)

- $c \neq 0$
- $c \neq -100$
- $c \neq 10$
- $c \neq -10$
- $c \neq 100$



Need Help?

Read It

Watch It

Practice It

Master It

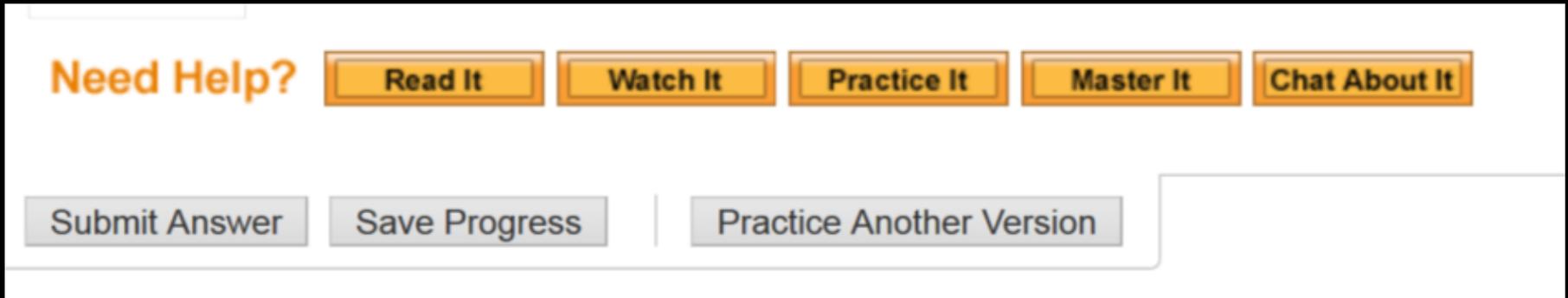
Chat About It

Submit Answer

Save Progress

Practice Another Version

Help Options (Learning Tools)



U.S. Department of Education
Assistant Deputy Secretary for Innovation and Improvement
James H. Shelton III

“How many times has the fear of being embarrassed prevented a student from asking the teacher to explain a concept for the second, let alone the third or fourth time? These issues are real. They impact learning”(Shelton, 2013, p. 4).

Student Thoughts on Learning Tools

- ▶ “EXTREMELY!!! At times you have only part of a problem incorrect and the alternative versions help you to see the process from the correct perspective.
- ▶ “yes, if i cannot go to class or i forgot what professor taught, i would use those tools to learn or remind myself”

REALLY
 ANOTHER TRULY
 PROCESS WAY
 EXAMPLES VERSIONS PROFESSOR
 HELPER TOOLS
 CONSIDERING
 HELPER TOOLS
 PROBLEMS EFFECTIVE OFFERED TOOL GO
 BIT ACTUALLY UNDERSTANDS
 ALTERNATIVE CONFUSING REMINDS VERSION HELP MUCH
 UNDERSTANDING PERSPECTIVE ALLOWED CLASS
 INCORRECT CORRECT LEARNER WATCH KEEP
 USES AFTERWARDS WATCH LEARNING VIEWING USUALLY GREAT
 NEEDS ALWAYS SHOWS WORKS QUESTION EXTREMELY VISUAL HELLO
 HELPFUL SKILLS MATH TIME TIMES FORGOT TRY
 PROBLEM ANSWER MANY
 PRACTICE BEST
 STEP GOT WAYS
 TAUGHT MUCH
 ASSOCIATED MASTER USE WHATEVER IMPROVES
 BENEFICIAL EXTREMELY SUBJECT GOING TRYING READ
 YES YES YES

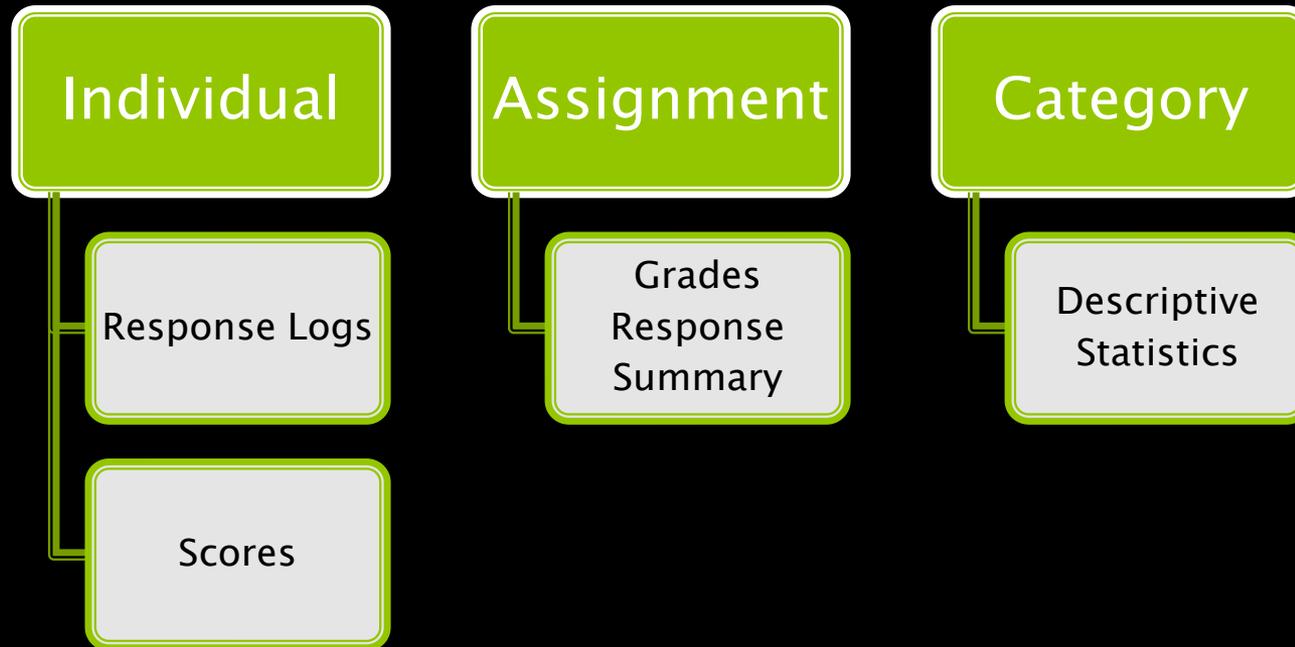
Implementation

Homework

- Learning Tools
- Improved communication between instructor & students
 - Extensions (Automatic & Manual)
- Review HW for the 1st 15 -20 minutes
 - Same type of problems with similar levels of difficulty
 - Encourage communication with peers
 - Address problematic questions on an individual & group level

Transparency

Instructor can analyze student performance on multiple levels



Scores

Chp 1 In Class 1 (1162255) -- [View](#) | [Edit](#) | [Schedule](#)

[Show Analysis](#)

[Grade Essays/Files](#) | [Grant Extensions/Submissions](#) | [Rescore](#) | [Downloads](#) | [Summary](#) | [Email Selected](#)

Question #	1	2	3	4	
Total	714901	714883	714781	714791	
Points	9	1	1	1	
Name	Total	714901	714883	714781	714791

[Current Students](#) | [Dropped](#) | [All](#)

[Current Students \(22\)](#)

<input type="checkbox"/>		ND				
<input type="checkbox"/>		NS				
<input type="checkbox"/>		3 *	1	0	0	0
<input type="checkbox"/>		4 *	0	0	0	1
<input type="checkbox"/>		5	0	0	0	1
<input type="checkbox"/>		6	1	0	0	1
<input type="checkbox"/>		7	1	0	0	1
<input type="checkbox"/>		8	1	1	1	1
<input type="checkbox"/>		8	1	1	1	1
<input type="checkbox"/>		8	1	1	0	1
<input type="checkbox"/>		9	1	1	1	1
<input type="checkbox"/>		9	1	1	1	1

Grades Response Summary

3.

Solve the following equation by applying the squaring property of equality. Be sure to check all solutions.
(Enter solutions from smallest to largest. If there are any unused answer boxes, enter NONE in the unused boxes.)

$$\sqrt{3x + 4} - 3 = 1$$

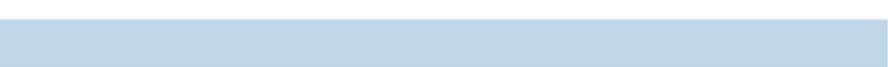
x =  4

✓ 76.9%  10

✗ 23.1%  3

Number responding: 13

x =  NONE

none:  8
72.7%

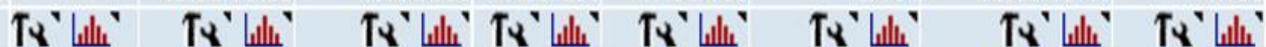
NONE:  3
27.3%

Number responding: 11

Update Settings Wizard

Averages Last Updated: Dec 30, 2009 06:26 PM EST

Assignment Category [# in Category / M = Manual]	Grade	Final	Homework [8]	Test [1]	In Class [6]	Compass [M]	Final Exam [M]	Midterm [M]
Weight Toward Final Grade [# dropped]		100	15 [2]	5	25	15	25	15
Class Average (mean) less...		83.30	85.33	74.32	84.04	90.48	82.07	77.91
median		87.75	92	86.96	94.44	100	81	77.80
standard deviation		11.76	17.85	28.93	18.91	29.35	7.39	14.46
min/max		47.90/96.58	43.64/100	7.69/100	41.30/100	0/100	70.50/95.40	47/98



Name	Grade	Final	Homework	Test	In Class	Compass	Final Exam	Midterm
------	-------	-------	----------	------	----------	---------	------------	---------

Dropped | Current Students | All

Current Students (21)

<input type="checkbox"/>	A	96.58	100	100	100	100	89	95.50
<input type="checkbox"/>	A	93.78	100	100	100	100	80.80	90.50
<input type="checkbox"/>	A	93.62	86.60	100	97.22	100	86.50	98
<input type="checkbox"/>	A	93.25	97.56	93.48	90.94	100	95.40	82.40
<input type="checkbox"/>	A	92.65	97.75	95.65	83.33	100	93.50	93.30
<input type="checkbox"/>	A	92.02	91.89	100	100	100	86.50	77.40
<input type="checkbox"/>	A-	91.57	94.59	65.22	90.35	100	91	91.90
<input type="checkbox"/>	A-	91.23	100	66.74	100	100	80.40	85.30
<input type="checkbox"/>	A-	90.41	97.98	100	95.24	100	82	76
<input type="checkbox"/>	B+	88.23	91.36	7.69	95.45	100	86.50	91
<input type="checkbox"/>	B+	87.75	89.19	56.52	96.89	100	85.50	73
<input type="checkbox"/>	B	86.94	100	91.30	96.97	100	79	55.90
<input type="checkbox"/>	B	85.28	92	86.96	99.24	100	77.50	53
<input type="checkbox"/>	B-	80.56	87.25	100	57.58	100	90	70.50
<input type="checkbox"/>	C+	79.90	57.89	67.39	83.70	100	81	77.80
<input type="checkbox"/>	C	75.10	93.64	69.57	48.19	100	75	78.50

Implementation

Transforming the Classroom

- Reaches the previously unreachable
 - WebAssign transparency allows instructors to see which students are progressing or struggling in real time.
- One-on-one attention if necessary
- Students are constantly engaged
 - Sense of accomplishment

Implementation

Lecture & Class Work

- Introduce new topic
 - Explain 1-2 examples of each type of question to the class.
- Integrate WebAssign into the Lecture
 - Provide students with 3-6 examples in the form of an **in class assignment** due by the end of the class.
 - Adequately prepares students for HW

Consistently Engaged

- Everyone does the class work
- Advanced students move at their own pace
 - Start future assignments
 - Read the text before the lecture
 - Increase quality of class participation
 - Tutor their peers

Prerequisites & Benchmarks

Special Conditions

Group Assignment

Conditional Release beta

Student must achieve % on to access this assignment.

[Waive for selected students.](#)

Drop conditional release restriction after  EDT

MAT 051 Fall 2012 Dawes, section 121, Fall 2012

Cumulative Practice Final Exam 2

Automatic [Manual](#)

You have the option to receive an automatic extension.

Settings

Maximum Requests: 1 more extension

Penalty: 10% off all questions correctly answered after extension request. Any points already earned will be maintained.

Time

Additional Time Allowed: 7 days after you click accept

Answered Requests

Automatic extension granted: Saturday, September 14, 2013 10:42 AM EDT

New Due Date: Thursday, September 19, 2013 12:00 PM EDT

Grades

Overall Grade	
B [*]	84.44 [*]

Category Grades	
Homework (12)	98.15 [*]
Quiz (3)	98.61 [*]
In Class (14)	90.36 [*]
Attendance (26)	76.92 [*]
CUNY Final Exam (1)	72.00 [*]
Final Exam (1)	71.50 [*]
Midterm (2)	79.50 [*]
Midterm Practice (4)	78.37 [*]
Practice Final Exam (3)	72.00 [*]

Grades were last updated on Jan 16, 2014
 Next automatic gradebook update on Jan 16, 2014

GradeBook

MAT 051 Fall 2012 Dawes, section 121

Average for Student 15

Student 15 ▼

Category	Weight	Factor	Score	Weighted%
Homework	25.00	25.00 / 102.00 = 0.24	98.15	0.24 x 98.15 = 24.05
Quiz	1.00	1.00 / 102.00 = 0.00	98.61	0.00 x 98.61 = 0.96
In Class	25.00	25.00 / 102.00 = 0.24	90.36	0.24 x 90.36 = 22.14
Attendance	5.00	5.00 / 102.00 = 0.04	76.92	0.04 x 76.92 = 3.77
CUNY Final Exam	1.00	1.00 / 102.00 = 0.00	72.00	0.00 x 72.00 = 0.70
Diagnostic	0	0 / 102.00 = 0	0	0 x 0 = 0
Final Exam	28.00	28.00 / 102.00 = 0.27	71.50	0.27 x 71.50 = 19.62
Intervention	0	0 / 102.00 = 0	0	0 x 0 = 0
Midterm	15.00	15.00 / 102.00 = 0.14	79.50	0.14 x 79.50 = 11.69
Midterm Practice	1.00	1.00 / 102.00 = 0.00	78.37	0.00 x 78.37 = 0.76
Practice Final Exam	1.00	1.00 / 102.00 = 0.00	72.00	0.00 x 72.00 = 0.70
Average				84.44

Items marked with this type of border are visible to faculty only.

Selected Quotes

- ▶ “yes. the ones that i found useful to me were the grades system and the extension system. **being able to check your grades at any time is extremely helpful and can sometimes be a good wake up call**”.
- ▶ “Great features. **Grades – keeps me motivated and aware of my current progress. Excellent. Extensions – relieves stress** Announcements – great way to get live info from prof. The others I used only occasionally. I loved how you can practice problems in the homework and how it reference the book. Amazing”



ViewYes

yes

useful

way

system

used

yes

extensions

helped

assignments

always

grades

homework

motivated

professor

work

never

get

Care

take

needed

focus

extremely

like

classmates

keep

stress

greatly

grades

enjoy

features

found

sometimes

easy

tips

Excellent

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COMMENTS

Please note that the instructor will not see the comments until after the grades are submitted.

Instructor's Name: Dale Daws Course Name: Math

Course Number: Section #: Semester/Year:

Based on the questions that you have just answered, please provide more details. Your feedback will help the instructor improve this course.

COMMENTS: learning the course over the computer
made it easier for me to keep track of my
assignments and my grades. The solution key
for the midterm made it easy for me to
understand ~~my~~ my struggles to work through it.

Continue on back

Results

Fall 2012 Passing Rates of Students Tested:

- ▶ CUNY: 52.5% (5,537/10,583)
- ▶ CUNY 2-Year Colleges: 52.1% (5447/10449)
- ▶ CUNY 4-Year Colleges: 67.1% (90/134)
- ▶ CUNY BMCC: 43.4% (1156/2662)
- ▶ **BMCC Dawes OHTMS (WebAssign)–Pedagogy Altering Technique: 69.7% (53/76)**

Dawes OHTMS–Altering Pedagogy Results

Fall 2012 Passing Rates of Students Tested:

- ▶ CUNY: 52.5% (5,537/10,583)
- ▶ CUNY BMCC: 43.4% (1156/2662)
- ▶ Dawes WebAssign–Altering Pedagogy Technique (BMCC): 69.7% (53/76)
- ▶ Traditional Sections: Dawes WebAssign–Altering Pedagogy Technique (BMCC): 60% (24/40)
- ▶ Hybrid Section: Dawes WebAssign–Altering Pedagogy Technique (BMCC): 71.4% (10/14)
- ▶ ASAP Section Dawes WebAssign–Altering Pedagogy Technique (BMCC): 90.5% (19/21)

Implications: Professional Development for Educators

U.S. Department of Education
Assistant Deputy Secretary for Innovation and Improvement
James H. Shelton III

Testified to
U.S. House of Representatives
Committee on Education and Workforce

Shelton (2013) wrote, “Longstanding skepticism of technology in education, combined with inadequate training and support, has also thwarted the widespread adoption and use of education technology” (Shelton, 2013, p. 9).

How do students feel about incorporating WebAssign into their Mathematics course ?

- ▶ “Easy to use with correct instruction. I have used this program across two educators– proper instruction is definitely necessary”.
- ▶ “very convenient and reliable. instant feedback and grades were extremely useful. i rather complete math problems with a paper and pen but the features that came with EWA such as feedback and checking your current grades far outweigh that.”

How do students feel about incorporating WebAssign into their Mathematics course ?

- ▶ “It was great and very helpful. I will look for classes in the future where it's being used”.
- ▶ “I liked the way webassign was, it was very modern. Not like the basic paper and pen work, webassign helped you actually go over the problem until you get it”.
- ▶ “Of course. webassign is like having the presence of your professor wherever/whenever logged in”

Effective Implementation Strategy

Chappell's (2011) Bill Gates interview:

So 10 years after starting the Bill and Melinda Gates Foundation—and deciding to put billions into improving education in America—he knows that access to technology is no longer the issue. How we use that technology in the classroom, and whom we hire to teach are. (p. 83)

Professional Development

Implications: Implementation Strategies & Policies

Technology in Teaching and Learning Mathematics

A Position of the [National Council of Teachers of Mathematics](#)

It is essential that teachers and students have regular access to technologies that support and advance mathematical sense making, reasoning, problem solving, and communication. Effective teachers optimize the potential of technology to develop students' understanding, stimulate their interest, and increase their proficiency in mathematics. [When teachers use technology strategically, they can provide greater access to mathematics for all students.](#)

COMMENTS

Please note that the instructor will not see the comments until after the grades are submitted.

Instructor's Name: David Dawes Course Name: MAT

Course Number: [REDACTED] Section #: [REDACTED] Semester/Year: Fall [REDACTED]

Based on the questions that you have just answered, please provide more details. Your feedback will help the instructor improve this course.

COMMENTS: Web Assign really made my life easier, and I
wish all professors would adopt the same method. You
explained the course materials very well and was
tremendous in helping me adjust to math level college.
You're a great professor 😊

Continue on back

Synergy of Dawes OHTMS–Altering Pedagogy Results and ASAP

The support of a comprehensive structural program, ASAP working in tandem with an innovative technique, Dawes OHTMS–Altering pedagogy technique, impressive results are achieved.

When ASAP is coupled with the Dawes OHTMS–Altering Pedagogy technique the class achieved a **90.5 %** passing rate as compared to the CUNY BMCC pass rate of **43.4%**.

ASAP

ASAP is a comprehensive structured program founded in 2007 with the support of the New York City Center for Economic Opportunity (CEO).

ASAP is designed to improve retention and graduation rates through a range of holistic financial and academic support services.

Goal: Achieve a 50% graduation within 3-years.

The program exist on six of the seven CUNY Community College campuses located throughout the city of New York.

Key Program Elements

- ▶ Financial support (e.g. tuition assistance, free use of textbooks and monthly mass transit passes)
- ▶ First-year Student Development Classes
- ▶ Block Courses
- ▶ Faculty Engagement
- ▶ Full-time Enrollment
- ▶ Career & Employment Services
- ▶ Academic Advisement
- ▶ Tutoring Services

The key elements aim to remove barriers and provide student supports that will develop and foster a sense of community and build student academic momentum to progress quickly through developmental education, to college level coursework, through to degree attainment

ASAP Supports

Specific elements that have a high impact on developmental course progression include;

Block Courses

- ▶ Block scheduling consist of reserving course sections for students in the same cohort.
- ▶ Developmental Mathematics and English courses make up a large percent of ASAP block courses.

Faculty Engagement

- ▶ Block scheduling allows ASAP Advisors to engage faculty, establish a relationship, and create a line of communication that consist of frequent reports on student progress and attendance. Progress reports allow for early detection of struggling students and provide the opportunity to provide early interventions.

ASAP Supports Contd.

Intrusive Advisement

- ▶ ASAP utilizes an intrusive advisement approach to delve beyond the surface, **uncovering barriers, addressing personal, domestic, financial and academic issues that often serve as a stumbling block to degree completion.**
- ▶ Robert Glennen defines **Intrusive Advising** as “taking developmental advising theory one step further through proactive measures that **incorporate interventions**”. It is discovering the root of the problem causing a student difficulty and providing appropriate interventions (Earl, 1988).

ASAP Advisement Structure

- ▶ ASAP advisement builds a structure that includes bi-monthly advisement appointments between students and their assigned Advisor.
- ▶ Advisors engage and coach students on various student success skills
 - Institutional navigation
 - Coping Skills
 - Decision Making Skills
 - Networking with peers and faculty to name a few.
- ▶ Advisors monitor grades, attendance and inquire about a students' college experiences and nurtures a relationship that lends itself to discussion on domestic, financial and personal challenges. All of which pose a threat to a students' ability t attend class, perform and progress.

ASAP Approach to Developmental Course Progression

- ▶ ASAP is committed to remediate students within the first year of study. Students are required to address remedial needs immediately and continue to enroll until successful completion.
- ▶ Tutoring is mandated for every student enrolled in a developmental course.

ASAP Retention and Graduation Results

ASAP's rigorous program evaluation reveal significant differences ;

Graduation (CUNY analysis of all cohorts combined)

- Average ASAP three-year graduation rate was 56% versus 23% three-year graduation rate of a comparison group
- Average ASAP two-year graduation rate was 44% versus 15% two-year graduation rate of a comparison group

Retention (CUNY analysis of all cohorts combined)

- Average one-year retention 80% versus 65% retention rate of a comparison group

Developmental Progression (CUNY analysis of all cohorts combined)

- After one-year 84% of ASAP students that needed remediation are fully proficient (satisfied their developmental requirement) as opposed 56% of the comparison group.

ASAP Model Replication and Expansion

- ▶ ASAP model has successfully proven to improve retention and graduate students . In turn ASAP has garnered national attention and enormous interest in replication. ASAP is frequently cited in major publications such as the **NY Times** and **Chronicle of Higher Education** and at national forums on higher education as a successful evidence-based program.
- ▶ Complete College America Time is the Enemy report cited ASAP as one of two programs that **significantly provide a structural pathway and improve time to degree.**
- ▶ The Center for an Urban Future's November 2011 Mobility Makers report listed **ASAP as one of CUNYS "bold reforms" addressing the issue of community college graduation rates.**
- ▶ ASAP is currently in its second year of a three year expansion that will serve up to 4,000 students across six CUNY community colleges at full scale. ASAP's three-year expansion is revealing that the ASAP model is both scalable and replicable.

Synergy of Dawes OHTMS–Altering Pedagogy Results and ASAP

- ▶ ASAP's evaluation reveal an average ASAP pass rate of **57%**. However, when ASAP is coupled with the WebAssign–Altering Pedagogy technique the class achieved a **90.5 %** passing rate.
- ▶ This large increase, more than doubles the overall passing rate of students in CUNY BMCC (43.4%), and suggests that the combination of **ASAP and the Dawes OHTMS–altering pedagogy technique, is a promising vehicle for addressing the national problem of abysmal passing rates in developmental mathematics.**
- ▶ Administrators and faculty members can use these interactive tools to determine best practices when adopting and implementing online educational technology to increase student retention, development pass rates and degree attainment.

Q & A

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Student Feedback from Rate My Professor

4/21/12

MAT056

😊 Good Quality



Prof. Dawes is the best math professor I have taken at [REDACTED] (I've taken 3 others). His style of teaching is exceptional, and his use of **Webassign** has helped me pass 051 (took it with 2/3 of the other profs. and never passed.) I currently take his 056 class, and will be taking his 206 class in the summer. I highly recommend him to all students.

Report this rating

8/1/13

MAT056

😊 Good Quality



This was my first Math course in America and Prof. Dawes made the material clear and understandable to me. The **WebAssign** system was accessible and also easy to understand and work with. Overall this class was an enjoyable and beneficial experience.

Report this rating

ASAP Cost Benefit Analysis

- ▶ An analysis conducted by the Center for Benefit –Cost Studies in Education (CBCSE) at Teachers College, Columbia University led by Dr. Henry Levin, a leading national expert in educational cost–benefit analysis revealed;

An investment in ASAP has large financial returns for both taxpayers and the ASAP student and it shows a reduction cost in public services such as public assistance health and criminal justice system based on higher educational attainment

The average cost per ASAP graduate is \$6,500 lower than comparison group graduates.

The benefit gained by ASAP students, the institution and taxpayers outweigh the per–student cost associated with the services provided to ASAP students.