

IUPUI INDIANA UNIVERSITY PURDUE UNIVERSITY INDIANAPOLIS
Teaching for

Retention

***Promoting Student Learning
through Course Design with Early
Identification & Intervention***

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Gateway to Graduation

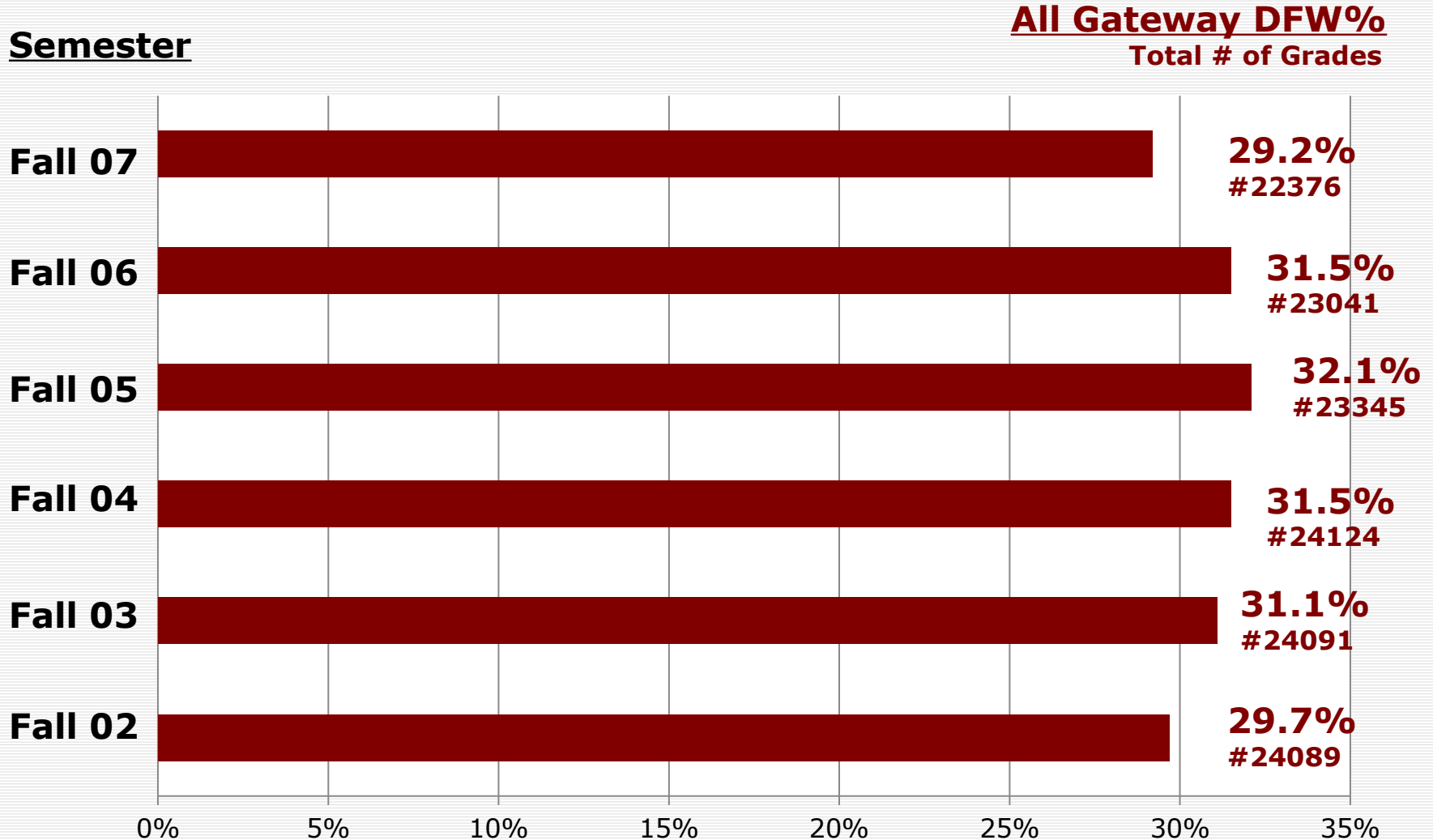
- ❖ **7 Year Retention Initiative**
- ❖ **~50 Gateway Courses**
- ❖ **~23,500 Course Grades**
- ❖ **Advisory Board**
- ❖ **Course Coordinators**



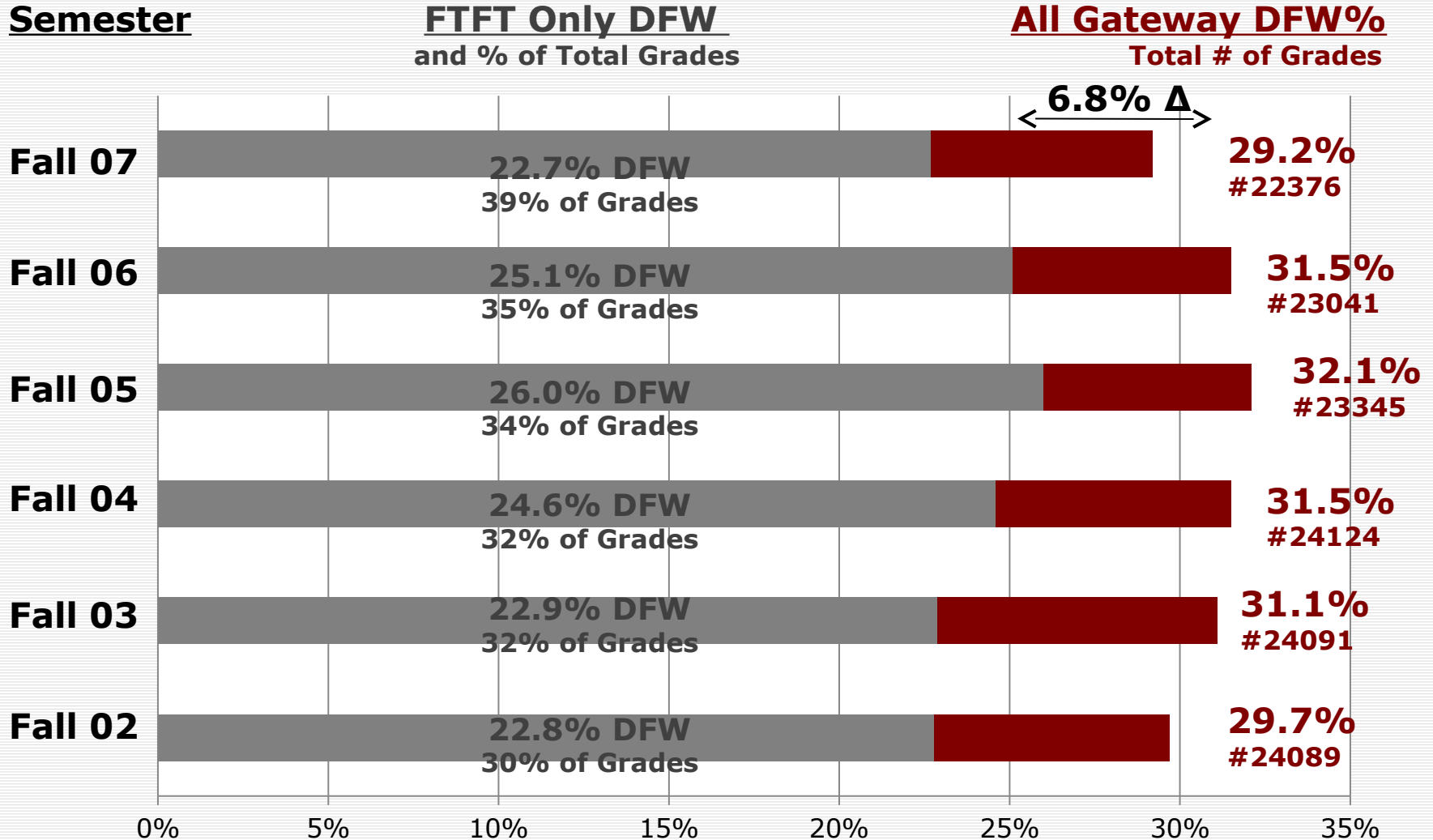
Current Focus:
Early Identification
and Active Intervention



Gateway Courses DFW Trends



Gateway Courses DFW Trends - FTFT Students



Gateway Courses Fall 2007 DFW by Department

MATH #4287

ANTH #585

PSY #1566

LEARN COMM #2622

BIOL #1029

SOC #695

Gateway #22376

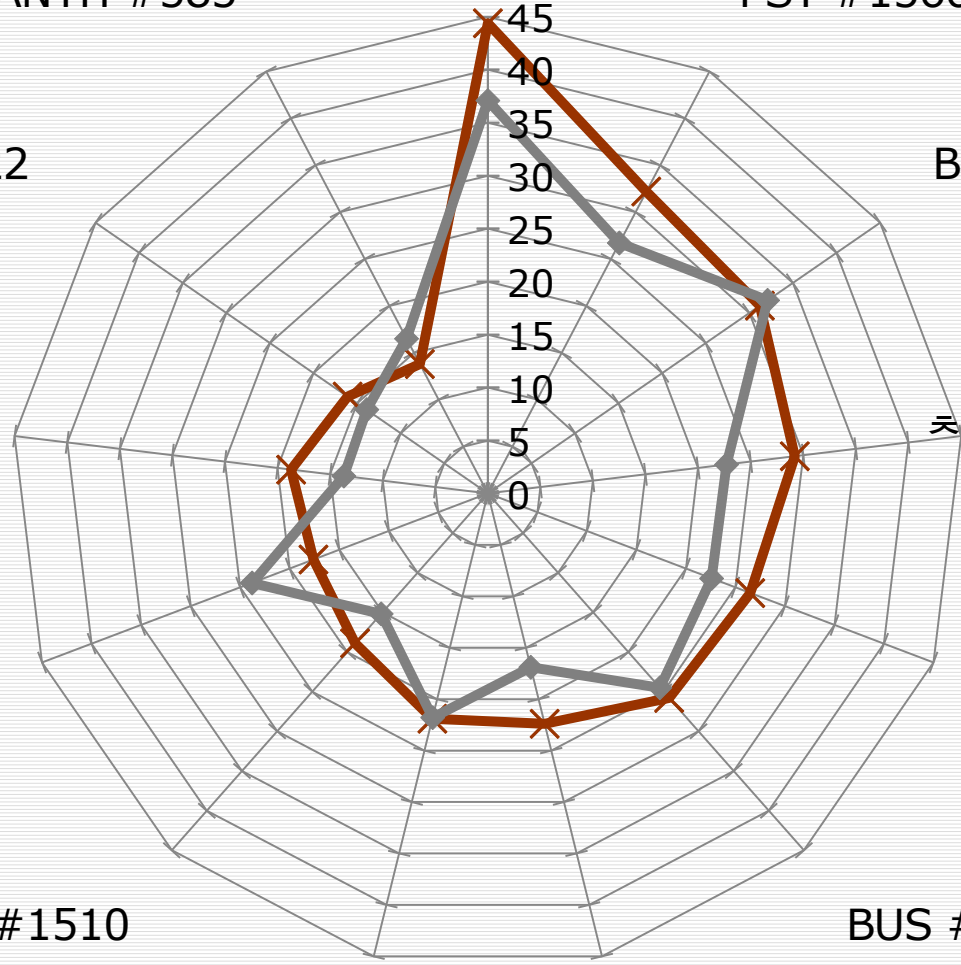
PHIL #540

CHEM #1279

COMM #1510

BUS #1766

HIST #1599 ENG #2425



Grades

—x— Fall 07 ALL

—◆— Fall 07 FTFT



Gateway Courses DFW Trend by Department

MATH #4428

ANTH #580

PSY #1860

Grades
Fall 02-07
Average

LEARN COMM #2291

BIOL #1078

SOC #914

Gateway #23511

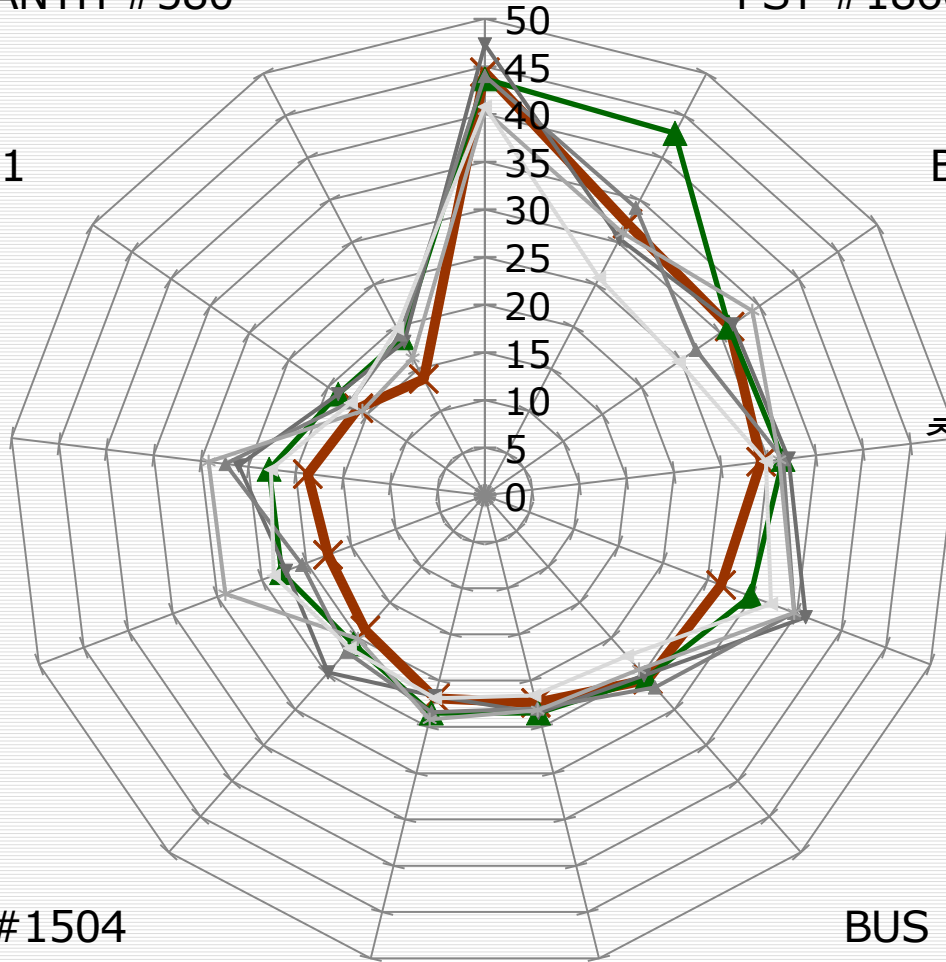
PHIL #658

CHEM #1179

COMM #1504

BUS #1914

HIST #1713 ENG #2599



✕ Fall 07
▲ Fall 06
▼ Fall 05
▲ Fall 04
✕ Fall 03
▲ Fall 02



The Student Experience



Recruitment & Admissions

Financial Aid

Curriculum & Instruction



Academic Services

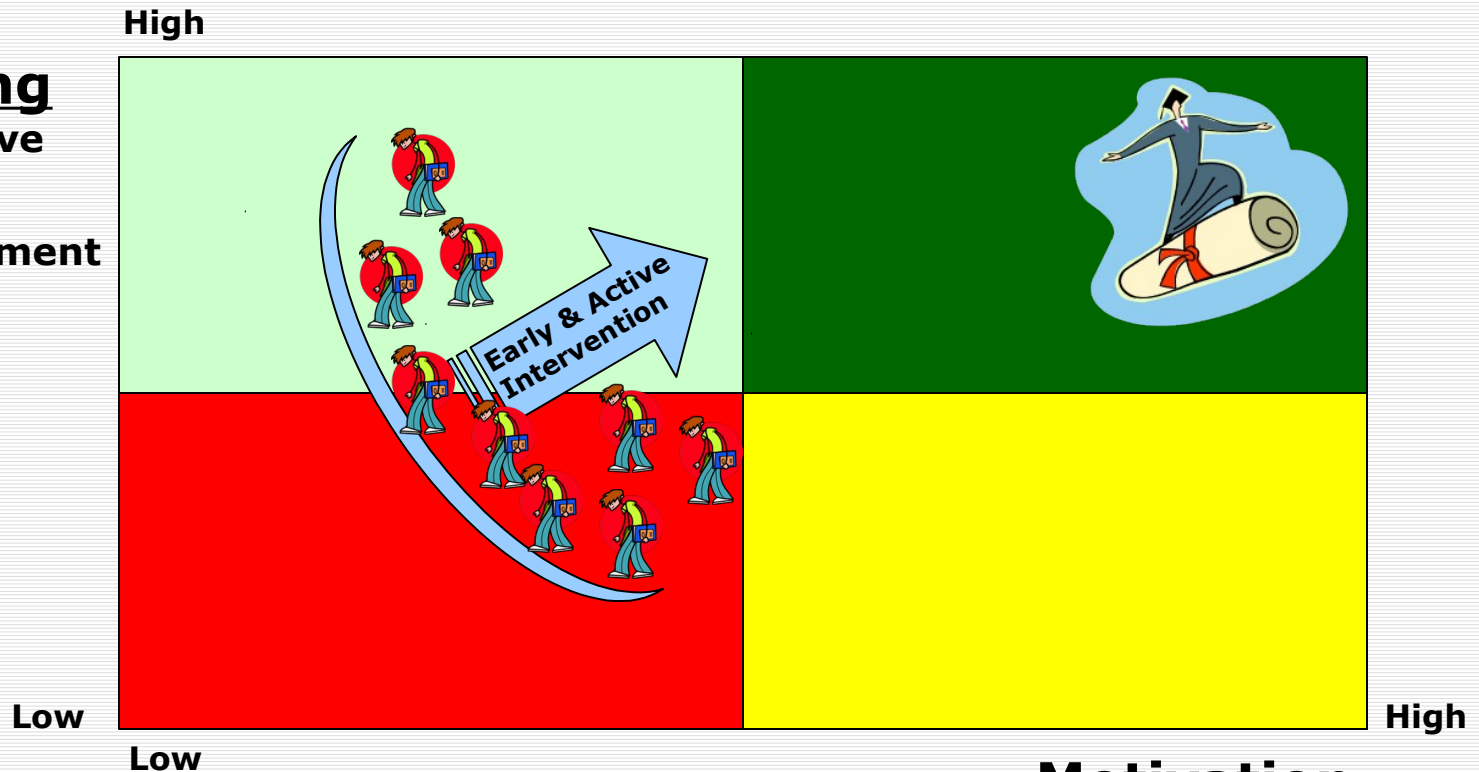
Student Services



Using Learning AND Motivation To Improve Curriculum for Retention

Learning

- Cognitive
- Skills
- Assessment
- etc



Motivation

- Expectations
- Commitment
- Support



Example: X100 Introduction to Business

Course Design: Motivation for Learning

Assessment
of Learning

Motivation

Learning
Feedback

Attendance & early
assignments allow for
early interventions



Example: Introductory Psychology

Using Data for Course Design

- ❖ **Students Who Get DFWs**
- ❖ **Predicting DFWs**
- ❖ **Shaping Course Design**



Analysis of All DFW Students

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders		No	No	No



Analysis of All DFW Students

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders		No	No	No
Non-compliers		Yes	No	No



Analysis of All DFW Students

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders		No	No	No
Non-compliers		Yes	No	No
Low Performers		Yes	Yes	No



Analysis of All DFW Students

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders		No	No	No
Non-compliers		Yes	No	No
Low Performers		Yes	Yes	No
Drop Outs		Yes	Yes	Yes



What Group has the **Lowest Percentage** of DFW Students?

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders		No	No	No
Non-compliers		Yes	No	No
Low Performers		Yes	Yes	No
Drop Outs		Yes	Yes	Yes



What Group has the **Lowest Percentage** of DFW Students?

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders		No	No	No
Non-compliers		Yes	No	No
Low Performers		Yes	Yes	No
Drop Outs	10%	Yes	Yes	Yes



Can We These Students?

- ❖ **Describe**
- ❖ **Explain**
- ❖ **Predict**
- ❖ **Change**



Sources of Data

- ❖ **100 pieces of data on course activities**
 - Homework
 - Attendance
 - Exam scores
- ❖ **100 survey questions, 15 scales**
- ❖ **15 pre-course predictors - IMIR**
 - HS GPA
 - SAT
- ❖ **Interviews – Qualitative Data**



Possible Reasons for DFW Grades

- ❖ **Prior to IUPUI**
 - **HS GPA/SAT**
- ❖ **Current Non-Academic Behavior**
 - **Hours Working**
 - **Life Stress**
- ❖ **Current Academic Behavior**
 - **Number of Hours This Semester**
 - **Homework Completion**
- ❖ **Current Personal Attitudes/Perceptions**
 - **Test Preparation Skills**
 - **Perseverance in Studying**
 - **Interest in Doing Homework**
 - **Expect Success in Study Efforts**



Dropouts (10%)

- ❖ **NOT related to HS GPA or SAT/ACT**
- ❖ **No quantitative data predicted these students. Qualitative interviews suggested the following**
- ❖ **Severe Stress**
 - ✓ **Working 40 hrs/wk**
 - ✓ **Taking 6-15 hours**
 - ✓ **Plus: One course takes 2-3 hrs/day; &/or**
 - ✓ **Plus: Major life event**



Dropouts (10%)

❖ Person A

- ✓ Working 40 hrs/wk
- ✓ Another Course: 2 hrs/day
- ✓ Husband sent to jail
- ✓ Can't afford internet connection
- ✓ Nothing related to the course

❖ Person B

- ✓ Working 42 hrs/wk
- ✓ Brother committed suicide
- ✓ Sleeps 10-12 hrs/day: Migraine pain
- ✓ Nothing related to the course



Support for Stressed Students

C: Tests available 10 hrs/day, 7 days/wk during 3-week period

C: Count highest of 3 test scores

C: If miss a class, may substitute any of 30 other sections: JagTag

M: Contact & Understand

U: Advising?



What Group has the **Highest Percentage** of DFW Students?

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders		No	No	No
Non-compliers		Yes	No	No
Low Performers		Yes	Yes	No
Drop Outs	10%	Yes	Yes	Yes



What Group has the **Highest Percentage** of DFW Students?

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders		No	No	No
Non-compliers	40%	Yes	No	No
Low Performers		Yes	Yes	No
Drop Outs	10%	Yes	Yes	Yes



Non-compliers (40%)

- ❖ **NOT** related to HS GPA OR SAT/ACT
- ❖ **Motivational** factors predict 21% of homework completion
 - ✓ **Hours working**
 - ✓ **Perseverance in Studying**
 - ✓ **Perception of Quality of Homework**
- ❖ **Implies many factors differing remarkably across students**



Interesting Fact: Importance of a Good Homework Start

- ❖ **Total homework points was predicted by the amount of homework completed in the first week of the semester ($r^2 = .62$)**
- ❖ **Time Studying**
 - **HS = 4 hrs/wk for ALL courses**
 - **B104 & all SOS courses = 4 hrs/wk**
 - **15 hour load = 20 hrs/wk**
 - **College requires approximately 5X the amount of studying outside of class than high school**



Developing Motivation

C: Class pts HWK & timely finish

C: Interesting HWK with validity

C: Application to students' lives

M: Interview, identify obstacles, problem solve, set goals, follow-up

M: Emphasize weeks 1-4

U: Administrative Withdrawal tied to homework completion, response to an early warning system?



Analysis of All DFW Students

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders	25%	No	No	No
Non-compliers	40%	Yes	No	No
Low Performers		Yes	Yes	No
Drop Outs	10%	Yes	Yes	Yes



Non-Attenders (25%)

- ❖ **NOT** related to HS GPA or SAT/ACT
- ❖ No quantitative data predicted these students.
- ❖ Unable to interview even with extreme effort
- ❖ Students are **Unavailable** and do not attend for **Unknown** reasons

WHO should be responsible for contacting chronic non-attenders?



Understanding Non-Attendees to Motivate Them

C: Motivate on 1st day of class

M: Contact & Understand

U: Threat of Administrative Withdrawal

U: Revise Early Warning System

U: Who (advisors?) follows-up on early warning

U: Change Ws to WX (not official grade)?

Need an Early & Active Intervention



Interesting Data: Predicting Incompleters

- ❖ **Students who do not complete the class can be identified in first 3-4 weeks of the semester by:**
 - ✓ attendance &
 - ✓ HWK completion ($r^2 = .42$)
- ❖ **Students who do not complete the class can be identified in first week of the semester by:**
 - ✓ attendance &
 - ✓ HWK completion ($r^2 = .26$)

**Attendance & homework completion
QUICKLY predict Incompleters**



Analysis of All DFW Students

	% of DFWs	Attend Class	Did HWK	Pass Tests
Non-attenders	25%	No	No	No
Non-compliers	40%	Yes	No	No
Low Performers	25%	Yes	Yes	No
Drop Outs	10%	Yes	Yes	Yes



Low Performers (25%)

- ❖ **Study Skill** factors (primarily) predict **58%** of this group
 - **Test Preparation Skills = Best Predictor**
 - **Expectancy for Study Success**
 - **Homework Points**
 - **Hours Working**
- ❖ **HS GPA or SAT/ACT = 32%**

**Cannot change HS GPA or SAT/ACT,
But CAN change test prep skills**



Course Features: Developing Study Skills

C: Develop study aids (Flashcards, memory outlines, practice tests, Q/A text boxes)

C: Multiple test opportunities

C: Drop a test

C: Immediate Feedback

M: Match study method w/student interest, set goals, follow-up

U: Nothing?



Interesting Fact: Study Habits

How will you prepare for your first test?

- ❖ **Read the book TWICE**
- ❖ **LESS than this**
- ❖ **MORE than this**



Interesting Fact: Study Habits

How will you prepare for your first test?

- ❖ **Read the book TWICE – 20%**
- ❖ **LESS than this – 40%**
- ❖ **MORE than this – 40%**

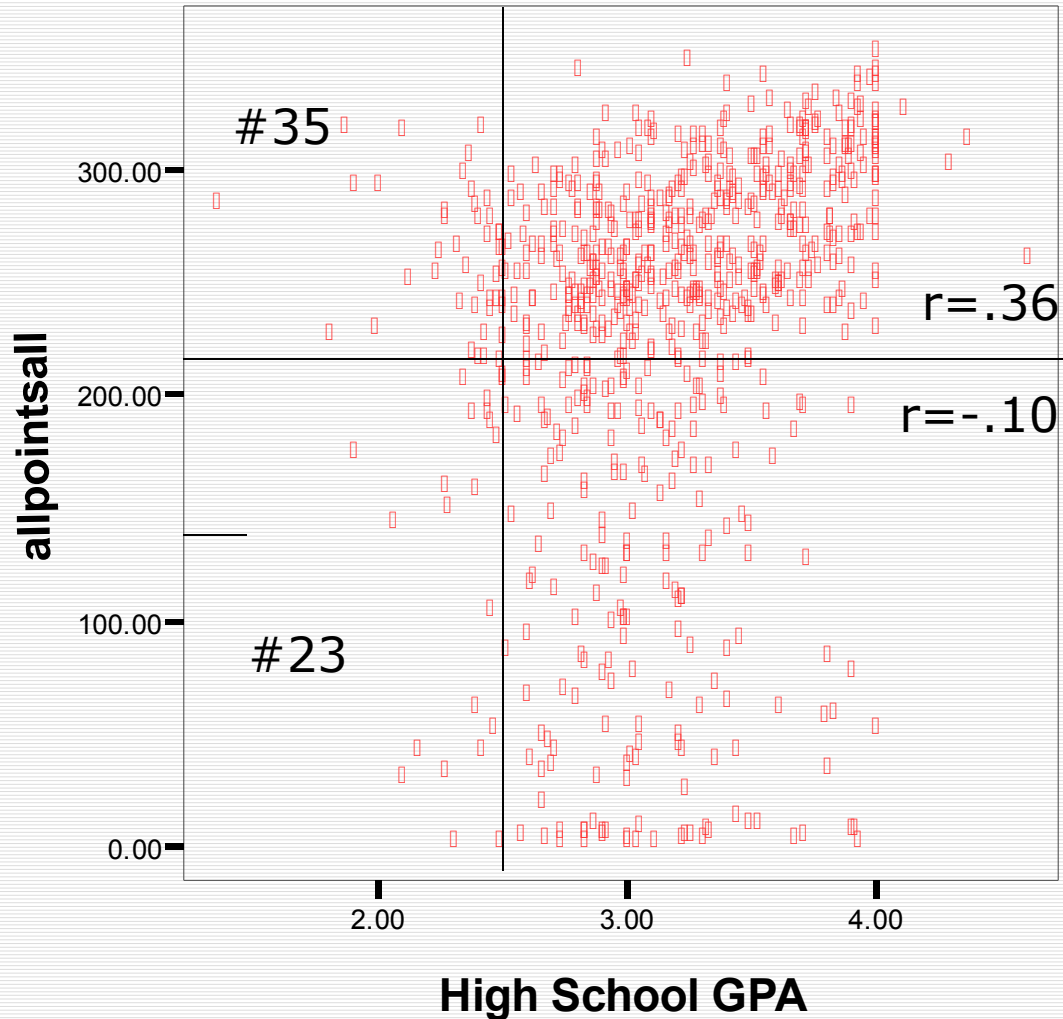


Predicting B104 Success from Pre-College Data

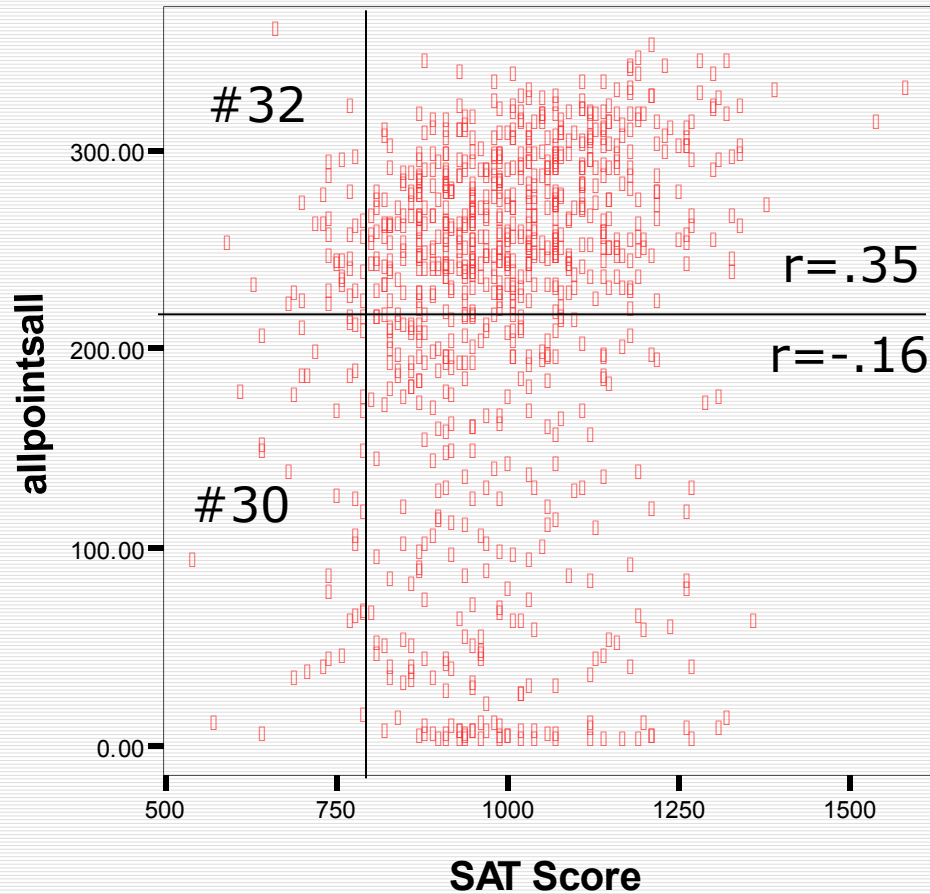
- ❖ **Pre-college data predict only 1 of the 4 groups of students: Low Performers on Tests**
- ❖ **Pre-college data have little relationship to the DFW grades of 75% of the students in the course**
- ❖ **SAT and HS GPA have low r with total course points**



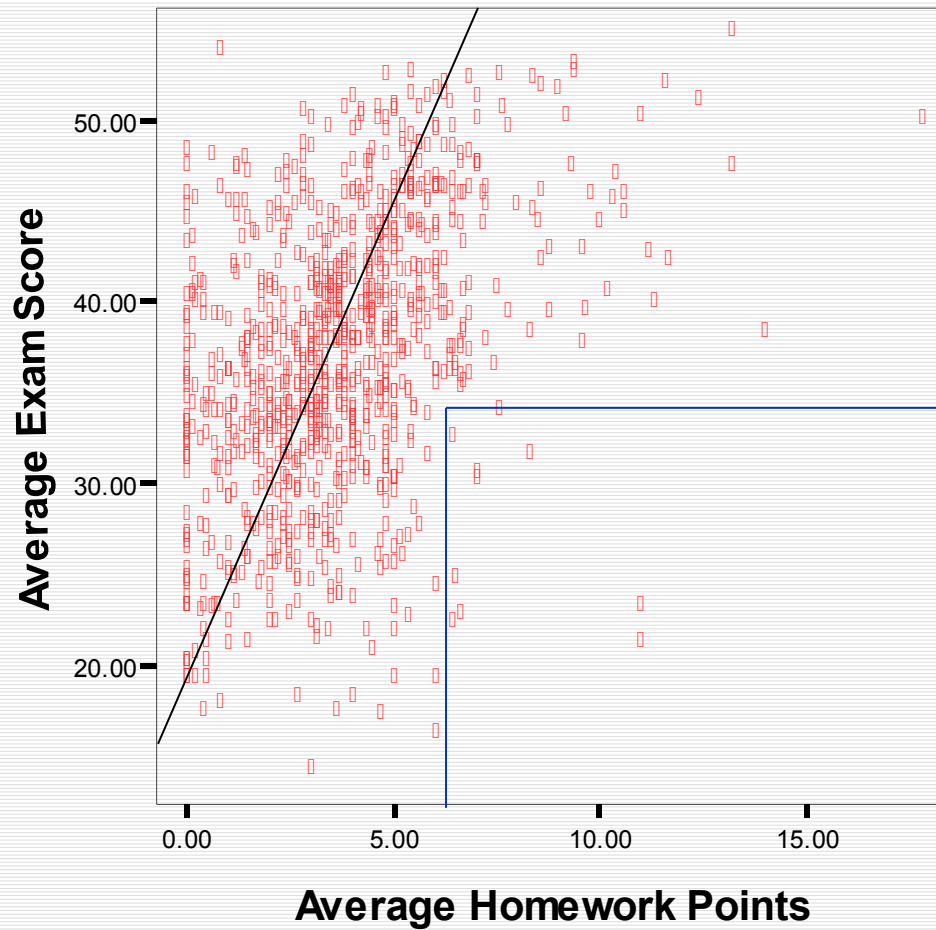
HS GPA Predicts Total Points? ($r = .26$)



SAT Predicts Total Points? ($r=.2$)



HWK Predicts Test Scores! ($r=.4-.5$)



The 'WE' of Connecting with, Engaging & Supporting the Student

