

Developing Classroom Materials and Activities

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FSU Program for Instructional Excellence (PIE) Workshop

Developing Classroom Materials

Assess the
semester

Plan course

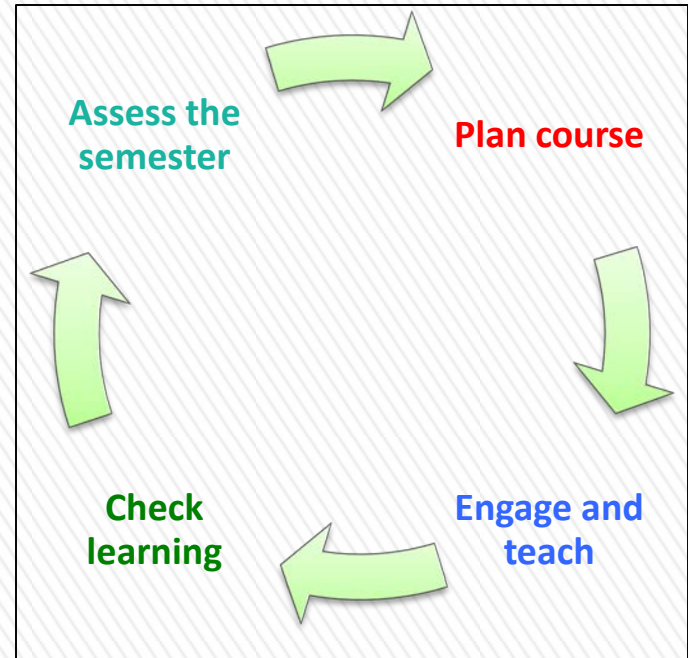
Check
learning

Engage and
teach



Outline

- **Course Planning**
 - Course goals
 - Learning objectives
 - Deciding on materials
- **Engage and Teach**
 - Materials and activities
- **Check Learning**
 - Throughout the semester
 - Assessing exam questions
- **Creating Assignments**
- **Assessing the Semester**



Before your class starts...

Create Course Goals and Learning Objectives



Writing Course Goals

- Main themes or ideas for the course
- Broad/overarching goals
- The instructor's goals for the course

Examples:

- Students will understand the basic concepts behind sports business
- This course will introduce students to music from the Baroque, Classical, and Romantic periods
- This course will help students learn how to design a safe and effective exercise program for a healthy adult



Writing measurable learning objectives

Start with clear direction

- Learning objectives
 - Statements which describe what the learner is expected to achieve as a result of instruction.
 - Guide teacher and Learner
 - + Allow analysis of teaching and learning
 - Contain measurable verb



Writing measurable learning objectives



Plan, Propose, Construct, Organize

Judge, Revise, Estimate, Choose

Differentiate, Compare, Contrast, Relate

Translate, Illustrate, Dramatize, Use

Discuss, Identify, Locate, Explain

Define, list, Name, Memorize

Examples:

- Students will be able to define Newton's three laws of motion
- Students will be able to explain the effect of population size on environmental resources
- Students will be able to create an exercise plan to accomplish a client's specific fitness goals.



Outcomes Matrix

Course Goals	Learning Objectives		
This course will teach students how to administer exercise testing protocols	List the procedures for each exercise test		
	Demonstrate how to perform each test		
	Explain and administer test to someone else		



Think about...



- What kind of instructional activities will you use to achieve those outcomes?
- What kind of assessment tools will you use to assess those outcomes? >

Outcomes Matrix

Course Goals	Learning Objectives	Instructional Activities	Assessments
This course will teach students how to administer exercise testing protocols	List the procedures for each exercise test	~Lecture ~Class notes ~Review games	~Exams ~Quizzes ~Case Study
	Demonstrate how to perform each test	Practice in class – as a group and individually	Laboratory Practical
	Explain and administer test to someone else	Complete a “skills” sheet that needs to be checked off by TA	Laboratory Practical



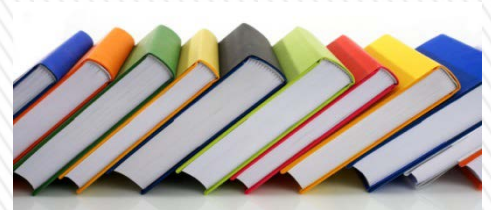
Reading Materials

Syllabus

Class materials

Assessments

Choosing Reading Material

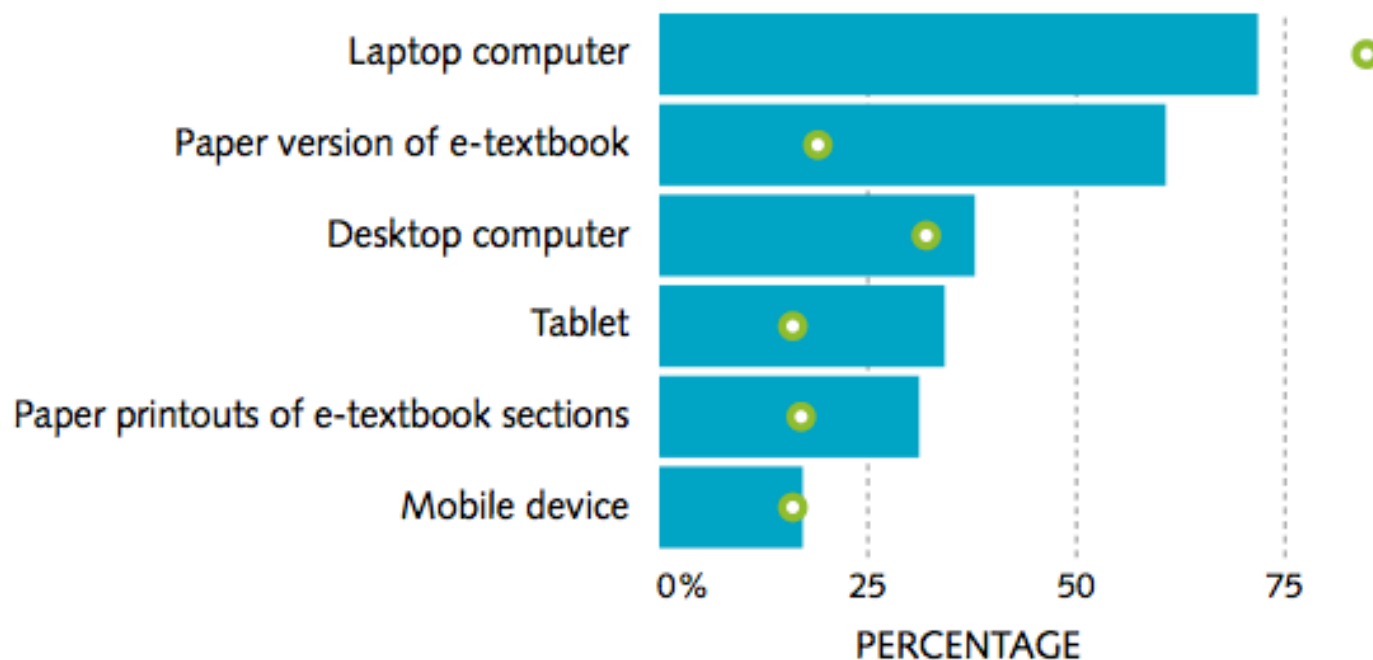


- Objectives of the readings should match goals and learning objectives of the course
- Cost
 - 65% of students reported not buying a textbook due to high cost
 - 45% of students reported not registering for a course due to high cost
- Consider the difficulty level of the textbook/readings for the course level



Choosing Reading Material

- Online version/Online tools?



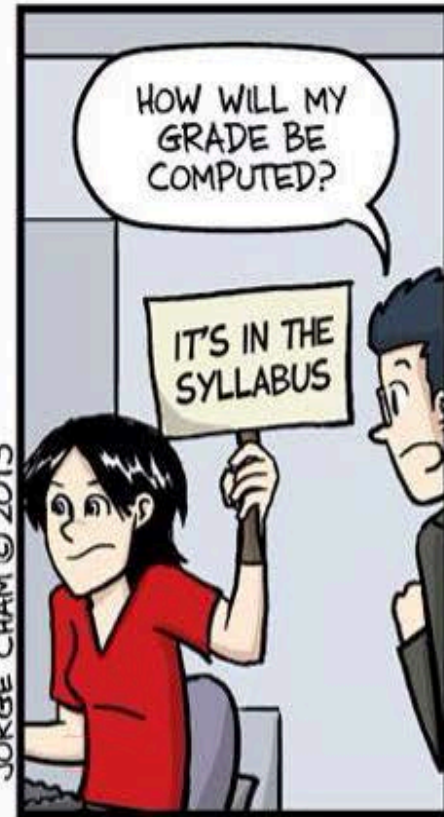
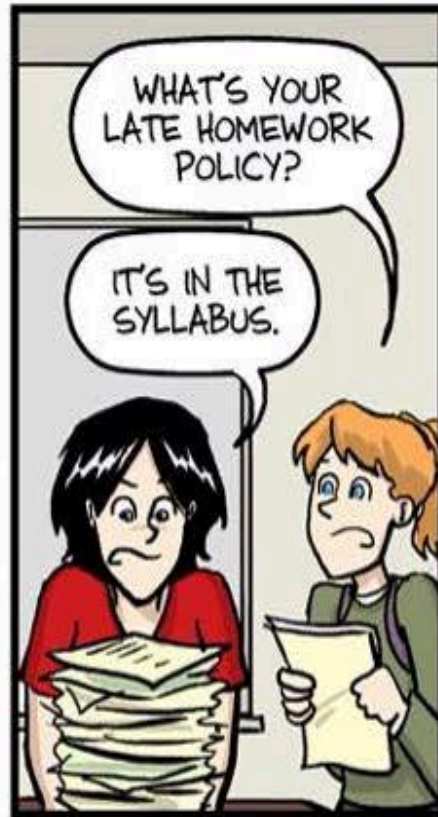
- Percentage of time they used this method
- Percentage of students who used this method

Source: Student survey, n = ~5,388

Choosing Reading Material

- Online version/Online tools?
- Length
 - Rule of thumb: Multiply the number of pages by 5 minutes
- Supplement textbook with additional readings





IT'S IN THE SYLLABUS

This message brought to you by every instructor that ever lived.

WWW.PHDCOMICS.COM

Course Calendar

Date	Topic/Activity	Readings/Assignments
Lab 1		
Week of August 31 st	Blood Pressure and Heart Rate	Reading: Lab Manual: Ch 3 Homework: Blood pressure worksheet, <i>study for quiz</i>
Lab 2		
Week of September 14 th	EKG: Electrode Placement <i>Quiz 1</i>	Reading: EKG Book: Ch 1 Due: Blood pressure worksheet, <i>Study for quiz</i> Homework: Label EKG
Lab 3		
Week of September 21 st	EKG: Enlargement and hypertrophy <i>Quiz 2</i>	Reading: EKG Book: Ch 2 Due: Labelled EKG Homework: Complete EKG questions

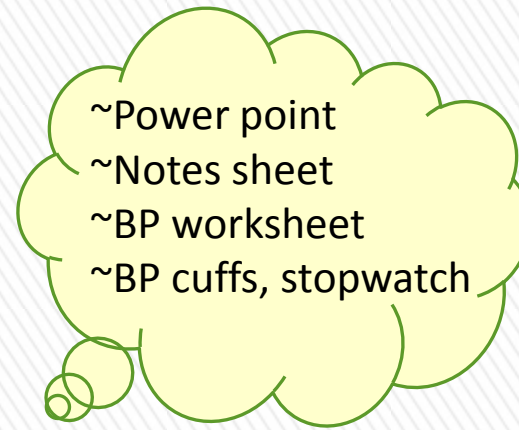
~Power point
~Notes sheet
~BP worksheet
~BP cuffs, stopwatch

- Presentation style
- Online or outside materials
- Handouts
- In-class assignments/activities
- Group work



Course Calendar

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Lab 2		
Week of September 14 th	EKG: Electrode Placement <i>Quiz 1</i>	Reading: EKG Book: Ch 1 Due: Blood pressure worksheet, <i>Study for quiz</i> Homework: Label EKG
Lab 3		
Week of September 21 st	EKG: Enlargement and hypertrophy <i>Quiz 2</i>	Reading: EKG Book: Ch 2 Due: Labelled EKG Homework: Complete EKG questions



Lesson Plan Sheet

Student's attention span lasts approximately 15 minutes (Burns, 1985)



Change it up every 15 minutes



Engage and Teach

Diversify materials

Diverse materials enhance engagement and learning

- Although preferences exist, there is not strong evidence of learning styles (Paschler *et al*, 2008)
- There *is* evidence that multisensory information from multiple sources generally enhances learning (Farkas, 2003)



Engage and Teach

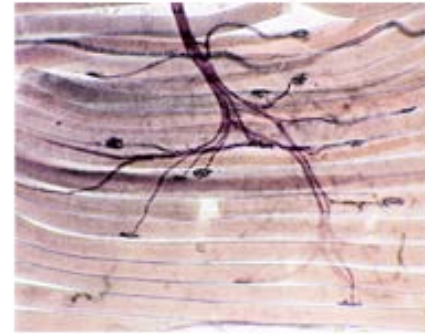
» Piquing interest

- Case study
- Current events

» Interspersed with material

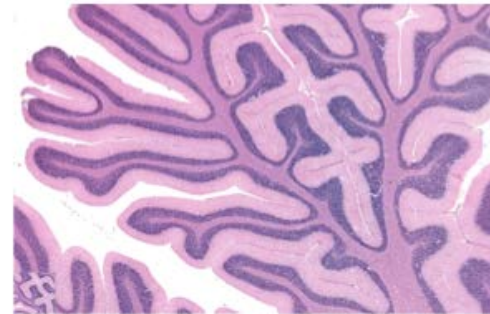
- Media
- Humor
- Classroom activities

Motor Output



Chapter 8

Modulation of Motor Output



Chapter 8

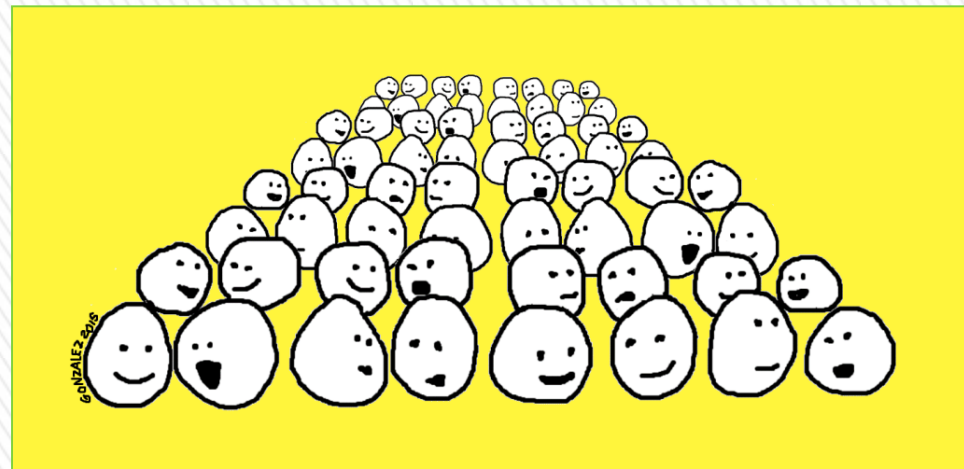




Engage and Teach

» Classroom activities

- > Chat Stations
- > Snowball Discussion
- > What has been your most successful experiment in student engagement?
- > Think, Pair, Share



Other great activities at:

<http://www.cultofpedagogy.com/speaking-listening-techniques/>



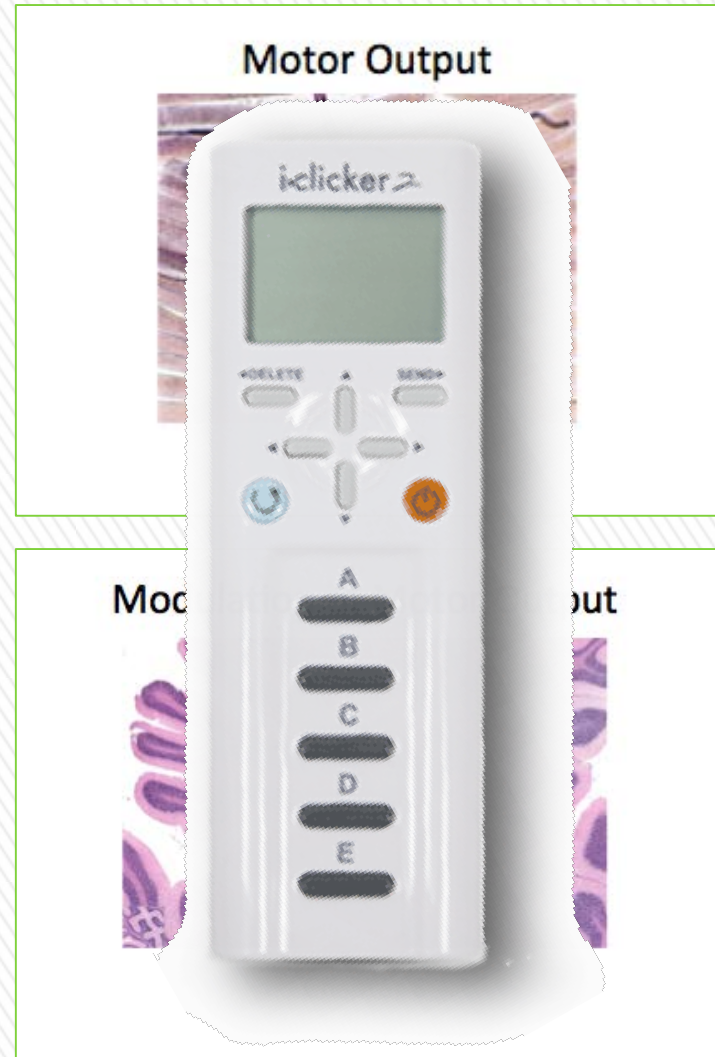
Engage and Teach

» Piquing interest

- > Case study
- > Current events

» Interspersed with material

- > Media
- > Humor
- > Classroom activities
- > iClickers or other voting devices
- > Review questions



Check learning

- » Even before reaching topic!
- » In class
 - > Not necessarily directed at individuals
- » Self-checking



Check learning

» Tests

- > **Difficulty** shows fraction of students with correct answer
 - + Range of difficulty
 - + But if difficult for *everyone*, could indicate weaknesses
- > **Discrimination Index** indicates degree to which highest scoring students excelled on this question

D Range	Interpretation
$0.40 \leq D \leq 1.00$	Satisfactory discrimination
$0.30 \leq D < 0.40$	Some revisions may be required to the item
$0.20 \leq D < 0.30$	The item needs revision
$-1.00 \leq D < 0.20$	The item needs to be removed or completely revised

Summary of Item Analysis

Item	----- # of Responses -----					Invalid
	A	B	C	D	E	
Q 17	56*	5	32	9	0	0
Q 24	6	56*	1	39	0	0
Q 12	28	9	58*	7	0	0

Item	Difficulty	Discrimination Index
Q 17	0.549	0.308
Q 24	0.549	0.615
Q 12	0.569	0.192

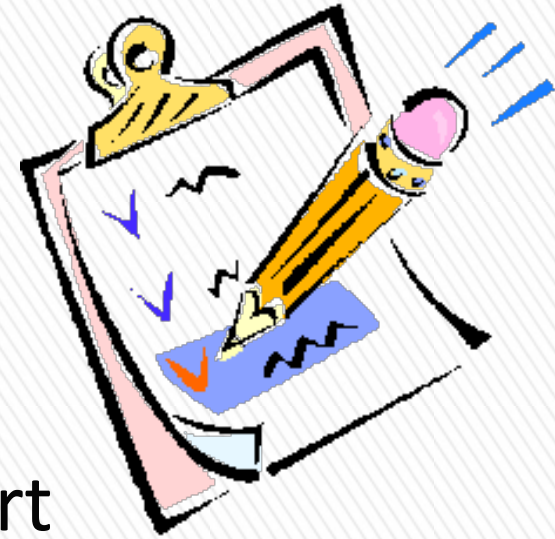
$$DI = (a - b) / n$$

- DI - Discrimination Index
- a - Response frequency of the upper quartile
- b - Response frequency of the lower quartile
- n - Number of respondents in the upper quartile



Developing Assignments/Assessments

- Reflects learning outcomes
- Determine difficulty and time required to complete
- Make weight consistent with effort
- Clearly communicate the purpose, expectations, and requirements
- Provide Rubric



Sample Rubric

Project Element	Less Effective	Somewhat Effective	More Effective
Case Study (100 points)			
Risk Stratification	Missing/incorrect risk factors listed, incorrect stratification, and lacks stratification justification (0 - 2 pts)	All cardiovascular risk factors are listed and client is stratified into the correct risk category (low, moderate, or high risk), but with 1 or 2 incorrect risk factor and/or stratification. Justification for the stratification is provided. OR: All risk factors and stratification is correct, but no justification is provided (3 - 6 pts)	All appropriate cardiovascular risk factors are listed and client is stratified into the correct risk category (low, moderate, or high risk). Justification for the stratification is provided. (7 - 10 pts)
Aerobic Program	Aerobic program is lacking 3 or more of the following: FITT principles, modifications for special considerations/special populations, progression, way for client to measure intensity. OR: 1 or 2 elements are missing, but the program is not aligned with client's fitness level and goals (0 - 2 pts)	Appropriate aerobic program is created, but lacks one or two of the following: FITT principles, modifications for special considerations/special populations, progression, way for client to measure intensity. OR: All elements are included, but program is not aligned with client's fitness level and goals (3 - 6 pts)	Appropriate aerobic program is created according to recommended frequency, intensity, time, and type (FITT principles) as well as modifications for special considerations and/or special populations. Appropriate progression principles are utilized. An appropriate way that the client can measure intensity is provided. (7 - 10 pts)



Assess the Semester

- Revise Test Bank
- Collect student feedback
- Ask for peer evaluation
- Identify strengths and weaknesses
 - What went well?
 - What did not go so well?
- Modify class plans
- Modify class materials



Summary

Assess the semester

- Revise test bank
- Collect student feedback

Plan course

- Outcome matrix as basis for course

Check learning

- Throughout learning process
- Using testing center feedback

Engage and teach

- Start with clear direction
- Diversify materials



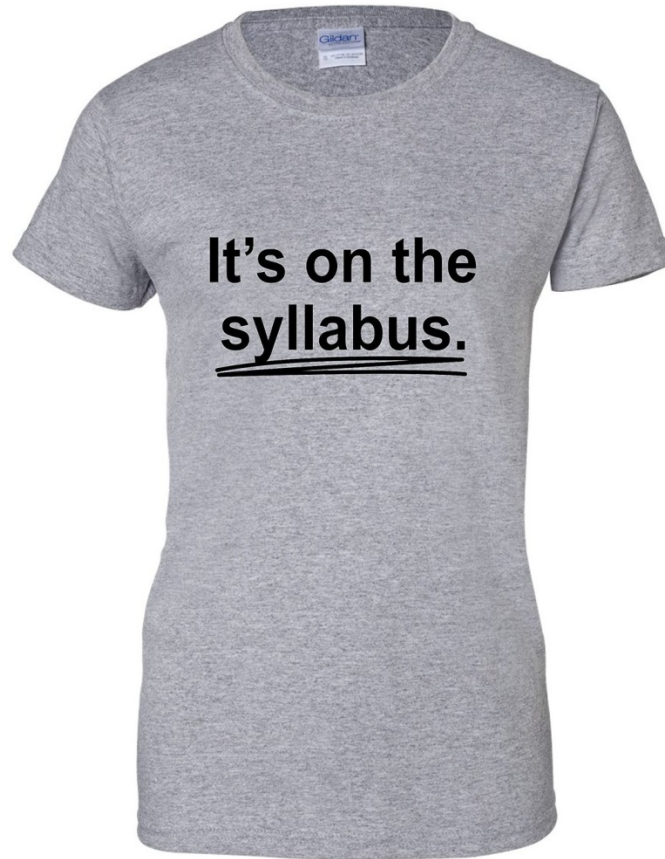
PIE Facebook Page

The screenshot displays the Facebook page for the Program for Instructional Excellence (PIE) at a university. The page header includes the name 'Program for Instructional Excellence' and a search bar. The user 'Ashley' is logged in, with navigation options for Home, Messages, and Notifications. The main content area features a large group photograph of approximately 15 people standing outdoors. Below the photo is the PIE logo and the text 'Program for Instructional Excellence University'. A 'Create Call to Action' button is visible in the bottom right of the photo. The sidebar on the right shows a 'Promote' dropdown menu and a 'THIS WEEK' analytics section with the following data: 36 Post Reach, 0 Post Engagement, and 0 Website Clicks. Below this is a 'Recent' section for the year 2014. The bottom of the page shows a taskbar with icons for Windows, Internet Explorer, and other applications.

https://www.facebook.com/fsupie/?ref=aymt_homepage_panel



One more important class material you may need...



Questions?