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Student Self-Efficacy and Attitudes Following Integration of Study Strategy Information into Course Content

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Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

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Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

► Background and pilot study

► The Psychology Study Skills Site (the "SSS")

► The study
  • Methodology
  • Implementation
  • Participants
  • Results
  • Conclusions

► Further considerations...?

► ... and acknowledgements
Background and pilot study:

- We investigated the effect of integrating study skills into an Introductory Psychology course (Psyc 2205)

Why?
- Intro Psyc students reported difficulty with
  - the amount of content
  - integration of text and lecture material
- Assumption: students didn't have, or didn't use, study strategies/skills

Previous research?
Background and pilot study:

➢ Previous research indicates effective study strategies
  • can be taught under the right conditions
  • are most effective when introduced in context of course content
    • = contextualized learning

➢ What are the right conditions?
  • That is, what level of association between content and study skills is sufficient?
    • stand-alone presentations?
    • embedded study skills instruction?

➢ We decided to try to find out...
Pilot study:

➢ Research question:

Does the type of exposure to study skills have an effect on student perception and performance in Psyc 2205?

➢ Design

➢ Results

➢ Problems
Pilot project design:

- 178 students; 5 sections divided into three groups:
  - *integrated* study skills (group 1)
  - *discrete* study skills (group 2)
  - *no* study skills information (control group)

- Students completed pre- and post-tests to assess:
  - perceptions of their understanding and use of study strategies
  - perceptions of motivation and self-management

- Grades were compared across groups
Pilot study results:

- **No difference in final grades**
  - However, group 1: integrated study skills group
  - showed a significant *increase* in grades over the course of the term (i.e., from beginning to end of term)

- As **anxiety decreased**, **grades increased**

- **Self-perception scores** and **study skills attitudes** became more **positive** with exposure to study skills information
Pilot project problems:

- **Methodological concerns:**
  - heterogeneity among student groups was uncontrolled
    - different programs
    - different schedules
    - different instructors and sections

- **Pedagogical time constraints**
  - direct instruction of relevant study strategies was impractical

- **No immediate tangible benefit, i.e., no improvement in grades**

  This pilot study led to the development of the *Psychology Study Skills Site* (SSS)
Study Strategy Information Integrated into the Content of an Introductory-Level Psychology Course: Assessing the Effects of Various Modes of Presentation on Student Scholastic Self-Efficacy, Study Skills Attitudes, and Performance

- Background and pilot study

- The Psychology Study Skills Site (the "SSS")

- The study
  - Methodology
  - Implementation
  - Participants
  - Results
  - Conclusions

- Further considerations...?

- ... and acknowledgements
Psychology Study Skills Site:

UGST 1002 Study Skills Site

What is the UGST 1002 Study Skills Site?

The UGST 1002 Study Skills Site is designed to help you improve your study skills and, at the same time, help you master the course content in Coping with Change: The Undergraduate Context and Beyond.

The site consists of a series of "modules," each of which focuses on a particular study skill. Most of the modules are designed to accompany a specific content area (textbook chapter) in UGST 1002.

As part of the Coping with Change: The Undergraduate Context and Beyond (UGST 1002) course requirement, you will read each module, complete very simple assignments, print out the results, and hand them in during the term. Please consult the "module access schedule" (link above) to determine when each module should be completed.

Why an UGST 1002 Study Skills Site?

Effective "study skills" or "study strategies" are very important to you as a student.

Why?

- Effective study skills help you improve your grades or maintain good ones
- Effective study skills help you to remember and apply important concepts
- Effective study skills can help you achieve a balance between university and the other areas of your life

How to Begin

Have a look at the "how to use this site" information (this link and others are at the top of this page on the left) for a brief overview of what will be expected of you this term, and how this website will be used. Then go to the "module list and descriptions" page and have a quick look at the types of Study Skills Modules available on the site. Finally, go to the "module access schedule" page. You could print this schedule out as it provides you with a reminder of when to complete the modules during the term, and when to hand in your simple assignments.

Important First Step

Pay particular attention to the directions in "how to use this site." During the first week of classes, and before you begin to read Module 1, we advise you to find out more about your own current study habits and attitudes. Although this is completely optional and not required for UGST 1002, we recommend you read about the Study Behavior Inventory (SEI) at "how to use this site" and complete the SEI. You may find the results very interesting.
The Psychology Study Skills Site (SSS):

- Exposes Intro Psyc students to study skills / strategies in a relevant context

**SSS modules:**

- **focus on problem areas from a learning perspective**
  - 10 modules

- **are integrated with course content**
  - Mod 6: Test Preparation

- **are accessed at particular times during the term**
  - Mod 6: Test Preparation (accessed after 1st term test, but before 2nd)

- **allow students to determine the amount and details of information**
  - Mod 4: Stress
Ten study skills modules:

**Module 1: Time Management**
- Find out why time management is important
- Assess how you spend your time now
- Think about your priorities and goals
- Learn how to more effectively manage the time you have. Make a schedule.
- Learn how to avoid procrastination.

**Module 2: Textbook Reading**
- Assess your textbook-reading skills
- Find out how to read a textbook effectively and efficiently
- Learn how to take notes from a textbook.

**Module 3: Taking Notes in Class**
- Learn why note-taking skills are important
- Find out about "active listening" and determine your "active listening" skills
- Learn three different ways to take class notes, and determine which is best for you.

**Module 4: Stress**
- What is stress?
- What are stressors?
- Identify your own "stress profile.
- Find out how to cope with (manage) the stress you experience.

**Module 5: Concentration and Memory**
- Determine your "Learning Profile"
- Read about the importance of concentration and comprehension to memory
- Learn what psychology can contribute to the study skills discussion
- If "things" still are not "working"... Find out where to go for help.

**Module 6: Test Preparation**
- Learn about effective techniques for preparing for tests
- Find out how efficiently you make use of the tools available
- Read about how you can work to improve your test performance
- Sample a selection of test prep tools to see which are best for you.

**Module 7: Test Taking**
- Learn "the key" to successful test performance
- Find out about successful strategies for improved test performance
- Read about "test anxiety". What is it, and how is it best managed?

**Module 8: Critical Thinking**
- Read about why "memorization" is not best way to learn.
- What is "elaboration" and why is it important?
- Determine if you are a "critical thinker."
- Find out why it is important to improve your "critical thinking" skills. Get some helpful hints as to how to do it.

**Module 9: Taking Stock**
- Think about what you have learned thus far about yourself and the best study skills for you
- Use your skills to review the chapter on Personality
- A final tip of information to set you on the right track for the next term.

**Module 10: Final Exam Preparation**
- Check out helpful hints for what to do in the days and hours and minutes before a final exam.
- Read about examining strategies that might help you perform well.
- Find out about the types of major errors that students make during final exams.
- Review techniques for reducing final exam stress.
The Psychology Study Skills Site (SSS):

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- allow students to determine the amount and details of information
  - Mod 4: Stress
Module 6: Test preparation - Example of a “study tool”

**Example: Matrices or tables for material in The Self, Chapter 5 of your text:**

The following matrix or table on the motives that underlie self-understanding could be included in your study notes as it is a very good review tool. The matrix/table clearly demonstrates the similarities and differences between the four major motivations. Students sometimes find these terms confusing when they first encounter them.

- Notice how color can be used to point out similarities and emphasize relationships or key parts of the information.
- Notice also that examples should always be included. If you can't think of alternative examples, then you don't quite understand the concept yet.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Assessment</td>
<td>People are motivated by a desire for truthful or accurate or objective information about themselves.</td>
<td>Hans registered for a Campus Recreation Fitness Assessment because he really wanted to know what sort of shape he was in.</td>
</tr>
<tr>
<td>Self-verification</td>
<td>People are motivated to support or find evidence for their existing ideas and beliefs about themselves.</td>
<td>Julia considers herself to be an average student, so she doesn't work very hard to improve her grades.</td>
</tr>
<tr>
<td>Self-improvement</td>
<td>People are motivated to improve themselves, and seek out others who have been successful to help them improve.</td>
<td>Duyên wanted to improve her written work, so she signed up for a workshop with MRU Student Learning Services.</td>
</tr>
<tr>
<td>Self-enhancement</td>
<td>People are motivated to increase their positive (or decrease their negative) feelings or beliefs about themselves.</td>
<td>James asked his grandmother about his choice of clothes because his grandmother always thought James looked great no matter what he was wearing.</td>
</tr>
</tbody>
</table>
The Psychology Study Skills Site (SSS):

- Exposes Intro Psyc students to study skills / strategies in a relevant context

**SSS modules:**

- Focus on problem areas from a learning perspective
  - 10 modules

- Are integrated with course content
  - Mod 6: Test Preparation

- Are accessed at particular times during the term
  - Mod 6: Test Preparation (accessed after 1st term test, but before 2nd)

- Allow students to determine the amount and details of information
  - Mod 4: Stress
Module 4 – Stress; Clicking on links opens further details:

What causes stress?
Stress is your reaction to particular events in your life. It is this reaction that you experience as stress. A stressor is anything that results in your experiencing stress. If it causes you to experience stress, it is a stressor!

Responses to stressors differ from one person to another, because people differ in terms of personality, temperament, and attitudes and beliefs.

Stress often results from the following circumstances:
- Major life change
- Lack of control
- Over-commitment
- Conflict with others
- Failure to meet your own needs
- Frustration
- Unrealistic perceptions and expectations
- Exhaustion
- Fear
- Internalizing painful events

Stress management
Emotions (feelings), thoughts, and psychological needs are related to your physical health.

As noted in Chapter 3: Stress and Its Effects in your textbook, stress reactions in general can include emotional, behavioural and/or physical changes.

But every person is different, and every person experiences stress differently. The degree of stress experienced is influenced by several factors:
- the length of time the person has been exposed to the stressor
- the severity of the stressor (which is partly dependent on how the person thinks about the stressor)
- the degree to which the person thinks he or she is capable of dealing with the stressor
- how the person reacts to the stress experienced
The Psychology Study Skills Site (SSS):

SSS modules (Cont’d):

• require active interaction
  • Mod 5: Concentration and Memory
  • Mod 7: Test-taking

• ensure information relates to self (and provide us with evidence of participation
  • Mod 3: Taking Notes in Class

• include self-assessment of understanding
  • Mod 1: Time Management

• include exercises and practice
  • Mod 2: Textbook Reading
Module 5 – Concentration and Memory:
Play the game…

This is a simple game.

The goal?
To beat the computer!

It's really not hard to do! Please read the game directions at the bottom of the page.

The graphic above will appear in the squares you complete. If you don't like it, click it anytime to select another.

To start the game, click the "Begin" button. Then click on a bar in the pattern above to make a red line. (Note: You can make horizontal red lines as well as vertical ones.) Every time you make a red line, the computer will make one. Try to construct more 4-sided red squares than the computer does. Every time you complete a square you can continue to complete squares on the same turn until there are no more 3-sided "squares" available. (Unfortunately, the computer can do the same thing.) Speed doesn't matter, so there is time to think about what you are doing. Play the game a couple of times and observe how you improve.

Free JavaScripts provided by The JavaScript Source.
Module 5 – Concentration and Memory:
Play the game… and then *think* about the process

What does a game have to do with study skills?

Think about your behaviour while you were playing the game. You can learn quite a few things about yourself that might be relevant to your skills as a student.

- Did you *want* to beat the computer? Motivation is critical to success. Wanting something badly enough to work for it will not guarantee success, but success will be much less likely without a high level of motivation. The goal here was simple: Beat the computer. But you may have had more important things to do, and if that goal wasn’t on your list of priorities, it is unlikely that you would even play the game. It is even more unlikely that you would win!

- Did you read the directions before you started? It is important to understand the rules of the game. If you did, you probably played more efficiently the first time you tried the game. If you didn’t, there is certainly no penalty in this case. But if this were an important exercise (like an assignment or a test or even a whole course) you would waste valuable time floundering around discovering the rules of the game for yourself. (There are advantages to that approach as well, of course. It depends on the circumstances.)

- Was your attention focused on the game itself? Concentration and focus are necessary. While you were playing the game, were you distracted by thoughts or events or people outside of the game? The greater the degree of attention you devoted to the game, the faster you learned the rules and the faster your performance improved.

- Did you devise your own strategies for winning? Managing your time and using appropriate tools are important determinants of success. While you were playing the game, were you actively thinking about how you could improve, or did you just keep trying the same old thing in the same old way and hoping for the best? To perform optimally, you usually need a plan. (A useful strategy might involve watching the whole pattern as you click to add a line. Knowing which line the computer highlights allows you to take immediate advantage of every 3-sided square the computer makes. There are other strategies (tools). ...you get the idea!)

- Did you try giving something up in order to obtain something else? You have to establish priorities and then be willing to focus on them - even if it means missing something else. Did you notice that an effective strategy in the game involves deliberately losing some points in order to gain more later on?

- Did you feel good when you won? It is important to reward yourself for your own successes. Some people might win this game and immediately tell themselves it was just a silly little game - or that their success just depended on luck. Did you punish yourself if you didn’t win? For example, did you think "I'm just no good at games," or worse, "I'm just no good at anything."

X. Close Window
The Psychology Study Skills Site (SSS):

SSS modules (Cont’d):

- require active interaction
  - Mod 6: *Concentration and Memory*
  - Mod 7: *Test-taking*

- ensure information relates to self (and provide us with evidence of participation)
  - Mod 3: *Taking Notes in Class*

- include self-assessment of understanding
  - Mod 1: *Time Management*

- include exercises and practice
  - Mod 2: *Textbook Reading*
Module 7 – Test taking: A practice test (must read and follow directions at top in order to complete the test before it times out):

Assignment 7-2: A Tiny Practice Test

This is a very short practice test. Carefully read the instructions below.

Instructions:

- This test is TIMED. You have 1 minute to complete the test. The timer began when you opened this page, and this page will close when the time is up.
- Read ALL the questions BEFORE you enter any answers.
- When you finish entering your answer into a box, DO NOT HIT the ENTER key. Instead, position the cursor in the next box with your mouse.

1. Write your name in the box below:
   Name:  

2. In the box below, write “Following directions is very important.”
   Enter here:  

3. In the box below, write the name of the day before yesterday.
   Day before yesterday:  

4. If $3 \times 4 \times 2 = 25$, write “green” in the box below. If not, write “purple” in the box below.
   Enter here:  

5. Spell the name of your hometown backward.
   Name of hometown (backward):  

6. In the box below, enter “true” or “false” in response to the following statement: “Following directions is easy!”
   Enter “true” or “false”  

7. “Following directions is very important.” If the preceding statement is true, briefly explain why it is true in the box below. If the statement is false, briefly explain why it is false.
   Explanation:  

8. Now that you have read all the questions, answer only questions 1 and 3. Then hit the SUBMIT button below.
The Psychology Study Skills Site (SSS): 

SSS modules (Cont’d):

- require active interaction
  - Mod 6: Concentration and Memory
  - Mod 7: Test-taking

- ensure information relates to self (and provide us with evidence of participation)
  - Mod 3: Taking Notes in Class

- include self-assessment of understanding
  - Mod 1: Time Management

- include exercises and practice
  - Mod 2: Textbook Reading
Module 3 – Taking notes in class
Self-assessment quizzes provide feedback:

Assignment 3-2: Are You an Active Listener?

Read each of the statements below, and then rate your response by clicking on appropriate circle. After you have clicked a circle for each question, click the “Submit for Assessment” button at the bottom of the page. Don’t forget to print out your assessment and hand it in to your instructor as indicated in your Course Outline:

1. I change the way I listen depending on whether I am listening for entertainment or for understanding.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

2. I intentionally try to determine the speaker’s purpose.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

3. I don’t listen carefully if I am not interested in what is being said.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

4. I pretend to listen when someone else is talking even when I am actually thinking about something else.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

5. When I listen to other people, I can usually identify their main point and their supporting arguments.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

6. If a person has irritating mannerisms (e.g., mumbling, using repetitious words or phrases, etc.), I stop listening to him or her.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

7. If I don’t understand what someone is saying, I ask him or her to rephrase what was just said.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

8. When I think the information I am listening to is too difficult, I stop listening.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

9. I take careful notes when I am listening to someone present detailed information that I know I should try to remember.
   - Always
   - Almost always
   - Often
   - Rarely
   - Never

10. If someone expresses ideas or uses words I find offensive or that I disagree with, I stop listening and think about why they are wrong.
    - Always
    - Almost always
    - Often
    - Rarely
    - Never
Module 3 – Taking notes in class
Self-assessment quizzes provide feedback:

Assignment 3-1: Listening Skills Assessment

Click in the boxes below next to the items that describe you most of the time. When you’re finished, click the Submit button at the bottom of the page.

1. I review my notes before each class.
2. I read the assigned material before each class.
3. Before class, I go to the restroom, or get a drink or eat so that I am not distracted in class.
4. In class, I sit where I am not likely to be distracted by other people.
5. In class, I sit where I am less likely to see things that might distract me.
6. In class, I sit where I can easily see the instructor.
7. In class, when I think of something I must do later, I quickly jot it down on my list of “things to do” so that I can continue to listen and not be distracted by thinking about personal issues.
8. If I am distracted by a personal problem during a lecture and I cannot write it on a “things to do” list, I force myself to stop thinking about it and listen to the lecture.
9. I listen particularly carefully to the instructor at the beginning of the lecture.
10. I try to ignore distractions associated with the instructor (e.g., mannerisms, appearance, borongynus, etc.).
11. I listen carefully for important concepts.
12. I listen for important details.
13. I listen and note when instructors state that something is either difficult or important.
14. I write down anything the instructor presents on the overhead, chalkboard or on the overhead computer screen.
15. I listen carefully to examples and try to understand how they relate to the material being discussed.
16. I pay close attention to my instructor’s nonverbal cues (e.g., gestures, expressions, tone of voice, looking spells).
17. If I do not understand something the instructor has said I ask for another explanation.
18. I ask questions to obtain further information when I am curious about something.
19. I listen for and note study hints that my instructor mentions.
20. I listen to my classmates’ observations and questions.

Submit for Assessment
Reset
Go back to Module 3 Main Page

JavaScript provided by The JavaScript Source
The Psychology Study Skills Site (SSS):

SSS modules (Cont’d):

• require active interaction
  • Mod 6: Concentration and Memory
  • Mod 7: Test-taking

• ensure information relates to self (and provide us with evidence of participation)
  • Mod 3: Taking Notes in Class

• include self-assessment of understanding
  • Mod 1: Time Management

• include exercises and practice
  • Mod 2: Textbook Reading
Module 1 – Time management: Quiz allows self-assessment of knowledge (with feedback following all responses):

### Module 1 - Quiz

**What do you know about time management, goals, and procrastination?**

<table>
<thead>
<tr>
<th>Question</th>
<th>Option A</th>
<th>Option B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Motivate yourself by studying your favorite subject first.</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>2. Procrastination is more likely once you create a time-management strategy.</td>
<td>True</td>
<td>False</td>
</tr>
</tbody>
</table>

- Not quite right! Although most people are inclined to study their favorite subject first, this is not a good idea. Study your least favorite subject first. Later, when you may feel less like studying, you will have something to study that you are more likely to enjoy. 
- Incidentally, you might be curious as to why people choose their favorite subject first. Psychologists have concluded that people tend to choose those things that make them feel good, those things with which they are most comfortable. Some of your subjects make you feel more anxious than others. Anxiety is not comfortable and you prefer to avoid it. Therefore you tend to avoid those things associated with it - such as your more difficult or "less interesting" subjects. Sometimes understanding why you are doing something helps you change your behavior, and sometimes it doesn't. But at least you know more than you did before.

| 3. Schoolwork and leisure need to be balanced.                          | True     | False    |
| 4. You can convert study blocks to free time if you have finished all of your reading and all of your assignments. | True     | False    |
The Psychology Study Skills Site (SSS):

SSS modules (Cont’d):

- require active interaction
  - Mod 6: *Concentration and Memory*
  - Mod 7: *Test-taking*

- ensure information relates to self (and provide us with evidence of participation)
  - Mod 3: *Taking Notes in Class*

- include self-assessment of understanding
  - Mod 1: *Time Management*

- include exercises and practice
  - Mod 2: *Textbook Reading*
Now it's time to try this technique for yourself:

- **First**, read (or print and read) "The General Adaptation Syndrome" from box below. This material is identical to the information in your text, so you could use your text itself if you prefer. (The original material includes a graph but that is only available in your textbook.)

   "The General Adaptation Syndrome"

- **Next**, make notes on "The General Adaptation Syndrome" using the suggestions above as your guide.
- **Finally**, compare your own notes to the copy of the notes below completed by two Psychology instructors and a learning skills consultant. *(No peeking until you have finished your own notes!)*

   Notes on "The General Adaptation Syndrome"

- **Comparison:**
  - It should be obvious that your notes and the notes in the example will not be identical. Much individual variation will be apparent in this sort of exercise.
  - However, you should review and/or consult with your instructor or a consultant at MRU Student Learning Services if either of the statements below is true:
    - you were unable to identify the topic sentence in most paragraphs
    - you missed key concepts in several paragraphs

   This completes Assignment 2-3. Go back to Module 2 Main Page
Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

- Background and pilot study

- The Psychology Study Skills Site (the "SSS")

- The SSS study
  - Methodology
  - Implementation
  - Participants
  - Results
  - Conclusions

- Further considerations...?

- ... and acknowledgements
Methodology:

- Intention: assess effects of use of SSS on attitudes and performance

- Control site: the *Psychology Readings Site*

- Measures:
  - surveys (self-report):
    - the *Study Behavior Inventory* (SBI)
    - the *SSS Questionnaire* (SSS)
  - marks/grades:
    - term and final exam marks
    - final grades in years subsequent to study
  - qualitative data

- Design: **groups**
Psychology Readings: Module 3

Read the information below and then click on the title below to open the article

CONDITIONED EMOTIONAL REACTIONS

By John B. Watson and Rosalie Rayner(1920)


This third study is the original paper published by Watson and Rayner in 1920 describing their work with Little Albert. This experiment is described in your text on page 170.

This experiment is well-known because for the first time it was demonstrated that Pavlov’s ideas applied to humans.

However, the ethics of the experiment are, at best, questionable. Watson and Rayner did not measure Little Albert’s fear and distress. Also, because Alberta was adopted soon after the completion of the experiment, the researchers did not extinguish the fear they had conditioned in Albert.

Click on the Quiz below to open the related questions. Select the correct responses. Repeat the quiz until your score is at least 90%. (Click on the quiz link below to bring it up as many times as required)

Once you have received 90% or 100% on the quiz, click on the "Show questions one by one" button so that only one question is showing on the screen.

Print the Quiz page with your score at the top, and add the page to Envelope #3.

Go to Quiz 3

Back to the index page
Methodology:

- **Intention:** assess effects of use of SSS on attitudes and performance

- **Control site:** the *Psychology Readings Site*

- **Measures:**
  - surveys (self-report):
    - the *Study Behavior Inventory* (SBI)
    - the *SSS Questionnaire* (SSS)
  - marks/grades:
    - term and final exam marks
    - final grades in years subsequent to study
  - qualitative data

- **Design:** groups
The Study Behavior Inventory (SBI):

46 items loaded onto three factors:

- factor 1: ...self-efficacy, adequacy as a student
- factor 2: ...routine, day-to-day behaviors
- factor 3: ...long-range academic tasks

Subscales provided data related to attitudes towards:

- time management
- studying / reading
- general study habits
- listening / notetaking
- test taking
- test anxiety
- writing skills
- faculty relations

Provided individualized results and an “SBI Report” to students
SBI sample item:

My studying is done in a random, unplanned manner--motivated mostly by the demands of approaching classes.
SBI results provided to students as raw scores and percentile scores:

<table>
<thead>
<tr>
<th>Raw Scores</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>42</td>
<td></td>
<td></td>
<td>116</td>
</tr>
<tr>
<td>Factor 2</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 3</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Raw scores are used for research purposes only)

<table>
<thead>
<tr>
<th>Percentile Scores</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Confidence</td>
<td>56</td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Short-Term Study-Habits</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-Term Study-Habits</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Score | 16 |

Date/time of test: 5/10/2007 5:35:34 PM
SBI Report provided to students:

Custom SBI Survey Report
For DENT, STU
ID: 234-56-7899
Survey Taken On: Thursday - May 10, 2007

<table>
<thead>
<tr>
<th>Raw Score:</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Percentile Scores</td>
<td>Academic Confidence</td>
<td>Short-Term Study Habits</td>
<td>Long-Term Study Habits</td>
<td>Total</td>
</tr>
<tr>
<td>56</td>
<td>11</td>
<td>33</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

INTERPRETING YOUR PERCENTILE SCORES

Percentile scores are NOT percentage scores. Rather, percentile scores are a way of comparing your study behaviors and attitudes with those of more than 5,000 other undergraduate students who took the survey. These students possessed the same range of skills and attitudes, but this range varied from the lower scores of 1 to the highest score of 99. Fifty (50) in an average score and represents student characteristics that result in average grades.

For instance, if your percentile score on a given Factor is 50, that means that half of surveyed students scored lower than you, and half scored higher than you. So percentile scores are comparative scores.

Your score on FACTOR 1 measures your academic confidence. It indicates how you feel about your ability to cope with difficulties that nearly everyone encounters at some time while taking college courses. Such feelings might involve test anxiety, concern about writing papers, worry about getting assignments in on time, or overconcern about asking questions in class or approaching your instructor during class hours.

FACTOR 2 has to do with preparation for routine, day-to-day academic tasks. Such tasks include reviewing class notes in preparation for the next session, doing assigned reading, completing homework assignments, and preparing for short quizzes.

FACTOR 3 deals with planning and carrying out specific, long-range academic tasks such as writing research papers, completing projects, preparing oral reports, and studying for major exams. These activities involve planning over long periods of time and do not occur on a regular, day-to-day basis.

The TOTAL SCORE is general and rates your overall performance on the survey. It also is a credible predictor of grade-point average.

A guideline or a rule of thumb for interpreting your scores is that: If a percentile score is 40 or higher, it is considered adequate to achieve average or better than average grades. The higher the score, the stronger the skill or behavior, and the higher the grade prediction. Percentile scores below 40 or considerably below 40 indicate areas you probably need to improve in order to learn more efficiently or to earn higher grades.

YOUR SURVEY RESULTS ON EIGHT SPECIFIC STUDY BEHAVIORS AND ATTITUDES
Methodology:

- Intention: assess effects of use of SSS on attitudes and performance
- Control site: the *Psychology Readings Site*
- Measures:
  - surveys (self-report):
    - the *Study Behavior Inventory* (SBI)
    - the *SSS Questionnaire* (SSS)
  - marks/grades:
    - term and final exam marks
    - final grades in years subsequent to study
  - qualitative data
- Design: *groups*
The SSS Questionnaire:

- CTL Silhouette online survey tool (no longer available)

We created 3 versions:

- **Pre-test**
  - both experimental and control groups
  - collected demographic data

- **Post-test**
  - experiment group
  - Student Learning Centre assistance during term?
  - questions related to Study Skills Site

- **Post-test**
  - control group
  - Student Learning Centre assistance during term?
  - Included questions related to Psychology Readings Site

- Online access

- Response data went directly to database

- Password-protected server at Washington State U
Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

➤ Background and pilot study

➤ The Psychology Study Skills Site (the "SSS")

➤ The SSS study
  • Methodology
  • Implementation
  • Participants
  • Results
  • Conclusions

➤ Further considerations...?

➤ ... and acknowledgements
Implementation:

- Two consecutive winter terms
- 35 students in each of \((21 + 23 =) 44\) sections of Psyc 2205
- Notice in Psyc 2205 course outline
  - "SSS Project"
  - 5% bonus credit!!!!
  - URL for online information
- "Sign-up"
  - first 2 weeks of term
  - consent forms
  - participants randomly assigned to experimental or control group
- Information website directed participants to complete:
  - 2 surveys at beginning and 2 at end of term
  - particular SSS or control site modules at specific times during the term
- Instructors
  - minimally involved - referred questions to us
  - not told which students were participating
- No class time taken up
- End of term:
  - bonus information given to instructors
  - grades information collected from instructors
Notice in Psyc 2205 Course Outline:

5% Research Bonus!
The SSS Project – Winter, 2007

- This term only! **In addition** to the course components listed on this outline, a 5% **bonus** (that is, 5% above and beyond the 100% allocated for the course requirements) is available to all Psychology 2205 students in Winter 2007.
  - 5% can make a **big** difference to your grade.
  - For example, if your final Psyc 2205 mark is 75% or B-, a 5% bonus would give you a grade of **80%** or B+ … an increase of 2 letter grades!

- You must decide NOW whether you want the 5% bonus:
  - To obtain this 5% bonus, you must **start the “SSS Project” at the beginning of this term**.
  - If you wait a few days you may miss the opportunity, and you will **not** be able to join up later.

- **Find out how to begin.** Go to [http://wwwacad.mtroyal.ca/sss/](http://wwwacad.mtroyal.ca/sss/)

Please note: This 5% bonus is **entirely separate** and distinct from the “2% research experience credit” which is part of the course requirements and is described under “Research Experience” in this outline.
Consent Form:

Consent Form
The Psychology 2205 Study Skills Project

Information on the Study Skills Project is available on the website below
http://wwwacad.mtroyal.ca/sss/directions

Please read the following carefully:

• I understand the information on the webpages (URL above), and I would like to participate in the study.

• I understand that if I choose to participate now, I can later decide at any time to withdraw from the study. I can still obtain the bonus credit if I complete the required work as described on the webpage above.

• I understand that whether I choose to participate or not, my decision will have no effect on my grade in the course.

• I understand that if I choose to participate, a Learning Consultant (Learning Skills Centre) will access my grades in the future. As soon as they are obtained, my grades will be stored in a database under a code number, and my name will be erased from the file. No one will ever be able to determine the origin of the grade information.

• I understand that if I decide not to participate (not to sign this form), I can still obtain the 5% bonus if I complete the non-study-related work as described on the webpage above.

• I understand that if I now decide not to participate (not to sign this form), I cannot later decide to participate in the study.

• I understand that, whether I participate or not, I must complete all the required work as described on the webpage above in order to obtain the full 5% bonus. If I complete part of the work, or if the work is not completed on time, I will receive only part of the bonus (again, as described on the webpage information).

Further information about the study is available from Gen Thurlow (EA3066; 440-6429) at gthurlow@mtroyal.ca. Please feel free to contact Gen if you have a question.

This study has been approved by the Mount Royal College Human Research Ethics Board (HREB). If you have questions related to the ethics of this study, please contact the HREB Chair, Sinc MacRae at 440-6543.

If you decide to participate, you will likely be very interested in the results of this study. The initial results of the Study Skills Project will be available to you by the Fall 2007 term via a link on the webpage above. Contact Gen Thurlow (gthurlow@mtroyal.ca) or Nancy Ogden (nogden@mtroyal.ca) in the Behavioural Sciences department for further information.

Your signature below will indicate that you have read and understood the information on the SSS Project website, have read and understood the information provided above, and have decided to participate in the SSS Project.

Signatures…
Groups:

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beginning of term:</strong></td>
<td><strong>Beginning of term:</strong></td>
</tr>
<tr>
<td>• Study Behaviour Inventory</td>
<td>• Study Behaviour Inventory</td>
</tr>
<tr>
<td>• Pre-SSS Questionnaire</td>
<td>• Pre-SSS Questionnaire</td>
</tr>
<tr>
<td><strong>During the term:</strong></td>
<td><strong>During the term:</strong></td>
</tr>
<tr>
<td>• <strong>Study Skills Site (SSS)</strong></td>
<td>• <strong>Psychology Readings Site</strong></td>
</tr>
<tr>
<td><strong>End of term:</strong></td>
<td><strong>End of term:</strong></td>
</tr>
<tr>
<td>• Study Behaviour Inventory</td>
<td>• Study Behaviour Inventory</td>
</tr>
<tr>
<td>• Post-SSS Questionnaire (Exp)</td>
<td>• Post-SSS Questionnaire (Cont)</td>
</tr>
<tr>
<td>• Term and Final grades</td>
<td>• Term and Final grades</td>
</tr>
<tr>
<td>• Future grades?</td>
<td>• Future grades?</td>
</tr>
</tbody>
</table>
Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

Background and pilot study

The Psychology Study Skills Site (the "SSS")

The SSS study
- Methodology
- Implementation
- Participants
- Results
- Conclusions

Further considerations...?

... and acknowledgements
Participants:

- Numbers
  - combined data over two terms

- demographics
  - gender (all participants)
  - gender (completed all requirements)
  - # of courses taken during term
  - program (completed all requirements)
  - age (completed all requirements)
  - first language (completed all requirements)
Student numbers combined over two terms:

Experimental group: \( n = 131 \)
Control group: \( n = 162 \)
Participant’s gender:

Total participants:

<table>
<thead>
<tr>
<th>Term 1</th>
<th>male</th>
<th>female</th>
<th>NA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>86</td>
<td>256</td>
<td>(116)</td>
<td>342</td>
</tr>
<tr>
<td></td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term 2</th>
<th>male</th>
<th>female</th>
<th>NA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>97</td>
<td>288</td>
<td>(152)</td>
<td>385</td>
</tr>
<tr>
<td></td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Participants completing all requirements:

<table>
<thead>
<tr>
<th>gender</th>
<th>male</th>
<th>female</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>control group</td>
<td>47</td>
<td>140</td>
<td>187</td>
</tr>
<tr>
<td></td>
<td>25.1%</td>
<td>74.9%</td>
<td>100%</td>
</tr>
<tr>
<td>experimental group</td>
<td>23</td>
<td>113</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>16.9%</td>
<td>83.1%</td>
<td>100%</td>
</tr>
<tr>
<td>total</td>
<td>70</td>
<td>253</td>
<td>323</td>
</tr>
<tr>
<td></td>
<td>21.7%</td>
<td>78.3%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi Square: ns
Participants’ program:

<table>
<thead>
<tr>
<th>Program Type</th>
<th>4-yr BA app</th>
<th>4-yr BA AU</th>
<th>U transfer</th>
<th>2-yr diploma</th>
<th>1-yr certificate</th>
<th>Part-time</th>
<th>Cont Ed</th>
<th>Other or?</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cont group</td>
<td>16</td>
<td>11</td>
<td>96</td>
<td>26</td>
<td>1</td>
<td>13</td>
<td>4</td>
<td>21</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>8.5%</td>
<td>5.9%</td>
<td>51.1%</td>
<td>13.8%</td>
<td>0.5%</td>
<td>6.9%</td>
<td>2.1%</td>
<td>11.2%</td>
<td>100%</td>
</tr>
<tr>
<td>Exp group</td>
<td>8</td>
<td>12</td>
<td>69</td>
<td>15</td>
<td>0</td>
<td>11</td>
<td>3</td>
<td>18</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>5.9%</td>
<td>8.8%</td>
<td>50.7%</td>
<td>11.0%</td>
<td>0.0%</td>
<td>8.1%</td>
<td>2.2%</td>
<td>13.2%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>23</td>
<td>165</td>
<td>41</td>
<td>1</td>
<td>24</td>
<td>7</td>
<td>39</td>
<td>324</td>
</tr>
<tr>
<td></td>
<td>7.4%</td>
<td>7.1%</td>
<td>50.9%</td>
<td>12.7%</td>
<td>0.3%</td>
<td>7.4%</td>
<td>2.2%</td>
<td>12.0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi Square: ns
## Participants’ age:

<table>
<thead>
<tr>
<th></th>
<th>under 21</th>
<th>21-25</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
<th>41-50</th>
<th>51-60</th>
<th>over 60</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>cont group</strong></td>
<td>112</td>
<td>57</td>
<td>11</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>59.6</td>
<td>30.3</td>
<td>5.9</td>
<td>1.1</td>
<td>1.6</td>
<td>1.1</td>
<td>0.5</td>
<td>0.0</td>
<td>100%</td>
</tr>
<tr>
<td><strong>exp group</strong></td>
<td>89</td>
<td>30</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>65.4</td>
<td>22.1</td>
<td>7.4</td>
<td>1.5</td>
<td>1.5</td>
<td>2.2</td>
<td>0.0</td>
<td>0.0</td>
<td>100%</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td>201</td>
<td>87</td>
<td>21</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>324</td>
</tr>
<tr>
<td></td>
<td>62.0</td>
<td>26.9</td>
<td>6.5</td>
<td>1.2</td>
<td>1.5</td>
<td>1.5</td>
<td>0.3</td>
<td>0.0</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi Square: ns
Participants’ first language:

<table>
<thead>
<tr>
<th></th>
<th>1st language</th>
<th></th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English</td>
<td>other</td>
<td></td>
</tr>
<tr>
<td>control group</td>
<td>173</td>
<td>13</td>
<td>186</td>
</tr>
<tr>
<td></td>
<td>93.0%</td>
<td>7.0%</td>
<td>100%</td>
</tr>
<tr>
<td>experimental group</td>
<td>127</td>
<td>7</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>94.8%</td>
<td>5.2%</td>
<td>100%</td>
</tr>
<tr>
<td>total</td>
<td>300</td>
<td>20</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>93.8%</td>
<td>6.3%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi Square: ns
Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

- Background and pilot study
- The Psychology Study Skills Site (the "SSS")

The study
- Methodology
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- Participants
- Results
- Conclusions

Further considerations...?

... and acknowledgements
Results:

➢ Scholastic performance
   • grades during SSS term
   • grades during subsequent terms

➢ Self-efficacy and study skills attitudes
   • Study Behavior Inventory (SBI)
   • SSS Questionnaire

➢ Qualitative data
   • comments re website were mainly positive
   • most participants were "neutral" or "positive" about control group assignment
   • pre/post references to study skills
Results: Scholastic Performance

Psyc 2205 students wrote:
  • 4 term tests (multiple-choice & written)
  • final exam

Experimental vs. control group:
  • Term tests (multiple-choice & written) and final grade:
    • No difference between groups

"Completers" vs "non-completers" vs non-participants
Results: Scholastic Performance
"Completers" vs "non-completers" vs non-participants:

➤ Term test scores (multiple-choice & written) and final grade
➤ Within each grade category, all 3 groups had significantly different scores:

<table>
<thead>
<tr>
<th></th>
<th>Completers</th>
<th>Non-completers</th>
<th>Non-participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term: multiple-choice</td>
<td>73.11 (B-)</td>
<td>68.20 (C+)</td>
<td>65.00 (C)</td>
</tr>
<tr>
<td>Term: written</td>
<td>75.70 (B)</td>
<td>71.25 (C+)</td>
<td>65.09 (C)</td>
</tr>
<tr>
<td>Final grade:</td>
<td>68.87 (C+)</td>
<td>66.81 (C)</td>
<td>64.00 (C)</td>
</tr>
</tbody>
</table>

➤ Term test scores - multiple choice:

• All 3 groups had significantly different MC scores
  • Group effect: F(2, 1175) = 41.12  p<.001
  • Post hoc (Scheffe p<.05)
Results: Scholastic Performance
"Completers" vs "non-completers" vs non-participants:

Term test scores – written:

- All 3 groups had significantly different SA scores
  - Group effect: $F(2, 1185) = 48.5$  $p<.001$
  - Post hoc (Scheffe $p<.05$)
  - Test effect: $F(3, 3555) = 38.55$  $p<.001$
  - Post hoc (Scheffe $p<.05$)

- There were group differences on some SA tests
  - Interaction of group x test: $F(6, 3555) = 6.8$  $p<.001$

Final grade:

- All 3 groups had significantly different final grades
  - Group effect: $F(2, 1185) = 48.5$  $p<.001$
  - Post hoc (Scheffe $p<.05$)
Results: Scholastic Performance

"Completers" vs "non-completers" vs non-participants:

Term test scores – written:
Significant group differences on 1st, 3rd & final SA tests, but for the 2nd test completers (72.16) and non-completers (70.10) were not significantly different although both differed from the non-participators (65.65)
Results:

➢ Scholastic performance
  • grades during SSS term
  • grades during subsequent terms

➢ Self-efficacy and study skills attitudes
  • Study Behavior Inventory (SBI)
  • SSS Questionnaire

➢ Qualitative data
  • comments re website were mainly positive
  • most participants were "neutral" or "positive" about control group assignment
  • pre/post references to study skills
Results: Study Behaviour Inventory (SBI):

➤ **Factor 1**: academic confidence / academic self-efficacy
  • e.g. test anxiety, concern about writing papers, worry about getting assignments in on time, over-concern about asking questions in class or approaching an instructor

➤ **Factor 2**: preparation for routine, day-to-day academic tasks
  • e.g. reviewing class notes in preparation for class, doing assigned reading, completing assignments, preparing for short quizzes

➤ **Factor 3**: planning and carrying out specific long-range academic tasks
  • e.g. writing research papers, completing projects, preparing oral reports, studying for major exams
Factor 1: Academic confidence / academic self-efficacy

- e.g. test anxiety, concern about writing papers, worry about getting assignments in on time, over-concern about asking questions in class or approaching an instructor

Efficacy scores increased over the term for the experimental group but not for the control group.

- Time effect: $F(1,297) = 71.2 \; p < .001$
- Group effect: NS
- Group x time: $F(1,297) = 22.2 \; p < .001$
**Factor 2:** Preparation for routine, day-to-day academic tasks
e.g. reviewing class notes in preparation for class, doing assigned reading, completing assignments, preparing for short quizzes

Scores for behaviours having to do with day-to-day routine tasks *increased* over the term for the experimental group but not for the control group.

- **Time effect:**
  \[ F(1,297) = 27.76 \quad p < .001 \]
- **Group effect:**
  NS
- **Group x time:**
  \[ F(1,297) = 20.9 \quad p < .001 \]
**Factor 3:** Planning and carrying out specific long-range academic tasks e.g. writing research papers, completing projects, preparing oral reports, studying for major exams

Scores for behaviours having to do with long-range planning/tasks increased over the term for the experimental group but not for the control group.

- **Time effect:**
  \[ F(1,297) = 28.6 \quad p < .001 \]

- **Group effect:**
  \[ \text{NS} \]

- **Group x time:**
  \[ F(1,297) = 10.4 \quad p < .001 \]
Results: Study Behaviour Inventory (SBI):

SBI Subscales - changes in scores over the term:

- Scores significantly increased for the experimental but not for the control group:
  - Time management
  - Studying and reading
  - General study habits
  - Listening / note-taking
  - Test taking
  - Test anxiety

  Note: each subscale measured skills that related to SSS content

- Scores increased for both groups
  - Writing skills (not included on SSS)

- Scores for "faculty relations" did not change; the SSS had no effect on "faculty relations" scores
  - Faculty relations (not included on SSS)
SBI Subscale: **Time Management**  
(SSS Module 1)

Time management scores improved over the term for the experimental group but not for the control group.

- **Time effect:**  
  \[ F(1,297) = 13.2 \quad p < .001 \]

- **Group x time:**  
  \[ F(1,297) = 8.01 \quad p < .01 \]

- **Simple main effects:**  
  * Pre vs post for exp group:  
    \[ F(1,198) = 12.27 \quad p < .001 \]
  ** Exp vs cont at pre test:  
    \[ F(1,729) = 4.45 \quad p < .05 \]
SBI Subscale: **Studying and Reading**  
(SSS Modules 2 and 4)

Studying and reading scores increased over the term for the experimental group but not for the control group.

- **Time effect:**  
  \[ F(1,297) = 13.8 \quad p < .001 \]

- **Group x time:**  
  \[ F(1,297) = 3.15 \quad p < .08 \text{ (NS)} \]

- **Simple main effect:**  
  * Pre vs post for exp group:  
  \[ F(1,198) = 14.8 \quad p < .001 \]
**SBI Subscale: General Study Habits**  
(Most SSS modules involved)

General study habit scores increased over the term for the experimental group but not for the control group.

- **Time effect:**  
  \[ F(1,297) = 6.0 \quad p < .001 \]

- **Group x time:**  
  \[ F(1,297) = 4.2 \quad p < .05 \]

- **Simple main effect:**  
  - Pre vs post for exp group:  
    \[ F(1,198) = 9.69 \quad p < .01 \]

![Graph showing SBI subscale: General study habits](image)
SBI Subscale: Listening and Note-Taking (SSS Module 3)

Listening and note-taking scores increased over the term for the experimental group but not for the control group.

- **Time effect:**
  - $F(1,297) = 4.2$  
  - $p < .05$

- **Group x time:**
  - $F(1,297) = 8.42$  
  - $p < .01$

- **Simple main effect:**
  - Pre vs post for exp group:
    - $F(1,198) = 5.52$  
    - $p < .05$
Test-taking scores increased over the term for the experimental group but not for the control group.

- **Time effect:**
  \[ F(1,297) = 3.9 \quad p < .05 \]

- **Group x time:**
  \[ F(1,297) = 6.5 \quad p < .01 \]

- **Simple main effects:**
  - Pre vs post for exp group:
    \[ F(1,198) = 11.13 \quad p < .01 \]
  - **Exp vs cont group at post test:**
    \[ F(1,446) = 14.39 \quad p < .001 \]
SBI Subscale: **Test Anxiety**  
(SSS Module 3)

Test anxiety scores increased over the term for the experimental group but not for the control group (indicating a *decrease* in test anxiety, *not an increase*). The two groups differed at pretest.

- **Time effect:**  
  \[ F(1,297) = 15.9 \quad p < .001 \]

- **Group x time:**  
  \[ F(1,297) = 12.6 \quad p < .001 \]

- **Simple main effects:**  
  * Pre vs post for exp group:  
    \[ F(1,198) = 37.24 \quad p < .001 \]
  ** Exp vs cont group at pre test:  
    \[ F(1,729) = 3.9 \quad p < .05 \]
SBI Subscale: Writing Skills
(SSS did not include information on writing skills)

Writing scores increased over the term for both groups.

- **Time effect**: $F(1, 297) = 13.8$  \( p < .05 \)
- **Group effect**: NS
- **Group x time**: NS
Scores for "faculty relations" did not change during the term, and the SSS had no effect on "faculty relations" scores.

- **Time effect:** NS
- **Group effect:** NS
- **Group x time:** NS
Results:

- Scholastic performance
  - grades during SSS term
  - grades during subsequent terms

- Self-efficacy and study skills attitudes
  - Study Behavior Inventory (SBI)
  - SSS Questionnaire

- Qualitative data
  - comments re website were mainly positive
  - most participants were "neutral" or "positive" about control group assignment
  - *pre/post* references to study skills
Results: Qualitative Data

What did you like about "The Psychology Study Skills Site"?

- "the step by step approach. how it literally made you see your time management with a made up schedule"

- "I liked that it helped focus and let me relax, also i realized everyone feels stressed out. Of course I loved that it was worth 5%"

- "I liked how the project corresponded to the course. When examples were given in the SSS project, they were from the material we learned in class"

- "i liked how it was divided into modules and was very organized so that i always knew what i was learning. I also liked how it made you do assignments because it made me realize what i do to study"

- "It was pretty convenient in that, I could access this site anywhere and even when I was at home I was able to progress through the modules at my own pace"

- "I found this to be an excellent experience and has opened my eyes to the bad habits that I have control over and can change. It also has taught me about discipline and how to maintain focus and concentration. I thoroughly enjoyed the information provided in this study, I am thankful for the opportunity"
Results: Qualitative Data

What did you dislike about "The Psychology Study Skills Site"?

27%: "nothing"

Examples:

- "It took some extra time sometimes and there was a lot of reading"
- "The first few modules were a lot of work and overwhelming for the beginning of the semester"
- "some of the sections were just common sense"
- "Some of it was quite long and tedious"
- "I didn't like the fact that this website assumed that we didn't know anything about studying on our own"
- "there is a LOT of reading"
- "Sometimes it went into too much detail"
Results: Qualitative Data

Do you think your performance in Psyc 2205 was helped by anything you learned from "The Psychology Study Skills Site"?

▶ "no" 16%
  
  • "uum no not really, sorry"
  
  • "no. But it could have been, had I used them"

▶ "yes" 84%
  
  • "Yes, ... a wealth of useful and practical info on how to learn. I wish something like this was available the first time I attempted college"
  
  • "Yes. It helped reinforce habits I already knew, and gave ideas as to which new ones i should adopt"
Results: Qualitative Data

Have you used any of the information in "The Psychology Study Skills Site" to help you in other courses?

- "no" 19%
- "yes" 81%

Examples:

- "Yes. I really didn't know much about how to study til now"
- "yes, mind mapping was very helpful in my RELS 2203 class"
- "yes, not very many but i do read the textbook now"
- "yes, they have been very helpful in Sociology 2201"
Results: Qualitative Data

Do you think you will use anything you learned from "The Psychology Study Skills Site" in any future courses?

- "no" 5%
- "yes" 95%

Examples:

- "yes I've printed everything off and find myself going back to it often"
- "Yes I printed out all the things I found worth while and have them in a binder for review."
- "ya. i'd like to have continued access to the site so i can have access the the tips in case i forget the ones i haven't yet actively applied to my study"
- "Yes, if I am not too lazy to use the information"
Results: Qualitative Data

Which strategies from "The Psychology Study Skills Site" have you used?

- "I like the note taking strategies and the topic about stress, it made me look at myself more"

- "Most of them"

- "I honestly think that i used all of the strategies to a certain extent"

- "stress coping, motivation, and putting things in my words"

- "how to manage my time"

- "highlighting techniques, reading techniques, flow charts"

- "I've started creating mind maps when I study - not often, but when I feel like I need to organize some material in my head - which is something I never did before"
Results: Qualitative Data

Which strategies from "The Psychology Study Skills Site" have you found to be the most effective for you?

- "I really found the calendar the most effective. I always was told to make up a schedule but I never did until this SSS and I have found that having a calendar of events is really useful"

- "The time management section taught me how to spread things out and not leave things until the last minute to reduce stress and anxiety"

- "I have found almost all of it helpful"

- "studying in a quiet area without distractions like tv or people talking"

- "none"
Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

Background and pilot study

The Psychology Study Skills Site (the "SSS")

The study
- Methodology
- Implementation
- Participants
- Results
- Conclusions

Further considerations...?

... and acknowledgements
Conclusions:

- Completers' grades > non-completers' grades > non-participants' grades
  - Benefit of participation?
  - Completers more highly motivated?
  - Completers better students to begin with?

- Experimental group did *not* receive higher grades than control group

  - Grades important, *but not only metric* for measuring success
  - e.g., retention programs emphasize development of academic self-efficacy because it relates to student *persistence* in academic programs.
Conclusions continued:

- Experimental (but not control) group perceived increases in:
  - Academic self-efficacy
  - Self-management: ability to plan & carry out academic tasks:
    - day-to-day (e.g., assigned reading)
    - long-range (e.g., exam prep)

- Tangible effects of such changes in self-perception? ...unknown, but:
  - Research indicates students with “positive feelings about their academic abilities” are more likely to use the study skills they possess (Bliss & Mueller, 1987).
  - In turn, this increased confidence in academic self-efficacy is strongly correlated with retention (Alexander, 2003; Boylan, 2002; Kuo et al., 2004; Simpson & Nist, 2000).
  - For this reason we continue to follow completers for 3 yrs to monitor possible long-term "sleeper" effects.
Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

- Background and pilot study
- The Psychology Study Skills Site (the "SSS")
- The study
  - Methodology
  - Implementation
  - Participants
  - Results
  - Conclusions
- Further considerations...
- ... and acknowledgements
Further considerations:

- Motivated students became, and *remained*, engaged in the process... and perceived a benefit as a result.

- Indeed, our *pilot data* indicates that less experienced students were more likely than more experienced students to benefit from study skills information.

- There is, therefore, a need to *build-in* a process that routinely makes available opportunities for higher risk students to engage in study skill development – particularly *contextualized learning experiences*.
  - Both our data and the data of others emphasize the importance of study instruction in *relevant contexts* (Alexander, 2003; Allgood, Risko, Alvarez & Fairbanks, 2000; Hadwin & Winne, 1996; Johnson & Carpenter, 2000; Lan, 2005; Ruban, & Reis, 2006; Simpson et al., 2004; Wood, Motz, & Willoughby, 1998).
  - That is, students benefit most when they have the opportunity to practice strategies in a meaningful environment where they can apply their own strategy use to significant learning situations.
Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

- Background and pilot study
- The Psychology Study Skills Site (the "SSS")
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  - Implementation
  - Participants
  - Results
  - Conclusions
- Further considerations...?
- ... and acknowledgements
Effects on Student Self-Efficacy, Attitudes and Performance Following Integration of Study Strategy Information into Course Content

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Results: Scholastic Performance
"Completers" vs "non-completers" vs non-participants:

Term test scores - multiple choice:

- MC test scores all differed significantly from others except *
  - Test 1: 70.6
  - Test 2: 71.39
  - Test 3: 70.51
  - Test 4: 67.67
  - Final: 63.68

  * 1 didn't differ from 2 or 3
Results: Scholastic Performance
"Completers" vs "non-completers" vs non-participants:

Term test scores – written:

- SA test scores varied significantly for all groups
  Test 1: 73.3
  Test 2: 72.0
  Test 3: 69.3
  Final: 68.12
Results: Scholastic Performance
"Completers" vs "non-completers" vs non-participants:

Term test scores - short answer (SA):

Significant group differences on the 1st, 3rd and final SA tests, but for the 2nd test the completers (72.16) and the non-completers (70.10) were not significantly different although both differed from the non-participators (65.65)
Figure....
SBI Subscales - changes in scores over the term:

SBI subscales emphasized on SSS:

- **Time management**
- **Listening and note taking**
- **Studying and reading**
- **Test taking**
- **General study habits**
- **Test anxiety**
SBI Subscales (changes in scores over the term):

SBI subscales *not* emphasized on SSS:

- **Writing skills**: The graph shows an increase in average scores from Time 1 to Time 2 for both experimental and control groups. The experimental group has a slightly higher average score than the control group.

- **Faculty relations**: The graph also shows an increase in average scores from Time 1 to Time 2 for both experimental and control groups. The experimental group has a higher average score than the control group at Time 2.