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How Do Motivational Strategies Affect Student Learning and Instructor Planning?

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HOW DO MOTIVATIONAL STRATEGIES AFFECT STUDENT LEARNING AND INSTRUCTOR PLANNING?

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&
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Motivation

- A foundational determinant that both directs and regulates human behavior. Derived from the word motivus ("a moving cause"), motivation has been defined as those forces acting either on or within a person to initiate behavior (Society for Organized and Industrial Psychology 2003).

- Motivation is also described as anything that provides direction, intensity and persistence to behavior (Kafner 1990).
Keller’s ARCS Model

- The Literature
  - Student’s level of interest (Attention and Relevance), Confidence, and Satisfaction influences their dedication to learning (Driscoll, 2004; Keller, 1987).
  - Proxies for Attention, Relevance Confidence and Satisfaction:
    - Locus of control
    - Self-efficacy
    - Goal clarity

- Motivational Strategy

![Diagram of ARCS Model]
The Courses: Lower Div. Principles I Accounting; Upper Div. AIS & FSA

- **Central Focus:** is the composition of the Financial Statements according to generally accepted accounting standards (GAAP).

- **Unique Learning Challenge:**
  - Accounting courses present unique learning challenges
  - Application of standards are not always intuitive and even at times arcane.
  - A puzzle that the students are given pieces of to put together but don’t even know what it is supposed to look like. They don’t have the box to look at.
SoTL Research Questions

1. Will the use of a motivational strategy affect upper division accounting students’ locus of control, self-efficacy and goal clarity?

2. Will the use of a motivational strategy affect lower division accounting students’ locus of control, self-efficacy and goal clarity?

3. Will there be a difference in the effects that a motivational strategy will have on upper division and lower division accounting students’ motivation?
Survey Methodology

Sample:

- The overall sample consists of students (n = 82).
- Lower division: Principles of Accounting I (n = 47).

To assess changes and levels of students’ motivation, locus of control, self-efficacy and goal clarity, surveys are administered to accounting students from lower and upper division accounting classes at the beginning and end of the semester.

Although questions are obtained from surveys validated by prior studies, we also use a data reduction process (principal axis factoring) to extract observed responses intended to measure our constructs of interest.

Using these measures, regression analysis was utilized to identify the explanatory relationship between the three independent variables: locus of control, self efficacy and goal clarity and motivation.
Table 1: Univariate Correlations: Motivation and Locus of Control, Self-Efficacy and Goal Clarity

<table>
<thead>
<tr>
<th>Model 1</th>
<th>( MOT_{it} = LOC_{it} + e_{it} )</th>
<th>Coefficient</th>
<th>S. E.</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( LOC_{it} )</td>
<td>0.460</td>
<td>0.113</td>
<td>4.059</td>
<td>0.000***</td>
</tr>
<tr>
<td></td>
<td>F = 16.476</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( R^2 = .169 )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model 2</th>
<th>( MOT_{it} = SE_{it} + e_{it} )</th>
<th>Coefficient</th>
<th>S. E.</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( SE_{it} )</td>
<td>0.365</td>
<td>0.095</td>
<td>3.828</td>
<td>0.000***</td>
</tr>
<tr>
<td></td>
<td>F = 14.675</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( R^2 = .153 )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model 3</th>
<th>( MOT_{it} = GC_{it} + e_{it} )</th>
<th>Coefficient</th>
<th>S. E.</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( GC_{it} )</td>
<td>0.429</td>
<td>0.081</td>
<td>5.295</td>
<td>0.000***</td>
</tr>
<tr>
<td></td>
<td>F = 28.033</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( R^2 = .257 )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2: Multivariate Relations: Motivation and Locus of Control, Self-Efficacy and Goal Clarity

<table>
<thead>
<tr>
<th>Model 4</th>
<th>(MOT_{it} = LOC_{it} + SE_{it} + GC + e_{it})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
</tr>
<tr>
<td>(LOC_{it})</td>
<td>.158</td>
</tr>
<tr>
<td>(SE_{it})</td>
<td>.200</td>
</tr>
<tr>
<td>(GC_{it})</td>
<td>.277</td>
</tr>
</tbody>
</table>

F = 11.701

R² = .308
### Table 3: Difference in Motivation Between Majors

<table>
<thead>
<tr>
<th>Major</th>
<th>N</th>
<th>Other</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>5.720</td>
<td>5.417</td>
<td>.303**</td>
</tr>
<tr>
<td>Management</td>
<td>5.291</td>
<td>5.551</td>
<td>(.260)*</td>
</tr>
<tr>
<td>Marketing</td>
<td>5.643</td>
<td>5.486</td>
<td>.157</td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>6.217</td>
<td>5.487</td>
<td>.730</td>
</tr>
<tr>
<td>Economics</td>
<td>5.493</td>
<td>5.496</td>
<td>(.003)</td>
</tr>
<tr>
<td>Other</td>
<td>5.438</td>
<td>5.534</td>
<td>(.096)</td>
</tr>
</tbody>
</table>
Table 4: Difference in Means for Upper and Lower Division Level Accounting Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>Upper</th>
<th>Lower</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>$MOT$</td>
<td>5.663</td>
<td>5.395</td>
<td>.268**</td>
</tr>
<tr>
<td>$LOC$</td>
<td>5.092</td>
<td>5.060</td>
<td>.032</td>
</tr>
<tr>
<td>$SE$</td>
<td>5.775</td>
<td>5.495</td>
<td>.280*</td>
</tr>
<tr>
<td>$GC$</td>
<td>5.513</td>
<td>5.123</td>
<td>.390**</td>
</tr>
<tr>
<td>$ACCT$</td>
<td>5.142</td>
<td>4.177</td>
<td>.965***</td>
</tr>
<tr>
<td>$N$</td>
<td>35</td>
<td>47</td>
<td></td>
</tr>
</tbody>
</table>
Instructional Strategies for Motivation

- **Attention and Relevancy:**
  Weekly discussion (approx. 30 minutes per week) of current relevant accounting related news events, e.g. earnings releases, restatements, class action lawsuits, earnings management.

- **LOC and SE: (Confidence & Satisfaction)**
  1. Exercise effective and ongoing reinforcement through verbal and written (emails / syllabus) persuasion to affect student self-beliefs that they are both personally responsible for (locus of control) and capable of (self-efficacy) successful performance outcomes.
Instructional Strategies for Motivation

LOC and SE: (Confidence & Satisfaction: Upper)

2 a. Groups of three are assigned a publicly held firm to do a financial risk assessment on.

b. Groups report findings to audit committee (audit committee is a partner from KPMG).
Instructional Strategies for Motivation

LOC and SE: (Confidence & Satisfaction lower)

2. a. Select permanent groups of four to five students.
   b. Assign in-class problem. Although they are provided time to work in class I give them this problem to work at home prior to class.
   c. One group is selected at random to present solution to class.
   d. As groups work problem I help all groups but give (work) solution with presenting group so they have correct answer.
   e. Groups are told they will be awarded one to five points but usually are awarded five.

Conclude with verbal reinforcement to group and presenters.
Syllabus:

Each and everyone of you are capable of doing the work. You would not be here if you couldn’t. Students who put forth the required effort should be expected to succeed. Indeed, it is the need to persist in the face of such rigor that creates a significant opportunity for personal growth.

Email:

- Hope the studying is going well!
  Just completed exam.
  30 questions..
Last five or so you will be required to show work and compute amortization of bond discount and interest using the interest method and also do journal entries for same. i.e. the issue of the bond and the end of year entries..just like in class.
Also see problems and appendix in chap. 12. These are not multiple choice.
Of course also know treasury stock and issuance of stock and dividends....these are multiple choice.
Not an easy exam but everyone of you have the ability to do well. I am expecting some good grades.

- Hope you all are having a nice weekend.
To reiterate what I said in class this Friday, I am pleased with the results of our most recent exam III. This was not an easy test. Average score = 73; nice job. You should be proud. I know I am. Thanks for the hard work.
See you tomorrow.
To evaluate effectiveness of strategy, surveys will be administered again at end of semester. Results will be compared with beginning of semester.

End of course retrospective self-assessment of competencies instrument is administered.