

## Using a common experience to teach introductory managerial accounting

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### Abstract

Teaching introductory accounting courses can be both challenging and rewarding. In introductory financial and managerial accounting, students struggle with the unfamiliar terminology and concepts. However, managerial accounting offers distinct challenges in that managerial accounting reports used for decision-making are not publically available, and students are not typically familiar with internal business operations or production processes needed to understand managerial accounting concepts. Therefore, before launching into the theories and concepts of managerial accounting, it would be beneficial to provide students with a common experience or frame of reference. This article describes how to use a simple activity to provide a common understanding of business operations and production processes to use throughout the course. Included is a matrix identifying course concepts and suggestions for referencing the common experience.

Keywords: Authentic learning, experiential learning, deep understanding, retention of learning

## Introduction

Teaching introductory accounting courses can be both challenging and rewarding. Beginning accounting students struggle with the new terminology and the unfamiliar concept of accounting for transactions and using financial information for managerial decision making. Bryant and Hunton (2000), Farley and Ramsay (1998), and Krausz et al. (1989) found that learning is enhanced when students relate new knowledge to a previous experience, putting it in a context that can be used. In his review of the journey of management accounting education over the last 50 years, Maher (2000) concludes, “And I am even more convinced than ever that our primary job as educators is not to teach the “facts” of management accounting methods, but to teach problem-solving skills and the organizational (and social) context in which economic activities are conducted.” (p. 343)

Teaching introductory managerial accounting courses is specifically challenging in that students do not share a common understanding or have experiences as users of managerial information that the instructor can reference. Thein (2006) notes that managerial accounting students, “are often unprepared and unfamiliar with the practical field of study” (p. 31), and that they should, “have the experience of factory operations, at least as a token.” (p. 33) Lightbody (1997) explains, “many students appear to perceive management accounting topics ... to be difficult... This is often attributed to the students’ lack of experience in the actual processes which underlie managerial accounting principles being taught”. (p. 255) The challenge in managerial accounting therefore is to overcome the students’ lack of knowledge and experience with production and management decision making.

One way to overcome the students’ lack of experience is to use a class activity that can provide a common framework that the instructor can reference to teach new concepts and thus build students’ knowledge. There are different methods of providing a common experience, but the end goal is to have something students can easily understand, think about and refer to when studying, and that the instructor can reference as a base when teaching new concepts. There is substantial research discussed in the literature section (Halpern and Hakel (2003), Kolb (1984), Schallert (1982), Lewin (1951), Piaget (1970), and Dewey (1938)) which describes the important connection between the learner’s experience and learning. Authors such as Cook (2002), Kern (2000 and 2002), Lightbody (1997), Groff (1989), Haskins and Crum (1985), and Krause et al. (1988) have developed games, role-playing or simulation exercises to use in accounting classrooms. However, most simulation and role playing exercises usually involve a great deal of instructor and classroom time in planning, preparing, implementing, and grading. Given that many faculty members are teaching multiple courses, sections and students, a simpler common experience would be beneficial. In addition, an activity that is merely an outside-of-class project is not as beneficial as one that can be referenced and reinforced when teaching new concepts throughout the course.

After much experimentation using different activities, a simple name tent activity was developed that not only provides the students with individual hands-on production experience, but also gives the students and the instructor a common frame of reference for class examples and discussions. Although it is a simple activity, it is possible to reference the activity throughout all the main topics typically covered in an introductory managerial accounting course. This article will describe the activity, the research behind why common, relevant activities increase student learning, and provide a matrix identifying common course topics and suggested methods of using the activity to teach introduction to managerial accounting courses.

## Research

The influential research of Dewey, Piaget, and Lewin emphasizes the role of experience in the learning process. Dewey's primary educational philosophy is that "there is an intimate and necessary relation between the process of actual experience and education (Dewey, 1938, p. 20). Piaget's research is built on the model that ways of knowing change in stages, where knowledge moves from concrete actions to theories and images of relationships (Piaget, 1970). Lewin's experiential learning model states that learning is based on concrete experiences, reflected upon, which then leads to the formation of concepts and generalizations. These concepts and generalizations are then tested in new situations (Lewin, 1951).

Kolb's Experiential Learning Model (Kolb, 1984) uses the foundations of the research described above to describe a continuous process whereby tested concepts and generalizations become a learner's new concrete experience, which is then built upon by the introduction of new information. The process continues through the stages of concrete experiences, reflection, generalization, and testing.

Halpern and Hakel (2003) outline ten basic principles that instructors should apply in order to improve students' long term retention and transfer of learning. The principles are based on studies of human learning. Three of the ten principles are based on the connection between student learning and prior experience or knowledge. The fourth principle, "what and how much is learned in any situation depends heavily on prior knowledge and experience," is based on "construction of knowledge". This means that a "learner creates new meaning using what he or she already knows" (p. 39). The seventh principle, "lectures work well for learning assessed with recognition tests, but work badly for understanding," suggests that, "it is possible to get students to elaborate on information that is presented in lectures by relating it to information that they already know..." (p. 40). The tenth principle, "What learners do determines what and how much is learned, how well it will be remembered, and the conditions under which it will be recalled", explains the instructor's role not only as a lecturer or presenter of information, but also as a director of learning activities because, "what professors do in their classes matters far less than what they ask *students* to do" (p. 41).

Additional research in business education further supports the use of activities as a basis for teaching and reinforcing course concepts. Gaharan and Zachry (2004) conclude that basing the course on an activity that can be referred to throughout the semester enhances student learning. Articles based on the application of Keller's theories of motivational learning (Keller, 1987) to sophomore level economics courses (Fitzpatrick, McConnell, and Sasse, 2006) and accounting courses (McConnell, Hoover, and Miller, 2008) recommend supporting instructional strategies such as using applied case or learning activities, and by creating intentional connections between experiences of this particular student group to the topics being discussed and presented.

Shallert's (1982) learning research related to schema theory shows it is important to understand the need to build upon existing schemata and make connections between existing knowledge and new learning. Because new information is challenging, faculty members must create common experiences, build upon existing knowledge, or help students access existing learning schema that applies to the current topic. Shallert emphasizes that abstract concepts are best understood when placed upon the foundation of concrete experiences or existing knowledge.

## Development and Implementation of the Common Experience

The typical first day of class in a semester is spent covering the course requirements and providing an overview of managerial accounting, and it is an important time to set the stage for the learning that will take place during the term and to engage the students in learning managerial accounting. Having students begin the semester by producing a product on the first day gets them involved and active in the learning process. However, since the students in an introductory managerial accounting course are novice learners, the activity must be one that they can easily do, comprehend, and complete in a short amount of time. It would also be beneficial if the “product” of the activity were easy for the students to bring to class on a daily basis. After trying many elaborate activities that took one or more class periods to complete, required extensive time to prepare, and involved complex instruction, the activity was simplified. Considering all that is happening on the first day of classes and what would be beneficial to the instructor, as well as to the students, the Name Tent Activity (henceforth, the activity) was developed. The activity requires students to use their own paper and pencil or pen, is completed in three easy steps, and can be completed within three minutes. In addition, it is useful for both the instructor and students to learn names, and it is lightweight so it can be easily carried to class every day. Involving students in this activity also provides a frame of reference for their first reading on cost concepts. More importantly, it includes all the aspects of production so the instructor can use it as a common frame of reference throughout the course.

The activity is best completed during the last ten to fifteen minutes of the first class, after discussing the differences between managerial and financial accounting. It is important that the activity be completed prior to students’ reading the material covering managerial accounting and cost concepts.

Start the activity without explanation by asking that students take out a blank piece of paper and pen or pencil. It is important for future class discussions about quality and consistency that students use their own materials. State that they are going to make name tents and stress that following instructions is essential. Then read and demonstrate the specific instructions provided in Table 1 below. Instructions need to be brief and exact. Not all students will follow the instructions and this adds to discussions in future classes. See Table 1 in the Appendix.

Once the students have completed making the product, explain that they have just produced a product for a company that manufactures handcrafted name tents. Then discuss the production process using the following basic questions, and prompt them for specifics or answers that are more complete.

Question 1. What materials were used to produce the name tents? Students believe this to be an easy question, and they typically answer that materials used were paper and pencil or pen. Some students will comment that the pen is equipment, but keep it simple, and do not go into a discussion of whether or not the pen is equipment or material at this point. Send them home to read and determine this for the next class session.

Question 2. What else was needed to make the name tents that are not part of the product? Typical answers include the table to write on, chairs, lights, and utilities.

Question 3. What was the instructor’s role in making the name tents? Typical answers include to provide instructions or to provide supervision.

Let the discussion end and then have the students compare the products they have produced. They will notice that name tents are folded differently, and the manner of writing varies greatly (thick, thin, different size lettering, bubble letters ...). The instructor may

comment that it appears not everyone “heard” the same instructions, and that the quality and consistency of the product may be an issue. After completing the process, inform the students that they have made a product that will be used for the rest of the term, not only to help learn names, but also as a point of reference for reading and class activities. Remind them to bring their product to each class session.

As the semester progresses, use the activity as the basis to explain the new concepts, building on what they already know. Table 2 provides a list of common introductory managerial accounting course topics and suggested methods of using the activity for discussions, examples, and elaborations for each course concept. See Table 2 in the Appendix.

### Closing Observations

This activity has been used to develop a common frame of reference for the introductory managerial accounting course. Students are engaged in the discussion, and they debate how the concepts should be applied to each new topic discussed. For example, students use the activity to explain how they derive their homework solutions. Additionally, when the instructors are using small groups to review assigned homework solutions, students help other students by referring to the concepts discussed in the name tent activity. The best evidence that the activity engages students and contributes to learning and retention is when the students who have had the primary author for the introductory class use the activity in discussions in the Intermediate Managerial Accounting (Cost Accounting) course the following semester. Additionally, students provide positive comments on end-of-course surveys.

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**Appendix**

| <b>Table 1</b>                     |   |
|------------------------------------|---|
| <b>Instructions for Name Tents</b> |   |
| 1.                                 | Fold the paper lengthwise so it looks like a rectangle (not a box). The folded edge is considered the top of the name tent.         |
| 2.                                 | In large print, write your first name and last initial. The lettering should be large enough to be seen from the front of the room. |
| 3.                                 | Fold the corners of the top edge down to add stability, so that the name tent will sit on the desk.                                 |

| <b>Table 2</b>   |   |  |
|--|---|--|
| <b>Implementation of Common Experience Throughout the Course</b> |   |  |
| Typical Chapter Name   | Course Concepts   | Comments and Suggestions for Discussion Questions and/or Exercises   |
| Business Concepts  | Theory of Constraints<br>Quality<br>Business Risks  | What was the constraint in producing the product? (time, resources...)<br>What was the quality and consistency? (type of paper used, style of lettering, effort)<br>What is the risk of carrying inventory?  |
| Cost Classifications   | Product / Period Costs<br>Direct / Indirect Costs<br>Direct Materials<br>Direct Labor<br>Overhead<br>Sunk and Opportunity Costs | What are the direct materials? Is the pen or pencil considered material (direct or indirect) or equipment? Is the ink or lead used easily traceable to the product (cost versus benefit)?<br>What type of labor were the students? What type of labor was the instructor? Why? What are the indirect costs, or what else was used or needed to produce the product? What costs were sunk? What are opportunity costs related to the production of the name tents?  |
| Cost Behaviors   | Variable Cost<br>Fixed Costs<br>Mixed Costs   | Which costs vary with the units produced?<br>What costs would exist even if no name tents were produced? Are there mixed costs? For direct labor, discuss wages per hour or paying per piece. Discuss learning curves referring back to the inconsistency in the production of name tents. What is the cost driver for the costs discussed?  |
| Job Order, Process, and Activity-Based Costing                   |   | Discuss mass-produced name tents versus made-to-order name tents. What type of costing methods would be appropriate and why? What departments might be needed for mass-production? What product qualities or added value might be lost? What if we only printed popular names? What would drive the costs (number of units produced? Direct labor hours? Number of letters in a name?)<br>What bases would be appropriate for the costs? Use indirect labor and indirect materials to discuss predetermined overhead rates and the allocation of fixed and variable costs. |
| Cost-Volume-Profit Analysis                                      | Break Even Analysis<br>Target Profit Analysis<br>Operating Leverage<br>Change in Costs and/or Volume                            | Provide or have students estimate costs for each of the different manufacturing costs discussed in previous classes (i.e. paper is \$.01 per sheet), hourly wage rate, supervisor salary, utilities and overhead...Ask them to compute breakeven in volume and units.  |

|   |   |   |
|---|---|---|
|   |   | <p>How would the breakeven change if the paper was purchased in bulk (price declines to \$.005 per sheet)? What price should the company charge to breakeven? To achieve a target profit? How might the company improve the quality and consistency of the product? If computers were used, how would that change the breakeven calculation? How would that change operating leverage?</p>  |
| <p>Profit Planning and Budgeting</p>          | <p>Preparing the Master Budget</p>  | <p>Tell the students that their company has acquired a contract to produce class name tents for the entire university, resulting in custom, computer-printed name tents for each student in a class. Use this example to discuss the master budget from the sales budget through the cash budget, for a semester or quarter. Expand the discussion to changes that would be made if the company was budgeting for an entire fiscal year.</p>  |
| <p>Standard Costing and Variance Analysis</p> | <p>Ideal versus Practical Standards<br/>Setting Material, Labor, and Overhead Standards<br/>Variance Analysis</p> | <p>Based in the information above in preparing the master budget, discuss setting standards for material, labor, and overhead for the company. What would be practical standards? What would be ideal standards? Based on various scenarios such as poor quality materials, labor shortages, and utility increases, discuss the affect each would have on the various variances. Who is responsible for controlling those costs?</p>  |
| <p>Relevant Costs for Decision Making</p>     | <p>Relevant Costs<br/>Make versus Buy Decisions<br/>Special Orders<br/>Adding or Dropping Product Lines</p>       | <p>Using examples relevant to your university's situation, give special order examples to consider. For example, the community college down the street has offered to contract with the company for a discounted fee. What costs would be relevant for the decision whether to accept the special order? What price would need to be set to earn \$5,000 profit on the contract? Should the company consider adding a name tag product line? What costs are relevant for that decision?</p> |