

Hasten Industries, Inc.: Timing of Revenue Recognition (ASC 606)

Natalie Tatiana Churyk
Northern Illinois University

Alan Reinstein
Wayne State University

Guy M. Gross
Robert Stoettner
RSM US LLP

ABSTRACT: This case asks graduate and undergraduate accounting students to apply the current U.S. GAAP revenue recognition standard (ASC Topic 606) that became effective for public companies in 2018 and nonpublic companies in 2019. Students should grasp the new rules and understand how the nuances of manufacturing contracts (e.g., number of performance obligations, transaction price allocation, shipment options, product customization, and contract cancellation and compensation) can affect the recording and timing (over time or point in time) of revenue recognition. This case also encourages students to independently research the technical aspects of U.S. GAAP regarding the accounting treatment of these contracts.

Keywords: revenue recognition; performance obligations; transaction price allocation; over time and point in time revenue recognition; ASC 606.

I. THE CASE

Hasten Industries, Inc. (HII) is a privately held second generation company based in Atlanta, GA. Created in 1985, it manufactures and sells go-karts. HII has a December 31 fiscal year-end, follows U.S. GAAP, and receives an annual audit.

Manufacturing

HII manufactures and sells racing go-karts for U.S. distribution to recreational parks and individuals.¹ HII ranks third out of eight in the highly specialized go-kart manufacturing market that relies on consumer discretionary income. To maintain and potentially gain market share, HII offers specialized go-karts. Thus, HII's business

We thank the senior editor, editor, and reviewers for their helpful feedback. We thank conference participants and discussants for comments on earlier drafts. We thank Rebekah Heath, Kansas State University; Alex Opitek and Abigail Brickman, Wayne State University.

The views expressed in this article are those of the authors and do not reflect the official position of RSM US LLP.

Natalie Tatiana Churyk, Northern Illinois University, College of Business, Department of Accountancy, DeKalb, IL, USA; Alan Reinstein, Wayne State University, School of Business Administration, Accounting Department, Detroit, MI, USA; Guy M. Gross and Robert Stoettner, Partner, RSM US LLP, Schaumburg, IL, USA.

Editor's note: Accepted by Mark J. Kohlbeck, under the Senior Editorship of Janet A. Samuels.

Submitted: February 2022
Accepted: March 2024
Early Access: April 2024

¹ There are 175 go-kart recreational parks in the U.S. (<https://my-ibisworld-com.auth.lib.niu.edu/us/en/industry-specialized/od5348/competitive-landscape>).

model evolved from manufacturing go-karts with no added options or upgrades for the consumer market to providing customizations and upgrades for its customer base of racing enthusiasts, racing clubs/parks and weekend racers.

The standard model is equipped with an electric engine, standard traction tires, steel frame casting, and white exterior paint. HII's early year go-kart price was about \$1,500. Today, a standard go-kart with no additional options or upgrades sells, on average, for \$2,000, where HII realizes about a 23 percent gross profit. On the high end, an upgraded go-kart sells for about \$4,000, typically yielding a 32 percent gross profit. Go-kart prices and shipping terms are negotiated at the time of the contract.

Customers can request speed-priority tires that are shipped in addition to the standard tires. Customer can also request premium upgrades to standard models by changing the engine and paint color at the start of the process. Paint color choice is only available if choosing an upgrade package. Upgrade package fees remain constant. For instance, a customer choosing the Premium package (see below) containing gas engine and color options will be charged for the entire Premium package even if it only requests the gas engine with no color option. Often requested, HII Premium package upgrades are produced on the same assembly line as standard go-karts. Elite upgrades (see below) require modification for aerodynamics or weight reduction and are assembled differently than standard go-karts from start to finish. These go-karts are routed to two different assembly lines depending upon options chosen, requiring HII to extend manufacturing and assembly time to produce them.

HII now offers these upgrades to its customers:

Tire upgrade:

1. Speed-priority

Premium upgrade:

Includes the standard model plus:

1. Customized paint colors and graphics
2. Gasoline engine

Elite upgrade:

Includes the standard model and Premium upgrade accessories, plus:

1. Various options for aerodynamics, including front and rear diffusers
2. Various options for weight reduction, including aluminum castings

HII manufactures and stocks its inventory with its standard line of go-karts. This business model allows it to meet customer orders for standard go-karts with the flexibility to change these standard go-karts to meet customer-requested modifications for upgrades. Contract purchase orders provide for various shipping terms and cancellation clauses based upon the upgrade type.

Contracts

HII enters into hundreds of annual contracts. HII's credit department does its due diligence on new customer credit worthiness before signing a contract. HII also annually reviews customers' credit worthiness before estimating yearly allowances for doubtful accounts. Five typical contracts appear below.

Contract 1

Contract 1 appears below (Table 1). The expected gross profit margin on this contract is 22 percent. HII ships the 50 completed go-karts to this customer on December 31, 2023.

TABLE 1

Contract 1

- I. **Parties.** This Contract is between the seller, **Hasten Industries, Inc.** ("Seller"), and the buyer, **Chicago Raceway, LLC** ("Buyer") on **12/15/2023** (mm/dd/yyyy).
- II. **Orders.** Buyer, as stated above in Section (I), acknowledges that the following is correct:
Buyer is responsible to buy **50** go-karts for **\$105,000** plus applicable sales tax of **9%**.
Standard go-karts are equipped with: (1) standard traction tires, (2) electric engine, (3) steel frame castings, and (4) white exterior paint.

(continued on next page)

TABLE 1 (continued)

III. **Customizations/Modifications.** The buyer requests to make these modifications: *If selecting a modification containing options, please select both the modification type and specification. If selecting a “color” option, please specify on the line following the selection. Color options presented on Invoice.*

- No upgrade requested**
- Speed-priority tires**
- Premium Upgrade**
 - Gasoline engine
 - Exterior paint color
- Elite Upgrade**
 - Aerodynamic package—Front and rear diffusers
 - Weight reduction package—Aluminum frame casting

IV. **Shipping terms** (third party carrier): FOB Shipping Point FOB Destination

V. **Additional terms:**

VI. **Cancellation terms:**

(Buyer initials) (mm/dd/yyyy)

VII. **Payment.** The buyer agrees to make the base and selected upgrade option payment stated in Sections (II) and (III), plus any cancellation fees stated in Section (VI) within 30 days of receipt of go-karts.

Chicago Raceway, LLC (Buyer initials) **12/15/2023** (mm/dd/yyyy)

Contract 2

Contract 2 appears below (Table 2). The expected gross profit margin on this contract is 27 percent. HII ships the 25 completed go-karts to this customer on December 28, 2023.

TABLE 2

Contract 2

I. **Parties.** This Contract is between the seller, **Hasten Industries, Inc.** (“Seller”), and the buyer, **Phoenix Racing, LLC** (“Buyer”) on **11/07/2023** (mm/dd/yyyy).

II. **Orders.** Buyer, as stated above in Section (I), acknowledges that the following is correct:

Buyer is responsible to buy **25** go-karts for **\$74,000** plus applicable sales tax of **8%**.

Standard go-karts are equipped with: (1) standard traction tires, (2) electric engine, (3) steel frame castings, and (4) white exterior paint.

III. **Customizations/Modifications.** The buyer requests to make these modifications: *If selecting a modification containing options, please select both the modification type and specification. If selecting a “color” option, please specify on the line following the selection. Color options presented on Invoice.*

- No upgrade requested**
- Speed-priority tires**
- Premium Upgrade**
 - Gasoline engine
 - Exterior paint color
- Elite Upgrade**
 - Aerodynamic package—Front and rear diffusers
 - Weight reduction package—Aluminum frame casting

Red

IV. **Shipping terms** (third party carrier): FOB Shipping Point FOB Destination

V. **Additional terms:**

VI. **Cancellation terms:** Hasten Industries, Inc. to be compensated for specified costs to date if order canceled before delivery.

Phoenix Racing, LLC (Buyer initials) **11/07/2023** (mm/dd/yyyy)

VII. **Payment.** The buyer agrees to make the base and selected upgrade option payment stated in Sections (II) and (III), plus any cancellation fees stated in Section (VI) within 30 days of receipt of go-karts.

Phoenix Racing, LLC (Buyer initials) **11/07/2023** (mm/dd/yyyy)

Contract 3

Trying to break into the California market, HII is unsure if it will be cost effective since the state of California requires the industry to install special emissions equipment. HII must thus hire an engine specialist to install the emission equipment in house or send the engines to a specialist for installation, causing extra shipping time. To test the market, HII entered into Contract 3 below (Table 3). The expected gross profit margin on this contract is 33 percent. HII ships the 15 completed go-karts to this customer on December 29, 2023.

TABLE 3
Contract 3

- I. **Parties.** This Contract is between the seller, **Hasten Industries, Inc.** (“Seller”), and the buyer, **Los Angeles Motor Speedway, Inc.** (“Buyer”) on **07/01/2023** (mm/dd/yyyy).
- II. **Orders.** Buyer, as stated above in Section (I), acknowledges that the following is correct:
Buyer is responsible to buy **15** go-karts for **\$97,500** plus applicable sales tax of **10%**.
Standard go-karts are equipped with: (1) standard traction tires, (2) electric engine, (3) steel frame castings, and (4) white exterior paint.
- III. **Customizations/Modifications.** The buyer requests to make these modifications: *If selecting a modification containing options, please select both the modification type and specification. If selecting a “color” option, please specify on the line following the selection. Color options presented on Invoice.*
- | | |
|--|--|
| <input type="checkbox"/> No upgrade requested | |
| <input type="checkbox"/> Speed-priority tires | |
| <input checked="" type="checkbox"/> Premium Upgrade | <input checked="" type="checkbox"/> Elite Upgrade |
| <input checked="" type="checkbox"/> Gasoline engine | <input checked="" type="checkbox"/> Aerodynamic package—Front and rear diffusers |
| <input checked="" type="checkbox"/> Exterior paint color | <input type="checkbox"/> Weight reduction package—Aluminum frame casting |
| Blue | |
- IV. **Shipping terms** (third party carrier): FOB Shipping Point FOB Destination
- V. **Additional terms:** Special emission equipment added to comply with California requirements.
- | | |
|--|--------------------------------|
| Los Angeles Motor Speedway, Inc. (Buyer initials) | 12/15/2023 (mm/dd/yyyy) |
|--|--------------------------------|
- VI. **Cancellation terms:** Hasten Industries, Inc. to be compensated for specified costs to date plus a normal profit margin (33%) if order canceled before delivery.
- | | |
|--|--------------------------------|
| Los Angeles Motor Speedway, Inc. (Buyer initials) | 12/15/2023 (mm/dd/yyyy) |
|--|--------------------------------|
- VII. **Payment.** The buyer agrees to make the base and selected upgrade option payment stated in Sections (II) and (III), plus any cancellation fees stated in Section (VI) within 30 days of receipt of go-karts.
- | | |
|--|--------------------------------|
| Los Angeles Motor Speedway, Inc. (Buyer initials) | 12/15/2023 (mm/dd/yyyy) |
|--|--------------------------------|

Contract 4

Contract 4 appears below (Table 4). The expected gross profit margin on this contract is 22 percent. HII ships the 50 completed go-karts to this customer on December 31, 2023.

TABLE 4
Contract 4

- I. **Parties.** This Contract is between the seller, **Hasten Industries, Inc.** (“Seller”), and the buyer, **Chicago Theme Park, Inc.** (“Buyer”) on **12/11/2023** (mm/dd/yyyy).
- II. **Orders.** Buyer, as stated above in Section (I), acknowledges that the following is correct:
Buyer is responsible to buy **50** go-karts for **\$105,000** plus applicable sales tax of **9%**.
Standard go-karts are equipped with: (1) standard traction tires, (2) electric engine, (3) steel frame castings, and (4) white exterior paint.

(continued on next page)

TABLE 4 (continued)

III. **Customizations/Modifications.** The buyer requests to make these modifications: *If selecting a modification containing options, please select both the modification type and specification. If selecting a “color” option, please specify on the line following the selection. Color options presented on Invoice.*

- No upgrade requested
- Speed-priority tires
- Premium Upgrade
 - Gasoline engine
 - Exterior paint color
- Elite Upgrade
 - Aerodynamic package—Front and rear diffusers
 - Weight reduction package—Aluminum frame casting

IV. **Shipping terms** (third party carrier): FOB Shipping Point FOB Destination

V. **Additional terms:** Hasten Industries, Inc. to ensure the go-karts against in-transit risks during shipment from Hasten Industries, Inc. to Chicago Theme Park, Inc.

VI. **Cancellation terms:**

(Buyer initials) (mm/dd/yyyy)

VII. **Payment.** The buyer agrees to make the base and selected upgrade option payment stated in Sections (II) and (III), plus any cancellation fees stated in Section (VI) within 30 days of receipt of go-karts.

Chicago Theme Park, Inc. (Buyer initials) **12/15/2023** (mm/dd/yyyy)

Contract 5

Contract 5 appears below (Table 5). The expected gross profit margin on this contract is 24 percent. The standalone selling price of the go-karts is \$63,000. If Kartland, Inc. bought the tires from another supplier, the tires for 30 go-karts would cost \$5,500 in total. HII ships the 30 completed go-karts to this customer on May 9, 2023.

TABLE 5

Contract 5

I. **Parties.** This Contract is between the seller, **Hasten Industries, Inc.** (“Seller”), and the buyer, **Kartland, Inc.** (“Buyer”) on **05/07/2023** (mm/dd/yyyy).

II. **Orders.** Buyer, as stated above in Section (I), acknowledges that the following is correct:
Buyer is responsible to buy **30** go-karts for **\$68,000** plus applicable sales tax of **9%**.

Standard go-karts are equipped with: (1) standard traction tires, (2) electric engine, (3) steel frame castings, and (4) white exterior paint.

III. **Customizations/Modifications.** The buyer requests to make these modifications: *If selecting a modification containing options, please select both the modification type and specification. If selecting a “color” option, please specify on the line following the selection. Color options presented on Invoice.*

- No upgrade requested
- Speed-priority tires
- Premium Upgrade
 - Gasoline engine
 - Exterior paint color
- Elite Upgrade
 - Aerodynamic package—Front and rear diffusers
 - Weight reduction package—Aluminum frame casting

IV. **Shipping terms** (third party carrier): FOB Shipping Point FOB Destination

V. **Additional terms:**

VI. **Cancellation terms:**

(Buyer initials) (mm/dd/yyyy)

VII. **Payment.** The buyer agrees to make the base and selected upgrade option payment stated in Sections (II) and (III), plus any cancellation fees stated in Section (VI) within 30 days of receipt of go-karts.

Kartland, Inc. (Buyer initials) **05/072023** (mm/dd/yyyy)

II. CASE REQUIREMENTS

1. For each contract example, provide an analysis (with the appropriate citation) of each step in HII's revenue recognition process (see below for the steps to be analyzed). Be sure to examine the additional information found with each contract.

ASC 606 follows a five-step process as follows:

- Step 1: Identify the contract with a customer (or client)
ASC 606-10-25-1 through ASC 606-10-25-13
 - Step 2: Identify the performance obligations in the contract
ASC 606-10-25-14 through ASC 606-10-25-22
 - Step 3: Determine the transaction price
ASC 606-10-32-1 through ASC 606-10-32-27
 - Step 4: Allocate the transaction price to the performance obligations
ASC 606-10-32-28 through ASC 606-10-32-45
 - Step 5: Recognize revenue when each performance obligation is satisfied
ASC 606-10-25-23 through ASC 606-10-25-37
2. For each sales example, discuss **when** to recognize the revenue. (Hint: Be sure to examine overtime revenue recognition requirements before examining point-in time revenue recognition.) (You can combine this answer with your answer for number 1, Step 5 above.)

III. CASE LEARNING OBJECTIVES AND IMPLEMENTATION GUIDANCE

Case Overview

Two partners in a national public accounting firm developed this case, loosely based upon a client. To enrich students' grasp of revenue recognition accounting (five-steps with an increased focus on situations that may impact timing), we examine the nuanced scenarios related to manufacturing contracts and discuss the authoritative U.S. GAAP guidance for the underlying transactions.² Students should determine when to recognize revenue, while expanding their problem solving and critical thinking skills to approach each scenario.

Motivation, Learning Objectives, and Literature Review

Improving accounting education is critical to maintain our profession's relevance and quality. [The Pathways Commission \(2012\)](#) (a 2012 American Accounting Association (AAA) and American Institute of Certified Public Accountants (AICPA) partnership) jointly examined higher education and recommended that students study such items as accounting research, education, and practice. The case develops competencies (research, problem solving, and critical thinking) advocated by the AICPA's Pre-Certification Core Competency Framework ([AICPA 2018](#)). Students must apply relevant FASB Accounting Standards Codification (ASC)³ sections and assess the applicability of the five-step revenue recognition process (ASC 606-10-25) and (ASC 606-10-32) to determine whether and when to recognize revenue.

As described later, we implemented the case in both graduate and undergraduate courses at three different universities, plus obtained other professors' feedback. The study helps students conduct independent research that goes beyond the scope of presented materials by requiring them to further justify their reasonings for each response. Case objectives, relating to skills required for the profession and knowledge regarding the Uniform CPA Exam, appear below.

- LO1: Summarize the relevant accounting standards in the five-step revenue recognition process (Case requirement 1).
- LO2: Identify relevant information from contracts to compare the financial accounting treatments of select transactions of a manufacturer (Case requirements 1 and 2).
- LO3: Identify and apply authoritative guidance to determine total contract revenue to be allocated (Case requirement 1 (revenue recognition Step 3)).
- LO4: Use critical thinking skills to determine various allocation methods to performance obligations (Case requirement 1 (revenue recognition Step 4)).
- LO5: Use critical thinking skills and research guidance to justify the timing of revenue recognition (Case requirements 1 (revenue recognition Step 5) and 2).

LO1 through LO5 help students deeper understand reviewing, citing, and applying relevant authoritative U.S. GAAP literature. The CPA Exam tests students' ability to show their skills in these objectives. Specifically, the case uses the levels of learning from the [American Institute of Certified Public Accountants and The Chartered Institute of Management Accountants \(AICPA & CIMA\) \(2023\)](#) July 2021 Uniform CPA Exam blueprint tasks to ensure these learning objectives are met. Importantly, Financial Accounting and Reporting Section (Area II J) states examinees must remember/understand, apply, analyze, and evaluate revenue standards—student attributes that these contracts will enhance. In LO1, students research and summarize the revenue recognition's five-step process. In LO2–LO4, they consider relevant accounting standards (ASC 606) to analyze each contract's potential revenue. They must distinguish between key fact patterns (consideration, number of performance obligations, transaction price allocation, shipment options, product customization, contract cancelation and compensation, insurance against in-transit risks, and manufacturing contracts). LO5 requires readers to use critical thinking skills and research guidance to justify the timing of revenue recognition. They must delve into Step 5 of the revenue recognition process (performance obligation completion) to determine whether the case facts identified in earlier steps support **over time** or **point in time** revenue recognition. Students use their research and critical thinking skills to apply prior knowledge to provide well rounded answers that display their grasp of underlying topics formerly learned.

This case provides students with five different examples to examine unique aspects of ASC 606. A search of the accounting education literature revealed first the Hux, Smith, and Cefaratti case ([Hux, Smith, and Cefaratti 2022](#)) where students determine and apply the appropriate ASC 606 revenue treatment among varying alternatives for three gig economy food companies—Grubhub, DoorDash, and UberEats. Their case focuses on principal and/or agent classifications.

² Although IFRS 15 and ASC 606 are similar, multiple differences exist. See the [FASB \(2021\)](#) comparison for detail of minor and major differences.

³ The Teaching Notes contain detailed citations.

Gross, Hemker, Hoelscher, Reed, and Sierra (2022) examine how to follow ASC 606's guidance to account for sales returns options, out of warranty items; and exchanging both similar and nonsimilar goods, along with fixed and variable costs to measure the transaction's profitability. Davis and Matson (2021) case examines revenue recognition for a construction contract. Students identified the performance obligations, allocated the transaction price in the absence of standalone selling prices, and described some post-contract events' effect on revenue recognition. Harris (2022) also focuses on construction contracts but on one stated long-term contract requiring students to apply revenue recognition timing to this contract, the methods for recognizing revenue (input or output method) and managerial concepts. Chandra, Dutta, and Marcinko (2018) developed a software company case study that asked students to analyze ASC 606 provisions from the viewpoint of a corporate accountant, manager, external auditor, and investor. Also, McNellis, Barone, and Herbold (2020) developed a relatively complex case that contained many issues surrounding revenue recognition, asking students to identify the key issues and to compare how ASC 606 and International Financial Reporting Standard (IFRS) 15 (2014), *Revenue from Contracts for Customers*, would account for these events.

Our case differs because students apply revenue recognition criteria to five different types of manufacturing-related examples (shipment differences due to the company ensuring against risk, levels of customization, more than one performance obligation, and cancelation compensation). We thus conclude that this case is unique to the extent that we found no other published studies related to what we examine in ASC 606.

Implementation Guidance

We suggest using the case⁴ in a master's level research course, a master's level accounting course (i.e., M.A.S., M.Acc., or M.B.A.), or an undergraduate Intermediate/Financial Reporting II accounting course. In all instances, we recommend informing students to carefully read all of the information provided in each contract. We implemented the case in an in person graduate research course and a graduate financial accounting course (seven different class sections) for academic years 2018 and 2019 at two different Midwest universities. We also implemented the case in an Intermediate II accounting course (eight sections) for years 2018, 2019, 2020, and 2021 at three different large Midwest universities. We implemented a revised version of the case in an online graduate research course in spring of 2023. Another nonauthor professor used the case in her Intermediate II class and found it easy to implement. She commented that it helped her students think more like "standard-setters" after "walking through" a contract's key elements under GAAP. Another instructor who used the case previously and examined the case after the latest revision commented that the revised case substantially increased student critical thinking skills since students must now determine whether the product modifications are substantive. We describe implementation differences between graduate and undergraduate classes below.

Graduate Classes

Instructors provide relatively little guidance in graduate courses as such courses generally cultivate independent research capabilities and critical thinking skills. Discussions of revenue recognition need not occur. For instance, one instructor implemented this case in six different 2018, 2019, and 2023 accounting research sections and did not discuss revenue recognition; she instead built upon the knowledge learned in Intermediate II. Graduate courses should address student questions carefully and fully, often providing general guidance rather than specific citations to enhance student critical thinking and independent research skills.

The case can be assigned as an individual or teamwork project. The case was assigned in all graduate courses as a teamwork project (three to five members) followed by no presentations in the online accounting research course, group presentations in the in-person accounting research course, and slide preparations, but not presentations in the financial accounting course. The online accounting research course was an accelerated eight-week course. Students received two weeks to complete the case—as one of three cases. In the in-person semester accounting research course, students received one month to complete the case—as one of three semester cases. As part of both graduate research courses, the instructor showed students how to access the FASB ASC (the Codification) but most students already had exposure in undergraduate coursework. She also gave the students one in-class period (one hour and 15 minutes) to work on the cases and ask clarification questions. At both universities, on average, if students chose the "divide and conquer" method (one to two questions per group member) it took students individually two to three hours to complete their agreed upon section(s) of the case and about 10–12 hours in total to complete the entire case.⁵

⁴ Contract 3 was modified and Contract 5 was added during the review process. Classroom use with Contracts 3 and 5 changes occurred in one online graduate research course in spring 2023.

⁵ Surveys were not collected in the online accounting research course.

Undergraduate Classes

Instructors often spend additional time lecturing on revenue recognition accounting fundamentals and show students how to access and navigate within the Codification before assigning the case in an Intermediate II accounting course. Using a scaffolding method, one instructor assigned the case over a five-week period requiring students to turn in one contract question per week. Because the research process was new to most students, requiring weekly due dates allowed the instructor to grade each question and provide feedback before the students worked on the next question. Preliminary student feedback included asking them to explain and interpret the chosen ASC section, not just list the applicable ASC section and to provide a deeper analysis. Further instructor and student feedback is provided in the efficacy section of the paper.

Student Learning Experience

Our rubric that summarized student scores directly assesses student learning outcomes and case effectiveness. An assessment and a grading rubric appear in the Teaching Notes. Our indirect assessment consisted of evaluating student survey responses.⁶

Findings

Table 6 presents the percentages of students correctly considering each contract.⁷ Students could have performed better when addressing revenue recognition in general under ASC 606 (87.3 percent, 81.3 percent, and 83.8 percent correct, respectively). In an earlier case version, some groups failed to list all five revenue recognition steps along with the authoritative guidance, but most included these steps within the examples. We thus added the five steps to Case requirement 1. Instructors should explicitly ask students to discuss each ASC section when examining the contracts. As expected in a base case, students performed best on Contract 1, scoring 90.7 percent, 96.7 percent, and 93.4 percent for online graduate, in-person graduate, and undergraduate students, respectively. The undergraduates seemed to have more difficulty with addressing Contract 2 information scoring 62.1 percent versus 90.0 percent and 87.5 percent for the graduate students.

Students usually found the correct answers, but often did not cite the appropriate literature. Other items that resulted in lost points included students not identifying the performance obligation or citing too many performance obligations, using inconsistent logic (e.g., building an argument for recognizing revenue **over time** but then concluding that revenue would be recognized at a point in time or recognizing freight on board (FOB) shipping point but then stating that revenue would be recognized when it arrives at the customer which is FOB destination), listing ASC code sections

TABLE 6
Graduate and Undergraduate Average Student Percentage Score on Each Contract

Question	Points Possible	Online Graduate Percentage Correct (n = 29)	In-Person Graduate Percentage Correct (n = 115)	Undergraduate Percentage Correct (n = 56)
1. Contract 1	10	90.7%	96.7%	93.4%
2. Contract 2	10	90.0%	87.5%	62.1%
3. Contract 3	10	85.0%	82.7%	82.3%
4. Contract 4	10	86.4%	89.1%	92.7%
5. Contract 5 ^a	10	84.3%		
Average		87.3%	85.9% ^b	80.6% ^b

^a Contracts #3 and #5 were modified/added during the review process and tested in the online graduate research course only.

^b These averages include averages for a contract that was deleted during the review process.

⁶ Surveys were not collected in the online accounting research course.

⁷ Because in-person graduate students from both universities scored similarly, we combine the results. Undergraduate scores by question are available from one university (two sections—56 students). A third university provided final score data for a mixed undergraduate/graduate Intermediate II course. Graduate/undergraduate students performed, on average, 95.6 percent and 87.4 percent on the case, respectively. The survey data represent all three universities.

without applying the citations to the fact patterns or not citing the entire ASC citation, not stating when to recognize revenue, and not addressing information shown in some sales examples.

Student Feedback

Our indirect student assessment (survey data) used a five-point scale from 5, “Strongly Agree,” through 3, “Neither Agree nor Disagree,” to 1 “Strongly Disagree” (see Tables 7 and 8).⁸ All graduate and undergraduate accounting surveys⁹ included the following items:

1. By completing the case, I gained a better understanding of revenue recognition, in general.
2. By completing the case, I gained a better understanding of the five-step revenue recognition process in ASC 606.
3. By completing the case, I (my group member assigned to this area) gained a better understanding of manufacturing versus service revenue accounting.¹⁰
4. By completing the case, I gained a better understanding of customized versus noncustomized inventory.
5. By completing the case, I gained a better understanding of how cancelation of an order impacts revenue.
6. By completing the case, I gained a better understanding of how the seller ensuring transit impacts/changes title transfer.
7. By completing the case, I gained a better understanding that sometimes, one needs to apply literature that is similar, but not directly cited in the Codification.
8. Completion of the case helped me understand how accountants use professional accounting standards and literature to guide their decisions regarding financial statement presentation and disclosure.

TABLE 7
Graduate Univariate and Difference from Neutral Value Tests

Questions	n	Mean	Std. Dev.	Different from Neutral = 3; t-stat	Significance
1. By completing the case, I gained a better understanding of revenue recognition, in general.	115	4.39	0.77	19.41	<0.0001
2. By completing the case, I gained a better understanding of the changes from ASC 605 to ASC 606.	115	4.24	0.80	16.64	<0.0001
3. By completing the case, I gained a better understanding of the new five-step revenue recognition process in ASC 606.	115	4.51	0.65	24.82	<0.0001
4. By completing the case, I gained a better understanding of customized versus noncustomized inventory.	115	3.50	1.19	4.56	<0.0001
5. By completing the case, I gained a better understanding of how cancelation of an order impacts revenue.	115	3.97	0.84	12.37	<0.0001
6. By completing the case, I gained a better understanding of how the seller ensuring transport impacts/changes title transfer.	115	4.01	1.00	10.77	<0.0001
7. By completing the case, I gained a better understanding that sometimes one needs to apply literature that is similar, but not directly cited in the Codification.	115	4.03	0.87	12.79	<0.0001
8. Completion of the case helped me understand how accountants use professional accounting standards and literature to guide their decisions regarding financial statement presentation and disclosure.	115	3.24	1.54	1.69	<0.0931

Indirect graduate student assessment (survey data) using a five-point scale survey, where 5 represents “Strongly Agree,” 3 represents “Neither Agree or Disagree,” and 1 represents “Strongly Disagree.”

⁸ We performed sensitivity tests (Bonferroni) on the in-person graduate and undergraduate indirect data assessment to determine combinability of the data; the case was administered to seven different in-person graduate class sections at two universities and eight different undergraduate sections at three universities. Results indicated all sections are comparable as no significant differences were found between group responses. Therefore, we aggregate the responses by class level and present the combined responses for all questions.

⁹ Institutional Review Board approval was received.

¹⁰ Earlier versions of the case contained a service contract. This question still reflects manufacturing revenue accounting knowledge.

TABLE 8
Undergraduate Univariate and Difference from Neutral Value of 3 Tests

Questions	n	Mean	Std. Dev.	Different from Neutral Value = 3; t-stat	Significance
1. By completing the case, I gained a better understanding of revenue recognition, in general.	134	3.98	0.83	13.69	<0.0001
2. By completing the case, I gained a better understanding of the changes from ASC 605 to ASC 606.	134	4.16	0.82	16.53	<0.0001
3. By completing the case, I gained a better understanding of the new five-step revenue recognition process in ASC 606.	134	3.66	0.87	8.87	<0.0001
4. By completing the case, I gained a better understanding of customized versus noncustomized inventory.	134	3.81	0.85	10.93	<0.0001
5. By completing the case, I gained a better understanding of how cancelation of an order impacts revenue.	134	3.88	0.92	11.10	<0.0001
6. By completing the case, I gained a better understanding of how the seller ensuring transport impacts/changes title transfer.	134	3.70	0.91	8.93	<0.0001
7. By completing the case, I gained a better understanding that sometimes, one needs to apply literature that is similar, but not directly cited in the Codification.	134	3.82	1.00	9.55	<0.0001
8. Completion of the case helped me understand how accountants use professional accounting standards and literature to guide their decisions regarding financial statement presentation and disclosure.	134	4.13	0.78	16.73	<0.0001

Indirect undergraduate student assessment (survey data) using a five-point scale survey, where 5 represents “Strongly Agree,” 3 represents “Neither Agree or Disagree,” and 1 represents “Strongly Disagree.”

Tables 7 and 8 present survey question results for graduate and undergraduate students, respectively ($n = 115$ and $n = 134$).¹¹ We used univariate testing and median testing¹² to examine whether students’ answers differed significantly from a neutral response (scale value of 3). Except for graduate student results regarding presentation and disclosure (Question 8), per Tables 7 and 8, results indicate that all graduate and undergraduate accounting student answers differ significantly ($p < 0.01$) from neutral (scale value of 3), suggesting that the students felt that they achieved the case objectives.

Student remarks on the case’s usefulness included preparing them to work as a team, opening their eyes to the new GAAP allowing for earlier revenue recognition; buttressing their understanding of ASC 606; learning how to apply their knowledge to real examples, although the case was difficult; and showing the importance of time and experience (they became more efficient with each example). Their remarks regarding potential changes to the case include working individually versus working in a group, having the instructor work through a full example first before assigning the case, and allowing for more time. Combining scores, survey responses and feedback showed that our primary learning objectives were achieved.

TEACHING NOTES

Teaching Notes are available only to full-member subscribers to the *Issues in Accounting Education* through the American Accounting Association’s electronic publications system at <https://publications.aaahq.org>. Full-member subscribers can use their usernames and passwords for entry into the system where the Teaching Notes can be reviewed and printed. Please do not make the Teaching Notes available to students or post them on websites.

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¹¹ Survey question responses were voluntary and anonymous. All in-person graduate students filled out a survey but only 68.7 percent (134/195) undergraduate students participated.

¹² We used SPSS software to test univariate statistics and for the test of location (difference from a neutral value of 3).

REFERENCES

- American Institute of Certified Public Accountants (AICPA). 2018. *Pre-Certification Core Competency Framework*. Durham, NC: AICPA. <https://us.aicpa.org/content/dam/aicpa/interestareas/accountingeducation/resources/downloadabledocuments/aicpa-pre-certification-core-competency-framework.pdf>
- American Institute of Certified Public Accountants and The Chartered Institute of Management Accountants (AICPA & CIMA). 2023. Learn what to study for the CPA exam. <https://www.aicpa-cima.com/resources/download/learn-what-is-tested-on-the-cpa-exam>
- Chandra, U., S. K. Dutta, and D. J. Marcinko. 2018. Revenue recognition at TSA, Inc.—A roller coaster ride. *Issues in Accounting Education* 33 (3): 101–116. <https://doi.org/10.2308/iace-52099>
- Davis, L. R., and D. M. Matson. 2021. St Hubertus Crossing: Revenue recognition under ASC 606 guidance. *Journal of Accounting Education* 55: 100726. <https://doi.org/10.1016/j.jaccedu.2021.100726>
- Financial Accounting Standards Board (FASB). 2021. Comparison of Topic 606 and IFRS 15. Norwalk, CT: FASB. https://www.fasb.org/document/blob?fileName=Comparison_of_Topic_606_and_IFRS_15_FINAL.pdf (last accessed February 20, 2024).
- Gross, A. D., J. Hemker, J. L. Hoelscher, B. J. Reed, and G. Sierra. 2022. Revenue recognition and sales return issues at Medicis Corporation. *Issues in Accounting Education* 37 (4): 81–95. <https://doi.org/10.2308/ISSUES-17-015R4444>
- Harris, P. 2022. PH Plumbing Inc.: A long-term construction case study. *Accounting Educators' Journal* 32: 143–160. <https://www.aejournal.com/ojs/index.php/aej/article/view/739>
- Hux, C., P. A. Smith, and M. A. Cefaratti. 2022. Accounting for revenue recognition in the gig economy: An instructional case. *Issues in Accounting Education* 37 (3): 101–123. <https://doi.org/10.2308/ISSUES-2020-040>
- McNellis, C. J., G. J. Barone, and J. Herbold. 2020. Larson industries: A case on identifying and researching revenue recognition issues. *Issues in Accounting Education* 35 (2): 65–75. <https://doi.org/10.2308/issues-19-016>
- The Pathways Commission. 2012. Charting a national strategy for the next generation of accountants. <http://www.aicpa.org/InterestAreas/AccountingEducation/Resources/CurriculumDevelopment/CoreCompetencyFrameworkandEducationalCompetencyAssessmentWebSite/Pages/default.aspx> (last accessed February 20, 2024).