

Teaching Sustainability Accounting to Undergraduates

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Abstract

The accounting profession is expanding in ways that require new knowledge and significantly more complex thinking skills. The additional complexity faced by accounting professionals is particularly evident for sustainability-related issues, where informational demands are multi-stakeholder, multi-dimensional, and intertemporal. Preparing our students to succeed in this environment requires changes to accounting curricula that help students develop complex thinking skills. We argue that sustainability issues should be included across existing courses. Based upon cognitive development theories and the need for systems thinking to address sustainability issues, we provide examples of different activities (along with resources) that educators can include in their undergraduate courses. These activities are designed to fit in with current accounting curricula and scaffold the development of complex thinking skills. The resources provided allow even educators who are not sustainability experts to enhance their curricula in ways that are engaging and help prepare students' futures in the accounting profession.

I. INTRODUCTION

The accounting profession has always involved change. For example, accountants regularly need to learn and apply new financial reporting standards, tax laws, and assurance standards. Today, sustainability-related issues present another major shift that has deep implications for accounting professionals.¹ In response to the exigency of climate change and the importance of sustainability in long-term value creation (e.g., United Nations Development Programme 2021), organizations face increasing pressure to provide information on their sustainability-related activities and impacts to a wide range of stakeholders. Response to this pressure has occurred at the regulatory level, with new mandatory sustainability reporting requirements (e.g., IFRS 2023a, 2023b), and increased organizational attention to sustainability (e.g., Bain & Company 2024). In addition to meeting new regulatory requirements, organizations are increasingly reporting a wide range of sustainability information, broadly categorized as greenhouse gases, other environmental, and social (IFAC and AICPA, 2024).

¹ Over the past decades, corporate sustainability has been referred to using terms such as CSR (Corporate Social Responsibility) and ESG (Environment, Social, and Governance). Use of the term "ESG" has been primarily facing political backlash by conservative politicians, and companies are reducing their use of the term (Winston 2023). We use the term "sustainability", which includes ESG concepts but represents a more holistic view of an organization's resilience and incorporation of sustainability-related risks and opportunities into strategy.

As providers of information for external and internal decision-making, accountants increasingly play a key role in generating, reporting, and/or providing assurance on a range of sustainability information. Public accountants also increasingly provide clients with sustainability consulting services (e.g., Strickland 2024).

What impacts can/should sustainability have on accounting education in the context of the evolving accounting profession? Many educators are likely to view sustainability as a distinct topic that can be taught in one or more separate courses. However, we argue that sustainability issues should be embedded throughout the accounting curriculum.² A major reason for integrating sustainability throughout the curriculum is to help students gradually and successfully develop the cognitive skills needed to address complex sustainability issues.³ Although accounting employers have for many years called for stronger thinking skills, research indicates that accounting students tend to graduate with thinking skills that are inadequate for the workplace (Wolcott and Sargent 2021). The International Federation of Accountants (IFAC) (2024) identifies competency gaps that particularly pertain to sustainability-related issues.

Including sustainability concepts in a variety of accounting courses may seem daunting to accounting educators. To address this concern, we provide examples of specific classroom activities (along with resources) for accounting educators who wish to introduce sustainability issues into their traditional accounting courses. We have designed most of the learning activities to be relatively straight-forward extensions of topics already covered in accounting courses. Based upon developmental psychology literature, we match the suggested activities to the cognitive performance level that is typical of students in beginning, intermediate, and advanced accounting courses (Wolcott 2020). In addition, based upon the significant complexity of sustainability issues, we argue for using simplified business/organizational settings for classroom discussion.

² The approach we recommend is called “piggybacking” (Stroe 2024).

³ Later in the paper, we will introduce the term “complex thinking skills” to describe the cognitive thinking required for sustainability.

The purpose of this approach is to provide students with appropriate challenges and support throughout the curriculum so that they learn sustainability while gradually and consistently developing the complex thinking they will need for the accounting profession. Further, in conjunction with group discussions, the use of these learning activities can foster other competencies such as communication and teamwork. Since students are increasingly interested in sustainability (e.g., Stroe 2024), discussing sustainability is also a means of making accounting more relevant and appealing to both accounting and non-accounting students. Beyond lowering the barrier for including sustainability content in accounting courses, the types of learning activities we suggest in this paper can help educators generate ideas to enhance classroom discussion and develop complex thinking related to other accounting topics.

The remainder of the paper is organized as follows. Section 2 summarizes recent developments in sustainability reporting and management. Section 3 relates trends in sustainability reporting to a significant increase in the complexity of work performed by accountants. Section 4 discusses educational design for the complex thinking skills that accountants need for successful careers. Section 5 presents examples of sustainability issues and related discussion questions that can be deployed across the accounting curriculum. Section 6 concludes and offers thoughts about the future direction of sustainability and accounting education.

II. Evolution of Sustainability Reporting and Management

Over the past two decades, a growing number of organizations have been voluntarily reporting on their sustainability-related activities and impacts (KPMG 2024). The recent increase in mandatory reporting requirements will greatly increase the incidence and nature of reporting and has brought the role of accountants in supporting organizational sustainability to the forefront.⁴ Since 2022, multiple international standard-setting

⁴ A detailed history of the development of sustainability accounting is beyond the scope of this paper. Buhr, Gran, and Milne (2014) provide a summary of the development of voluntary disclosure standards. Jona and Soderstrom (2022) focus on the development of climate-related disclosures.

organizations have promulgated mandatory statutory reporting requirements related to general sustainability (e.g., IFRS 2023a; European Commission 2023), and climate-risk (e.g., IFRS 2023b; AASB 2024).⁵

Coverage of the nature of sustainability accounting and of the mandatory reporting initiatives greatly enhance and expand the scope of responsibilities for accounting professionals. Below we discuss some themes that cut across multiple aspects of sustainability accounting and differentiate it from the focus of traditional accounting. Following this discussion, we explore what these aspects mean for accounting professionals.

Sustainability accounting stems from a view of value creation in which organizations consider the wide range of resources that they employ to create value for internal and external stakeholders, along with the impact that the organizations have on those resources. The Integrated Reporting Framework (IIRC 2021) refers to resources as comprising six “capitals”. In addition to the traditional consideration of financial capital, Integrated Reporting challenges companies to consider and report on manufactured, intellectual, human, social and relationship, and natural capital. Integrated Reports are derived from “Integrated Thinking”, which entails “the active consideration by an organization of the relationships between its various operating and functional units and the capitals that the organization uses or affects” (IIRC 2021, 3). Integrated thinking fosters decision-making by managers that takes into consideration creation of value over the short, medium, and long term. Integrated Thinking also encourages managers to consider tradeoffs in their use and impacts on different capitals.⁶ The focus on integrated thinking blurs the typical distinction between financial reporting and management accounting because organizations need to report on their value creation process as well as results. In 2022, the International Integrated Reporting Council (IIRC) became part of the International Sustainability Standards Board (ISSB), which produced the 2023 IFRS

⁵ In the U.S., the Securities and Exchange Commission produced requirements for climate-related disclosures (SEC 2024). These rules are subject to ongoing legal challenges and have not been implemented. However, U.S. companies that have operations in countries with mandatory reporting are also subject to some or all reporting requirements in those countries. In addition, some U.S. states such as California are creating their own reporting requirements (See <https://calepa.ca.gov/cupa/ereporting/>).

⁶ Trade-offs can be within capitals, such as when a company that takes existing habitat and replaces native plants with a single species of trees to earn carbon credits that will affect local biodiversity (natural capital). Trade-offs can also occur across capitals, such as incurring additional costs to protect habitat when building a new facility (natural capital versus financial capital).

sustainability and climate-related disclosures (IFRS S1 and IFRS S2). The ISSB and the International Accounting Standards Board (IASB) seek to foster increased usage of the Integrated Reporting Framework by companies.⁷

Many sustainability-related resources and impacts cannot be easily monetized. Correspondingly, sustainability accounting involves a greater focus on non-financial and qualitative information. Many of the voluntary disclosures in sustainability reports thus contain non-financial information and the emergent mandatory disclosures in statutory reports include some of the measures that have traditionally been included in voluntary sustainability reports. The increased use of non-financial data in corporate reports represents a convergence of areas that have been traditionally separated between financial and management accounting professionals (Jona and Soderstrom 2023).

In voluntary sustainability reports, the lack of standardization in information presentation (e.g., data items presented in levels versus changes, values versus percentages, or company-specific versus relative to industry), reduces the comparability of information across organizations and over time. Greater consistency in measurement is an advantage of mandatory reporting standards but is not guaranteed. For example, IFRS S2 requires disclosure of climate-related targets used by the organization along with progress against the target, but the organization has discretion over how the targets are measured (IFRS 2023b, 16). Further, while some disclosures are readily measured using methods familiar to accountants (e.g., the percent of women in management positions), other disclosures are based on measures that are highly technical (e.g., greenhouse gases) or can only be described qualitatively (e.g., the organization's strategy to address climate risks).

Most of the new mandatory reporting requirements are based upon the Task Force on Climate-related Financial Disclosures (TCFD 2017) disclosure recommendations. As a result, they all require increased qualitative disclosure related to the organization's business model. This level of disclosure for internal strategy and processes

⁷ See IFRS (2022).

is more detailed than required under traditional accounting disclosure mandates. For example, IFRS S2 requires extensive disclosures regarding the management of climate risk through governance, strategy, risk management, and use of metrics and targets (IFRS 2023b). Organizations must balance providing decision-useful information to stakeholders while avoiding potential disclosure of proprietary information that can constrain the ability to create value.

Sustainability accounting requires organizations to consider and report on aspects that extend beyond the typical boundaries of the firm and accounting systems. For example, reporting on Scope 3 greenhouse gas (GHG) emissions comprises emissions which stem from purchased or acquired goods and services (upstream), or goods and services that have been sold (downstream) (WBCSD and WRI 2004). Organizations must work with entities throughout their value chain to understand and report on their Scope 3 emissions. In Europe, the mandatory European Sustainability Reporting Standards (ESRS) employ the concept of “Double Materiality” (European Commission 2023). This concept of materiality combines “Financial Materiality”, which concerns aspects that affect financial position, financial performance, and cash flows over the short, medium, or long term, and “Impact Materiality”, which concerns the impact on people or the environment (European Commission 2023). The impacts can occur not only within the organization itself, but also upstream and downstream along the value chain through business relationships.

An increasing number of organizations link their sustainability-related disclosures to the United Nation’s Sustainable Development Goals (SDGs) (United Nations Sustainable Development Solutions Network 2015). These 17 goals are focused on global aspirations related to achieving a sustainable world from economic, social, and environmental perspectives. Organizations seeking to report their progress on one or more of the goals need to identify which international goals are appropriate and then select metrics at the organization level with which to track their progress in supporting the chosen goal. The Governance & Accountability Institute (2023) finds that

in 2022, over 50% of Russell 1000 companies referenced SDGs in their sustainability reporting, with 472 reporting alignment between the company's sustainability strategy and specific SDGs.

Sustainability accounting extends the time horizon that firms need to consider for their decision-making and reporting. Under the mandated reporting requirements, companies need to consider requirements for creating value and the impacts of doing so over the short, medium, and long term (e.g., IFRS 2023a). The decision of what comprises the short, medium, and long term is largely up to the firm's discretion, and there is a lack of consistency in the choice of time horizons. Relatedly, many of the emergent climate-related reporting standards require organizations to conduct and report details of climate scenario analyses (e.g., IFRS 2023b; AASB 2024; XRB 2022). In a report prepared for the Australian Accounting Standards Board (AASB), Ding, Jona, Potter, and Soderstrom (2023) find that scenario analysis time frames reported in 2020-2021 by large Australian firms ranged from 2020 to 2100. This variation in timeframe reduces the comparability of disclosures across organizations. In addition, analyses that extend far into the future are less reliable.

In concert with development of new forms of reporting (both mandatory and voluntary), demand for assurance of the reported information has increased. In November 2024, the International Auditing and Assurance Standards Board (IAASB) promulgated ISSA 5000 (IAASB 2024), which provides requirements for sustainability assurance engagements.⁸ Research indicates a significantly positive association between assurance and environmental disclosure quality (Moroney, Windsor, and Aw 2012) and, over time, an increasing number of companies seek assurance of their voluntary sustainability reports. KPMG (2024) reports that in 2023, 69% of the largest 250 companies in the world had their sustainability disclosures assured.

⁸ Prior to this release, assurance was provided under either ISAE 3000 (IAASB 2013) which was designed for more general non-financial assurance engagements rather than for sustainability assurance, or AA1000AS (ISEA 2003), which was specific to sustainability, but was developed by a consultancy and has typically been used by non-accountant assurance providers.

A key difference between financial audit and sustainability assurance engagements is that sustainability assurance can be provided at two levels, either “reasonable” or “limited”. Financial audits are designed to provide a reasonable level of assurance. The level of assurance for a limited assurance engagement is substantially lower due to the nature, timing, and extent of procedures that assurers perform (IAASB 2024).

Another difference between financial audit and sustainability assurance engagements is that assurance providers are more likely to engage outside experts to either provide inputs for or perform parts of the engagement. The International Code of Ethics for Professional Accountants (IESBA) (2024) addresses ethical issues associated with use of external experts and provides guidance for evaluating an external expert’s competence, capabilities, and objectivity before relying on their input for the engagement.

The focus and extent of sustainability accounting is constantly changing. Given the exigency of climate change, TCFD focused on developing disclosure recommendations related to management of climate-related risks. Since promulgation of IFRS S1 and S2, the TCFD has disbanded, leaving monitoring of implementation of the recommendations to the ISSB. In the place of TCFD, a new initiative, Taskforce on Nature-related Financial Disclosures (TNFD) is developing a risk management and disclosure framework that focuses on evolving nature-related risks. The goal of the taskforce is to support transition of global financial flows from nature-negative toward nature-positive outcomes (TNFD 2023). The work of the TNFD is informing projects at the ISSB to develop standards for reporting on biodiversity, ecosystems and ecosystem services, and human capital.⁹ Each of these areas poses unique disclosure challenges, particularly with respect to measurement.

III. Complexity of Sustainability and Implications for the Accounting Profession

The preceding section highlighted many recent developments that have implications for the accounting profession. The increased regulation and evolution of sustainability reporting is occurring within a highly complex

⁹ See IFRS 2024.

business, regulatory, and social environment. A considerable amount of the increase in complexity is driven by changes in our understanding of how organizations create value. Instead of focusing primarily on financial profits (Friedman 1970), organizations are increasingly concerned with financial and non-financial interdependencies with upstream and downstream stakeholders (IIRC 2021).

Understanding how decision-makers can operate effectively in complex environments such as those driven by sustainability issues can be framed by a systems thinking approach set in the context of complexity theory. A systems thinking approach challenges decision-makers to take a holistic view, helping them to understand the linkage between actions and outcome, identify how parts of systems are interrelated, and how institutional structures can affect the decision-making process (Jackson 2024; Grewatsch, Kennedy, and Bansal 2023). Sustainability challenges accountants along many dimensions. By adopting a systems thinking approach, accounting professionals are encouraged to base their efforts on the assumption that organizational decision-making is shaped by interconnected and interdependent human, environmental, technological, organizational, regulatory and social systems (CPA Canada 2022).

The expanded notion of value creation in business and the role of accounting in providing information to decision-makers to facilitate value creation are key drivers of additional demands on accounting professionals. Creating value in contemporary economies is complex, with value creation in one area positively/negatively affecting the company's ability to create value in other areas. If accountants are to provide information to decision-makers to help them achieve their value creation goals, it is important that accountants also understand the complexity of these inter-value interactions. Further, these interactions may evolve over time, thereby necessitating an understanding of these interactions in the short, medium, and longer term. In addition, embedding value creation within the contexts of sustainability and ethics results in increased complexity. It is thus important that accountants are able to identify, measure, and analyze value creation within highly complex systems in order to

provide useful data for decision-makers. Table 1 relates the complexity posed by sustainability accounting for different stages of the accounting process per the Pathways Vision Model (AAA and AICPA 2014).

Sustainability presents complex problems even in simple settings. For example, in 2018, LUSH Cosmetics, a privately-owned British cosmetics company known for its ethical and sustainable business practices, ceased using natural mica in its products (Shepherd n.d.). This decision was based on evidence of child labor in India used to mine the mica, which was antithetical to LUSH's ethical brand. The company instead chose to use synthetic mica for its products, thereby removing child labor from its supply chain (Shepherd n.d.). The switch to synthetic mica had the unintended consequence of increasing economic hardship for the families of the child laborers by cutting off an income stream (Lebsack 2019). LUSH's case presents an ethical dilemma in which LUSH executives must navigate the interrelated problems of child labor and poverty.¹⁰ To support decision-making in this case, accountants would need to take into consideration not only interrelated values, but also diverse stakeholders in complex regulatory frameworks.

IV. Development of Complex Thinking Skills

To properly consider the multiple dimensions of sustainability in complex systems, accountants and decision-makers must have sufficient critical thinking skills to effectively gather, analyze, synthesize, and evaluate information. Development of these skills is an important part of the educational process, including communication, collaboration, and working in teams to get the proper information to include in reports. Technical expertise is also necessary to design the reports so as to inform effective decision-making. Many students, particularly undergraduates, have not yet developed the required maturity of thinking necessary to support this skills development in complex systems (Wolcott and Sargent 2021).

¹⁰ Exhibit 1 provides further detail of the LUSH example.

Throughout higher education, the term “critical thinking” is used to refer to a variety of skills needed to identify, analyze, and reach conclusions about open-ended problems (i.e., problems that require judgment and do not have a single “correct” solution) along with the application of relevant technical knowledge. Because sustainability problems involve significant complexity, educators must extend the notion of critical thinking to comprise “complex thinking skills” where an individual can successfully apply a systems thinking approach and judgment, along with a wide range of other skills such as teamwork and communication, to address complex problems.

From an educational design standpoint, we cannot simply give students complex problems and expect their thinking skills to develop. Presenting students with too much complexity too soon may cause students to experience confusion or frustration (Lodge, Kennedy, Lockyer, Arguel, and Pachman 2018). Proper scaffolding of sustainability concepts within our curriculum can help students to develop their critical thinking skills necessary to develop a systems thinking approach to understanding sustainability and accounting more broadly (Fischer and Bidell 2006; Sinnewe, Yao, and Zwaan 2023).

Our approach to including sustainability content in accounting courses aims to foster development of complex thinking, taking into consideration some key insights from the cognitive development educational literature about how complex thinking skills develop:¹¹

- The development of complex thinking skills is very slow, and progress tends to be unstable with apparent growth followed by reversion. Similarly, these skills do not automatically transfer from one course or subject matter to another. Students need considerable time and practice across the entire curriculum to successfully make stable progress.

¹¹ For a review of the relevant literature in the context of accounting education, see Wolcott and Sargent (2021). Fischer and Bidell (2006) provide more detailed information about the dynamic nature of thinking skill development.

- Complex thinking development is less likely if learning activities are too simple or too advanced for students' current abilities. In general, lower-level courses should focus on lower-level skills, with increasing expectations as students make progress across the curriculum. Regardless of the course level, however, development requires students to address realistic open-ended problems that require judgment.
- Students' motivation and approaches to learning influence whether and how they engage in learning tasks, especially those that require the effort of complex thinking. Students' preconceived ideas such as "there is always a single correct answer" or "critical thinking means arguing in favor of my own opinion" prevent students from developing more complex thinking skills. Students are more likely to engage in learning activities that are interesting to them but not overly complicated. Students also need assistance to change underlying beliefs that hinder their development.

One approach for adding sustainability to the curriculum is to simply add a stand-alone course. However, topics that are individually complex and that overlap considerably with many other topics in the curriculum—such as sustainability, data analytics, and ethics—might best be embedded throughout the curriculum.¹² Inclusion of sustainability issues throughout the curriculum also best represents its systemic nature.

Our cross-curricular approach helps students learn to address real world complexity gradually, in turn helping them develop more complex thinking by the time of graduation. Consistent with Wolcott (2020) and the cognitive development literature, we focus on the three most common levels of cognitive development that are observed among undergraduate students as shown in Table 2.¹³ These three performance levels tend to be common among students in: (1) introductory; (2) intermediate; and (3) advanced/master-level accounting courses. Our goal is to

¹² For example, Falgout et al (2024) provide evidence about the integration of data analytics in accounting programs.

¹³ Omitted from the table are two higher performance levels that are beyond the cognitive maturity of typical undergraduates. However, students at Performance Level 3 have a strong basis for understanding and analyzing complex sustainability-related issues.

help students methodically progress from one performance level to the next as they proceed through the curriculum.

At Performance Level 1, students believe that all learning tasks have only one single “correct” answer. They tend to be perplexed by learning tasks that require them to apply judgment. These students need to learn that open-ended problems exist, how to recognize them, and how to begin applying basic thinking skills. At Performance Level 2, students recognize open-ended problems, but believe it is sufficient to simply choose their own point of view and argue in favor of it. These students need to learn to reserve judgment while they fully explore information and perspectives. At Performance Level 3, students demonstrate the ability to fully explore complex problems, but they believe that reaching a conclusion arises only from bias. They need to learn how to apply appropriate criteria for focusing on the most important issues and for reaching a well-founded conclusion based on the given situation.

V. Examples of Sustainability Issues and Questions Across the Curriculum

We present suggestions for incorporating sustainability into existing accounting courses in Table 3. The discussion topics included in the table are adapted from the sustainability education framework provided by IFAC (2024) and represent areas where IFAC identified gaps in competencies that accountants need related to sustainability.¹⁴ To facilitate adoption of our suggestions, we organize the information in Table 3 based upon the types of courses in a typical accounting curriculum. Each panel of the table presents general issues and curriculum suggestions related to different areas of accounting curriculum. Panel A focuses on external reporting; Panel B focuses on internal reporting and analysis; Panel C focuses on processes and controls; and Panel D focuses on

¹⁴ IFAC (2024) discuss competencies related to technical expertise, business acumen, behavioral competence, and ethics and professional values. While the discussion questions focus primarily on gaps in technical expertise identified by IFAC, many of the questions require students to include the other competencies from IFAC (2024) as they consider the issues raised.

assurance.¹⁵ In each panel, the rows provide examples of general sustainability issues for the related area of accounting. For each general issue, we identify specific issues for use with students who are at different levels of complex thinking from Table 2 and/or are in the courses identified in the second row of that table.¹⁶ For each specific issue we provide discussion questions that instructors can use in their classes along with resources to facilitate the discussion. We note that general accounting classes (often introductory financial and managerial accounting) can include students from different majors and backgrounds. The suggested activities are good for group discussion and instructors should encourage students to bring their different perspectives to the discussion.

Illustration of how to use the suggestions in Table 3 in current accounting curricula

Consider the first row of Table 3, panel A, which provides ideas for including sustainability content in courses related to external reporting. The general issue listed is related to the increase in sustainability reporting requirements in many countries. Because the mandatory disclosures are included in corporate statutory reports, many working accountants must be able to understand and apply the required disclosures.

Introductory level course (Level 1)

Students at Performance Level 1 expect to memorize and recite, and they need to recognize the existence and possible effects of uncertainty. The specific issue is how climate change can impact accounts that are reported in a company's financial statements. Fixed assets may be impaired by extreme weather events. Weather-related disruptions may impact customer preferences or their ability to order and pay for a company's products. Supply chains can also be disrupted. Class discussion can include whether and how these effects should be included in the financial statements. Because the effects can be uncertain, students should learn that there can be multiple

¹⁵ This section likely fits in best within the audit curriculum rather than in general accounting courses. Although audit is typically taught to more advanced students, it still may be appropriate to include some Performance Level 1 content since students' complexity thinking can vary across content areas (e.g., Fischer and Bidell 2006).

¹⁶ We realize that all student populations are not homogenous. Identification of appropriate issues to discuss can easily be adapted from Table 3 for the cognitive development performance levels of each educational institution's student population.

“correct” answers. The resource cited, IFRS (2023c), is educational material that describes the effects of climate-related matters for specific IFRS accounting standards. These effects will largely be similar for reports that follow US GAAP.

Intermediate level course (Level 2)

Students at Performance Level 2 can take information and develop their own opinion but need to improve their ability to objectively and thoroughly analyze alternatives and stakeholder effects. The specific issue we identify for these students relates to the fit between proposed sustainability disclosures and the Conceptual Framework (the frameworks for either IFRS or United States Generally Accepted Accounting Principles (US GAAP) can be used for this question). The discussion focuses on suggested industry-based disclosures from the Sustainability Accounting Standards Board (SASB) and the qualitative characteristics of useful financial information from the Conceptual Framework such as relevance and comparability. This discussion question can be linked to companies that are already included in the class discussion by choosing the SASB standard for the firm’s industry. Class discussion can be broadened into challenges faced by regulators who seek to develop relevant industry-specific reporting standards. The resources cited include the conceptual frameworks for both IFRS and US GAAP (IFRS 2018 and FASB 2010, respectively), the IFRS S1 reporting standard (IFRS 2023a) which discusses the industry-specific reporting requirements, and a link to a SASB resource to obtain the appropriate industry-specific reporting standard.

Advanced level course (Level 3)

Students in advanced courses at Performance Level 3 can work with uncertain information but refrain from providing their own opinions out of fear they will be biased. To progress in their cognitive development, these students should be challenged to objectively focus their attention on the most important information, stakeholders, and decision criteria. The specific issue we identify for students at Level 3 regards required disclosure of climate-

related risks and opportunities over the short, medium, and long term. Financial reporting typically focuses on the short term (with everything not short term classified as long term), so this reporting requirement significantly extends the reporting time horizon and increases disclosure of forward-looking information. Further, the reporting standards do not clearly define what comprises the short, medium, and long term; the timing is at the discretion of the reporting firm. Finally, managers may be concerned about potential liability related to the increased disclosure of uncertain and forward-looking disclosures. The resource mentioned in Table 3 is the climate report from a company in New Zealand (Channel Infrastructures NZ Limited 2024). New Zealand was the first country to promulgate TCFD-based climate reporting requirements (XRB 2022), with the first reports issued in 2024. Channel Infrastructures NZ Limited (2024, 42) provides a useful description of how the company determined appropriate horizons to represent the short, medium, and long term.

Although we have designated the specific issues to be within individual performance levels of thinking, the issues can easily be adapted for other levels or to broaden the class discussion. For example, in addition to being appropriate for advanced classes, the issue of disclosing risks and opportunities over the short, medium, and long term can be explored in classes where students have less complex thinking. For introductory/Performance Level 1 students, the instructor can either ask students to categorize a list of climate-related risks and opportunities into short, medium, or long term, or have students generate their own examples. For intermediate/Performance Level 2 students, class discussion can focus on the pros and cons of thinking about issues in the short, medium, and long term. The challenge is to facilitate students' cognitive development as they progress through their curriculum. While it is tempting to ask students the more advanced (and probably more intrinsically interesting) questions, it is important to keep from overloading the students when they are not cognitively ready to work with the complexity associated with sustainability issues.

Another consideration is the context within which to explore sustainability accounting issues. Given students' difficulty in understanding and managing the complexity of sustainability issues, we believe that employing

simple settings can be effective in helping students to gain the necessary competencies for their careers. Simpler settings allow students to more easily apply complex ideas; fundamental insights can come from studying a simple organization. In her undergraduate sustainability accounting course, one of the authors bases the majority of her cases throughout the semester on a fictitious luxury hotel, “Paradise Cove”, that is located at a remote oceanfront property in Queensland, Australia. Table 4 provides examples of the key issues explored in the cases and the related student activities. Although these cases are used in a standalone sustainability course, based upon the simplicity of the setting they can be adapted for use in more general accounting courses and extended to other topics. Further, a co-teacher has extended the Paradise Cove setting to include cases on greenwashing, executive compensation, and debt financing. An advantage of using a consistent setting is that the students can focus on the concepts rather than trying to understand a new setting.

VI. Conclusion

Although the accounting profession (and, accordingly, accounting education) has always involved change, in recent years, the pace of change has increased. For example, technology has changed the methods used to perform accounting work, including the expanded use of artificial intelligence and data analytics. In this paper, we discuss changes to the profession derived from the increase in demand for sustainability-related information. We argue that these changes require accountants to have a high level of complex thinking, which will allow them to successfully manage the increased complexity posed by the multi-stakeholder, multi-dimensional, and intertemporal nature of sustainability information. Given the evolving nature of sustainability accounting, professional accountants require not only deep technical knowledge, but they must at the same time successfully employ a wide range of skills such as anticipating evolving needs, gaining strategic insights, and communicating and collaborating across departments/disciplines.

The changes to the accounting profession require accountants to perform more complex work earlier in their careers than in the past (Kenney 2024). Development of complex thinking skills takes time, and presenting individuals with problems that require cognitive performance beyond their capabilities is ineffective (Lodge et al. 2018). Proper design of undergraduate curriculum can help students progress in ways that are appropriate for their current performance levels and can help them progress to higher levels of complex thinking.

Although some institutions have developed standalone sustainability courses, we propose that sustainability content should be included across the accounting curriculum.¹⁷ Similar to topics related to ethics and data analytics, we believe that sustainability issues pervade business and should be a normal consideration in decision-making. Indeed, sustainability issues have deep ethical implications (e.g., the impact of business activities on local communities and nature) and proper analysis of the myriad diverse sustainability-related information requires data analytic techniques. Embedding sustainability issues in extant accounting courses also broadens students' understanding of how to think about sustainability issues within different contexts. We provide examples of sustainability-related discussion issues (and resources) for classes that are aligned with the typical cognitive performance of students in different levels of accounting classes. These activities can easily be adapted to fit the complex thinking levels for different student cohorts.

Our classroom discussion topics are based upon current sustainability accounting initiatives. However, this landscape is continuously changing. For example, IFRS is currently taking on projects related to mandatory disclosures regarding human capital and nature. To best serve our students, accounting educators should monitor such developments to ensure that their curriculum is up to date. Further, by adopting the strategy of fostering systems thinking and development of complex thinking skills, accounting educators can help future accounting professionals to successfully support decision-making as sustainability accounting evolves.

¹⁷ While we believe that sustainability content should be included in all accounting classes, the resources we provide can also be used in a standalone sustainability accounting course.

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Exhibit 1: LUSH Example of Sustainability-Related Complexity

In 2018, the privately-owned British cosmetics company LUSH ceased using natural mica in its products. LUSH managers chose this strategy to address a social sustainability issue regarding use of child labor for mica mining. The company touted the decision as part of their progress in eliminating child labor from its supply chain and adoption of more ethical practices (Shepherd, n.d.). However, the company's switch to synthetic mica had the unintended consequence of increasing economic hardship for the families of the child laborers by cutting off a critical income stream. If all companies were to stop purchasing mica, the regions where mica is currently mined would become even more impoverished (Rybarczyk, 2021).

The company's decision was made in an interconnected environment with conflicting stakeholder priorities. There was no single solution that LUSH could use to completely resolve issues related to the use of child labor. The company could: 1) discontinue purchasing from suppliers that take advantage of child labor; or 2) continue purchasing products that provide at least some financial support to the mining communities. This decision illustrates the complex interaction among societal priorities that companies face when making sustainability-related decisions.

In the setting faced by LUSH, due to the issue of child labor, over time many customers decided to shift away from the use of mica. In one major mica-mining region, new governmental regulations supported by civil society organizations, prohibited child labor and ensured that children instead enrolled in school (Bisoe, 2024). Unfortunately, the problem of child labor persists in many other industries and locations; it has not been "solved" (UNICEF, 2024).

Table 1: Pathways Vision Model Adapted for the Complexity of Sustainability Accounting

| Component of Pathways Vision Model | Additional Complexity from Sustainability |
|---|--|
| Economic activity | <ul style="list-style-type: none"> • In addition to the economic impact, sustainability accounting requires recognizing the social, environmental, and governance impacts of activities. • Accountants must focus on both financial and nonfinancial events and circumstances. • Activities include those beyond the legal boundaries of the organization (e.g., activities of suppliers and customers). • Accountants have increased roles in organizational activities such as strategic planning and risk management. |
| Shades of gray | <ul style="list-style-type: none"> • There are more sources and types of uncertainty in sustainability information than in traditional accounting information. • Measurement methods and data sources are relatively new and less precise. • Sustainability information often includes forward-looking information. |
| Accounting judgments | <ul style="list-style-type: none"> • Greater judgment is required when choosing, applying, and evaluating measurement methods. • A considerable amount of sustainability information cannot be monetized, requiring greater use of qualitative data and different analytical methods. • External experts are often involved in the development of sustainability information, leading to questions about information quality and objectivity. • Accountants who provide assurance on sustainability reports must decide on materiality, procedures used, and conclusions reached. • Sustainability accounting requires an understanding of the complex interactions among social, environmental, economic, and governance activities. |
| Useful information | <ul style="list-style-type: none"> • Users of sustainability information include a wide range of stakeholders who have different information needs. • Considerable uncertainty exists about usefulness of the various types of sustainability information to decision makers and other recipients. • Voluntary disclosures can differ greatly across organizations and over time, reducing comparability across organizations. • Reporting guidelines are evolving as reporting methods evolve and may be subject to political pressures. • Variations in the nature of external assurance can limit the usefulness of sustainability reports. |
| Good decisions for a prosperous society and consequences for future economic activity | <ul style="list-style-type: none"> • Because of significant uncertainties and disagreement about the nature and usefulness of sustainability information, it is difficult to assess the consequences of this information on decision makers and/or society. • Conflicts can arise among competing social, environmental, economic, and ethical criteria. |

Adapted from the Pathways Vision Model (AAA and AICPA 2014).

Table 2: Common Levels of Cognitive Development and Related Educational Goals

| | Performance Level 1 Little/No Complex Thinking | Performance Level 2 Partial Complex Thinking | Performance Level 3 Emergent Complex Thinking |
|--|---|---|---|
| Students' approach to an open-ended learning task that requires complex thinking; based on students' epistemological assumptions | Students find the single "correct" answer according to experts | Students select their own opinion and provide valid arguments/ reasons | Students fully explore the information and alternative viewpoints; however, do not reach a conclusion because they fear being biased |
| Most commonly used in these accounting courses | Introductory accounting | Intermediate, senior-level, and perhaps master's-level accounting | Advanced master's-level accounting |
| Most important goals for design of learning activities | Develop Level 2 Skills: <ul style="list-style-type: none"> • Recognize open-ended problems (e.g., recognize uncertainties that prevent a single "correct" answer) • Distinguish between relevant and irrelevant information • At least partially analyze relevant information to develop and support own opinion | Develop Level 3 Skills: <ul style="list-style-type: none"> • Identify main problem and complexities • Thoroughly and objectively analyze alternatives, including relevant information, assumptions and others' perspectives • Delay conclusions until thorough analysis is completed | Develop Skills Beyond Level 3: <ul style="list-style-type: none"> • Identify most important problem(s) and complexities, including embedded subsidiary problem(s) • Objectively analyze the most important alternatives, information, implications, and perspectives • Evaluate the quality of information and assumptions • Select and apply appropriate decision criteria to reach well-founded conclusion(s) |

Adapted from the AICPA faculty guide (Wolcott, 2020), epistemological assumptions in the reflective judgment model (King and Kitchener, 1994), and evidence regarding accounting students' performance levels (Wolcott and Sargent, 2021).

Table 3: Discussion Questions and Resources to Foster Student Development of Complex Thinking at Different Performance Levels

Panel A: External Sustainability Reporting

| General Issue | Introductory Course/Level 1 | Intermediate Course/Level 2 | Advanced Course/Level 3 |
|--|--|--|---|
| Understand and apply sustainability-related reporting requirements | <p>Specific Issue: Effects of climate change on the numbers reported in financial statements.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> Is it possible for the value of fixed assets to be affected by climate change? Is it possible for sales or accounts receivable to be affected by climate change? Is it possible for supplier-related accounts (e.g., inventory and accounts payable) to be affected by climate change? <p>Resources: IFRS (2023c)</p> | <p>Specific Issue: Fit of new sustainability disclosure requirements within the financial reporting Conceptual Framework.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> IFRS S1 (IFRS 2023j) suggests that companies consider using SASB industry disclosures in their reports, which include both climate-related and more general sustainability disclosures. Select a SASB industry standard for a company that has been discussed in class and, within the context of the Conceptual Framework, discuss whether the suggested disclosures are in alignment with the qualitative characteristics of useful financial information. <p>Resources: IFRS (2018) FASB (2010) IFRS (2023a) SASB standards are available at: https://sasb.ifrs.org/standards/download/</p> | <p>Specific Issue: IFRS S2 requires disclosure about climate-related risks and opportunities over the short, medium, and long term.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> What is meant by short-, medium-, and long-term information, and how do these types of information deviate from typical timelines used in financial reporting? How should accountants and managers determine what comprise relevant short-, medium-, and long-term climate-related effects? What issues such as potential liability might managers be concerned about for these types of disclosures? <p>Resources: Channel Infrastructures NZ Limited (2024) (p. 42 includes analysis of time horizons) IFRS (2023b)</p> |
| Produce high-quality sustainability disclosures and information useful to external decision makers | <p>Specific Issue: IFRS S1 suggests that companies consider reporting industry-based sustainability measures.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> How might comparing a company's sustainability results to industry results provide information that is useful to external stakeholders? How might comparing trends in a company's sustainability results over time to industry trends provide information that is useful to external shareholders? <p>Resources: IFRS (2023a)</p> | <p>Specific Issue: Relevance of suggested sustainability disclosures for the decisions of external providers of capital.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> Select a SASB industry standard for a company that has been discussed in class. Are the SASB's suggested disclosures likely to provide value-relevant information to external providers of capital? Provide arguments for and against. What type of insights might external providers of capital glean from the mandated Greenhouse Gas disclosures? <p>Resources: SASB standards are available at: https://sasb.ifrs.org/standards/download/ IFRS S2 (IFRS 2023b) https://www.ifrs.org/issued-standards/list-of-standards</p> | <p>Specific Issue: Materiality for sustainability information is different than for traditional financial statements.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> Why are new types of materiality for sustainability information compared to traditional financial statement information being discussed by standard-setters? What are arguments for and against moving to "double materiality" as a means of determining what type of information should be reported in corporate annual financial reports? <p>Resources: IFRS (2023a) European Commission (2023) Turner and Weirich (2023)</p> |

Panel B: Internal Sustainability Reporting and Analysis

| General Issue | Introductory Course/Level 1 | Intermediate Course/Level 2 | Advanced Course/Level 3 |
|---|---|---|--|
| Produce high-quality sustainability disclosures and information useful for internal decision-making | <p>Specific Issue: IFRS S2 requires companies to report their Greenhouse Gas (GHG) emissions. While this reporting requirement is for annual reports, the data are clearly available for managers as well.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> What are the different types of GHG emissions that are reported? Which types of GHG emissions can managers directly control? For what types of internal decisions might GHG emissions information be useful? <p>Resources: IFRS (2023b) WBCSD and WRI (2004)</p> | <p>Specific Issue: IFRS S2 requires companies to discuss how climate-related targets (e.g., Greenhouse Gas emissions) are linked to executive remuneration.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> How might sustainability and climate-related items be included in executive remuneration (e.g., based upon achieving a firm-level or industry-based target, percentage change in the measure, as a hurdle for receiving any bonus, etc.)? What are the arguments for and against including climate-related items in executive remuneration? <p>Resources: Cohen, Kadach, Ormazabal, and Reichelstein (2023) Lenihan and Brennan (2023)</p> | <p>Specific Issue: One way that companies help decision-makers consider climate-related issues is by using internal carbon prices. IFRS S2 requires companies to disclose when and how they apply internal carbon prices in decision-making.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> How would internal carbon prices affect decision models such as for: 1) investment decisions; 2) transfer pricing; and 3) scenario analysis? What carbon pricing method should managers use (e.g., carbon fees, shadow prices, or implicit prices) and how should these internal prices be set? <p>Resources: IFRS (2023b) KPMG (2023) Ecofys, The Generation Foundation, and CDP (2017)</p> |
| Establish new ways to measure sustainability performance, including science-based metrics and targets | <p>Specific Issue: With increased voluntary and mandatory sustainability disclosures, there is an increased ability for managers to benchmark against companies in similar industries.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> How might comparing a company's sustainability results to their industry peers provide information that is useful to managers? How might comparing trends in a company's sustainability results over time to industry trends provide information that is useful to managers? <p>Resources: IFRS (2023a)</p> | <p>Specific Issue: Use of sustainability measures in performance measurement/management systems such as the Balanced Scorecard (BSC).</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> What are the different ways of incorporating sustainability metrics into Balanced Scorecards? Describe the conceptual differences between modifying the BSC by 1) adding sustainability measures to each of the perspectives (Epstein and Wisner 2001); 2) creating a separate perspective for sustainability measures (Schaltegger and Ludecke-Freund 2011); or 3) reformulating the BSC model to reflect multi-stakeholder strategies (Kaplan and McMillan 2020)? <p>Resources: Epstein and Wisner (2001) Schaltegger and Ludecke-Freund (2011) Kaplan and McMillan (2020)</p> | <p>Specific Issue: The most controversial climate-related measure under IFRS S2 is the company's Scope 3 (upstream and downstream) emissions that are not directly produced by the company.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> What are the challenges with calculating Scope 3 emissions? Assume that a company wants to achieve net zero emissions. What internal decisions could be facilitated by using Scope 3 information? <p>Resources: World Resources Institute (2021)</p> |

Panel B continued: Internal Sustainability Reporting and Analysis

| General Issue | Introductory Course/Level 1 | Intermediate Course/Level 2 | Advanced Course/Level 3 |
|---|---|--|--|
| Analyze new types of sustainability-related data sets and scenarios to support informed decision making | <p>Specific Issue: Effect of carbon prices on internal decision-making.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> The World Bank has a website with current carbon prices for different markets. Assume that a company is making an investment decision, and the investment has a significant carbon impact. What difference does the company's location make for the costs associated with the decision (e.g., California versus Vermont, or France versus Switzerland)? How can you include carbon prices when you cost products? What would be the effect on breakeven point when you add a carbon price to a product? <p>Resources: https://carbonpricingdashboard.worldbank.org/compliance/price</p> | <p>Specific Issue: Companies following IFRS S2 and other international reporting standards must perform climate-related scenario analyses.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> New Zealand was the first country to require companies to perform and report on multiple scenario analyses, including low and high levels of temperature rise. Based upon examples of qualitative scenario analyses that have been produced for different corporate sectors, conduct qualitative scenario analyses under a variety of scenarios. (Students can use real or fictitious companies, and insights from New Zealand can be generalized to other settings.) You should consider both risks and opportunities. How might the insights from climate-related scenario analyses be used by managers to adjust their strategies? <p>Resources: The New Zealand government has provided examples of qualitative scenarios for a wide range of corporate sectors: https://www.xrb.govt.nz/standards/climate-related-disclosures/resources/sector-level-scenario-analysis/</p> | <p>Specific Issue: Required climate-related scenario analysis disclosures are quite extensive, and managers have a large amount of discretion over which scenarios they perform and disclose.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> What types of climate-related scenarios should managers analyze for their disclosures? Does the requirement to disclose the scenarios used impact the types of scenarios that managers will choose to perform (i.e., can there be any strategic reasons why companies will choose certain scenarios)? Read the scenario analysis disclosures from a New Zealand company. What can you learn from the disclosures? What is the reported impact of doing the scenario analysis on corporate strategy? <p>Resources: Channel Infrastructures (2023) has extensive scenario analysis disclosure. TCFD (2020)</p> |

Panel C: Processes and Controls

| General Issue | Introductory Course/Level 1 | Intermediate Course/Level 2 | Advanced Course/Level 3 |
|---|--|---|--|
| Design, implement and evaluate sustainability-related systems, processes and controls | <p>Specific Issue: Reporting of sustainability-related information will require new systems. Some of the systems require collection of non-traditional data.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> Reporting of Scope 3 emissions requires companies to include emissions related to employee commuting. Design a spreadsheet that can be used to create a database for calculating Scope 3 emissions related to employee commuting. (EPA (2024) Table 10 provides emissions factors that can be used for calculation of Scope 3 emissions from the data.) Do you think that the data in the system will be complete and reliable? (Instructor: see WBCSD and WRI (2004) p. 32 for the experience of collecting this information at one organization.) <p>Resources: WBCSD and WRI (2004) EPA (2024)</p> | <p>Specific Issue: Directors play a key role in organizational governance, which is an important part of Management Control.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> What is the role of the Board of Directors related to sustainability? Why should oversight of organizational sustainability be at the board level? What types of processes need to be in place for directors to understand that the organization can identify and manage sustainability-related risks? (Instructor: see Committee of Sponsoring Organizations of the Treadway Commission (COSO) and World Business Council for Sustainable Development (WBCSD) (2018), p. 17-18 for specific questions that help to understand whether the organization has appropriate policies and procedures in place.) <p>Resources: https://docs.wbcsd.org/2018/10/COSO_WBCSD_ES_GERM_Guidance.pdf</p> | <p>Specific Issue: Sustainability issues transcend organizational boundaries. This can lead to issues associated with gathering data for mandatory disclosure and can impose liabilities on the organization.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> What types of systems are needed to develop to track Scope 3 emissions from upstream and downstream entities? How can an organization control the quality of the Scope 3 information obtained from upstream and downstream organizations? (See guidance from Greenhouse Gas Protocol (2022)). What sustainability-related risks to your organization stem from upstream and downstream entities? What controls can you put in place to manage these risks? <p>Resources: Greenhouse Gas Protocol (2022) Philips and Caldwell (2005) Lemke and Petersen (2012)</p> |

Panel D: Assurance of Sustainability Reporting

| General Issue | Introductory Course/Level 1 | Intermediate Course/Level 2 | Advanced Course/Level 3 |
|--|---|---|---|
| Understand and apply sustainability-related assurance standards | <p>Specific Issue: The new sustainability reporting standards increasingly require the disclosures to be assured by a public accountant. This type of assurance is different from traditional financial audits.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> • In some cases, assurance can be limited rather than reasonable assurance. IAASB (2023, appendix 2) provides examples of assurance reports for limited versus reasonable assurance engagements. How do these reports differ from financial statement audit reports? • How do the illustrative reports differ between limited and reasonable assurance? <p>Resources: IAASB (2023)</p> | <p>Specific Issue: Mandated sustainability-related disclosure requirements include a significant emphasis on qualitative and forward-looking information.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> • What are issues associated with assurance of qualitative information? What procedures should assurance providers follow to assure qualitative information? • What are issues associated with assurance of forward-looking information? What procedures should assurance providers follow to assure forward-looking information? <p>Resources: IAASB (2024, 2023)</p> | <p>Specific Issue: The nature of assurance for new sustainability disclosure standards differs across jurisdictions. Jurisdictions may require limited assurance or reasonable assurance for some or all of the new disclosures.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> • IAASB (2024) provides activities necessary to perform limited versus reasonable assurance for different aspects of required sustainability disclosures. How do these activities relate to differences in the conclusion statements in assurance reports (see example report components provided in IAASB (2023))? • Choose an area where IAASB provides different activities for limited versus reasonable assurance activities and describe a plan for conducting the assurance for each level. <p>Resources: IAASB (2024, 2023)</p> |
| Use judgment and assess materiality for a sustainability context | <p>Specific Issue: Disclosures under IFRS S2 are subject to materiality considerations, with companies only reporting material items.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> • If a company does not report an item such as emissions, does that mean that management is in violation of the reporting standards? • What kinds of companies are likely to have material carbon emissions? Is this always the same for Scope 1, Scope 2, and Scope 3 data? <p>Resources: IFRS (2023d) World Resources Institute (2021)</p> | <p>Specific Issue: An item's materiality depends on the audience for the reported information. The Global Reporting Initiative has produced voluntary reporting standards that are multi-stakeholder. The IFRS and US GAAP conceptual frameworks focus on materiality from the perspective of external providers of capital.</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> • What are examples of information that might be material from the perspective of GRI's definition of materiality, but would not be material from a financial reporting perspective? • How does the non-financial nature of sustainability-related information make it more difficult to make materiality judgments? <p>Resources: FASB (2010) GRI (2024) https://www.ifrs.org/issued-standards/list-of-standards/conceptual-framework/</p> | <p>Specific Issue: Reporting standards differ in their definition of "material" information that should be reported (financial materiality, impact materiality, double materiality).</p> <p>Example Discussion Questions:</p> <ul style="list-style-type: none"> • Why are standard setters discussing using new types of materiality for sustainability information compared to traditional financial statement information? • What are arguments for and against moving to "double materiality" as a means of determining what type of information should be reported in corporate annual financial reports? <p>Resources: IFRS (2023a) European Commission (2023) Turner and Weirich (2023) https://www.ifrs.org/issued-standards/list-of-standards</p> |

Table 4: Example Case Topics Using “Paradise Cove” as a Setting

| General Issue/Topic | Primary Activity |
|---|--|
| Sustainability reporting is demanded by a broad range of stakeholders, who have different information needs | Students are assigned to a specific stakeholder type (e.g., shareholder, customer, employee, local community, not-for-profit environmental organization) and are asked to identify what information they would like to know about Paradise Cove’s employees. Multi-stakeholder groups need to develop a proposal for specific disclosures regarding employees. |
| SASB industry-specific reporting standards are used by many companies | Students apply SASB reporting standards for the Hotels and Lodging and Restaurants industries and discuss the usefulness of the disclosures for investors. |
| Climate-related scenario analysis is part of required disclosures under most of the new reporting standards | Students are given two qualitative scenarios (one for extreme temperature rise and one where Paris Agreement goals are met). Students brainstorm what managers could do to mitigate risk under each of the scenarios, and then decide what they should do today, when we do not know what the future will be. |
| Companies are interested in reporting their progress on SDGs and are including sustainability-related metrics in executive compensation | Students identify which SDGs are the most relevant for Paradise Cove and nominate related metrics to track the hotel’s performance. Students identify operational strategies that the hotel can take to improve performance as reflected in the metrics. |
| Companies consider adopting strategic initiatives for which traditional capital budgeting tools such as Net Present Value analysis are inappropriate due to sustainability and other strategic aspects. | Students consider whether the hotel should invest in a fleet of electric scooters that can be used by both hotel customers and the community at large. Strategic considerations include the impact (positive and negative) on the local community. Students develop a Multi-criteria Decision Analysis model to analyze the proposal. |
| Integrated Reporting is a sustainability reporting framework that is mandatory in South Africa and is voluntarily used by many countries worldwide | Integrated Reporting focuses on how organizations create value through their use and impact on six “Capitals” (IIRC 2014). Students identify how Paradise Cove creates value and provide examples of each of the six capitals used/impacted by the hotel. |