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Dialogic approach to teaching and learning environmental management accounting (EMA) in tertiary education

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ABSTRACT

This study focuses on an environmental management accounting (EMA) course and explores how a pedagogical project, incorporating dialogic environmental and sustainability elements, transforms students' perspectives and educational experiences. The findings support the shift towards a dialogic approach to enhance the educational experiences of tertiary accounting students, encouraging them to think creatively and critically and to aspire to become engaged citizens. Students' experiences with the dialogic approach were generally positive, with noticeable development of soft skills. They also expressed their aspirations as to what the future of accounting education should look like, including the structure, content, and delivery. However, both educators and some students reported a loss of control compared to the previously favoured monologic approach to teaching and learning. Lessons learned from this study highlight the potential of pedagogical interventions to improve teaching and learning outcomes, fostering a cycle of mutual learning that generates actions based on dialogical encounters.

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Introduction

Drawing from Freirean Dialogic Principles (Coulson & Thomson, 2006; Hazelton & Haigh, 2010; Thomson & Bebbington, 2004; Wong et al., 2021), the underlying research question this study examines is how a pedagogical project, employing dialogic environmental and sustainability can transform students' perspectives and educational experience. Focussing on an EMA course, we explore the possibility of transforming accounting education by giving voice to graduating students as they reflect on the environment, sustainability, their future roles, and their educational experiences. In *Pedagogy of the Oppressed*, Freire (1996, p. 6) stresses that education, '... either functions as an instrument that is used to facilitate the integration of the younger generation into the logic of the present system and bring about conformity to it, or it becomes 'the

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practice of freedom', the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world.'

This study is important because there is a critical need to address the continuing criticism of the failure of conventional accounting education to integrate environmental and sustainability aspects into the tertiary accounting curricula (Al-Hazaima et al., 2022; Bebbington et al., 2007; Castilla-Polo et al., 2022; Sharma & Stewart, 2022). Therefore, it is pertinent for accounting educators and this journal's readership as accounting education has been accused of not adequately preparing graduates for the changing nature of work and for assuming the superiority of economic terms for wealth maximisation of shareholders (Brown & Dillard, 2019; Howieson et al., 2014). While the radical transformation of the accounting pedagogy will be hard-won, the consensus belief is that graduating accounting students are the catalyst for change; they need to be aware of how accounting and the attitude of business can harm the environment. As emphasised by scholars, accountants are in a position of responsibility and as such need to understand their lived realities (Bebbington et al., 2007; Greenland et al., 2022; Wong et al., 2021).

In answering the research question, this study follows graduating accounting students' experience in learning about EMA, creatively designing environmentally related activities, and reflecting on their journey in an essay that also offers suggestions for how accounting education could be improved for future generations. They were given the freedom to explore their creativity and express their educational experience to consider whether their education could help them achieve their potential and expected roles. Freire's dialogic theory, the underpinning educational theory in the study, concerns the interconnected relationships and the cultivation of critical consciousness that happens through dialogue between educators and students in the learning process (Freire, 1983). It is developed based on the notion that education should inculcate more dialogue, elicit new thinking, and not probe for standard ready-made or prefabricated answers. Hence, it would lead to enhancement in creativity and imagination, and improve learning outcomes (Kent & Lane, 2017; Wegerif, 2011, 2019).

Contribution

First, by examining whether pedagogic projects employing a dialogic approach could transform students' perspectives and educational experience we hope to promote an alternative to the banking approach of education. This approach is where information is deposited into passive students who can withdraw that knowledge from their store of information and repeat what was deposited in them (Freire, 1996, pp. 52–53). This monologic method is considered oppressive and neglects what students require (and should expect) from higher education (Thomson & Bebbington, 2004). *Second*, despite the scepticism that accounting educators might be ill-equipped to move away from the traditional way of teaching accounting, the lessons learnt from this study may inspire educators to review and redesign courses, especially in terms of structure, content, and delivery to improve student outcomes, thus encouraging a cycle of mutual learning to create actions based on dialogical encounters. *Lastly*, by bringing in fresh insight into how a dialogic approach could prove to be successful in a developing country, it is hoped to encourage more aspirational findings to emerge from this part of the world for shared learning which largely contributed by researchers and educators from the West (e.g. Sharma &

Stewart, 2022; Thomson & Bebbington, 2004; Wong et al., 2021). The ideas on how a dialogic approach could be incorporated in EMA bridge the gap in the literature on accounting education for sustainability and in the quest to integrate environmental and sustainability issues into accounting education. Bebbington et al. (2007) argued that (future) accountants have a bigger responsibility in the context of developing countries.

This paper is organised as follows. The next section reviews the literature and the theory of dialogic in education. The following section describes the qualitative research methodology using Leximancer to analyse data based on the students' reflective essays. The main results and discussion section is followed by the conclusion.

Literature review and theory

In recent years, numerous environmental issues and climate crises have led various stakeholders to question business practices and push for consideration of environmental sustainability issues in their operations, products, and services (Bebbington & Thomson, 2001; Jasch, 2003). In response, the EMA is introduced to identify and analyse the environmental risks, costs, and benefits to provide information related to environmental concerns to both internal and external decision-makers (Jasch, 2003). Gray et al. (1994) have argued that accounting plays a role in the process of environmental degradation. This implies that accountants bear the responsibility of guiding business actions towards alignment with the biosphere (Coulson & Thomson, 2006).

Despite the increased demand for better-informed accountants in environmental accounting and other contemporary issues (Mangion, 2006), the current accounting education was ill-equipped to adequately prepare graduates for the changing nature of work (Howieson et al., 2014; Sharma & Stewart, 2022). Other researchers documented resistance from students to the materials. The students perceived them to be irrelevant and unimportant (Owen, 2005). As a result, the product of this accounting education tended to be more vocationally orientated (Hazelton & Haigh, 2010) which prevented those graduates from being engaged citizens (Gray et al., 1994; Gray & Collison, 2002). When entrenched in dominant perspectives, the students tend to refute the alternative worldviews (Humphrey et al., 1996; McPhail, 1999).

The universities were criticised for teaching accounting techniques and rules rather than encouraging critical reflection in their curricula (Sikka et al., 2007). A monologic approach, however, focuses primarily on the ideas and voices of the educators while the students work alone to seek solutions (Nesari, 2015; Somkin, 2019). Due to the lack of interaction and one-directional communication, limited opportunities arise for a collective learning experience (Kathard et al., 2015; Yaqubi & Rashidi, 2019). Monologic and shallow learning needs to be redesigned with a dialogic lens to encourage accounting students to think creatively and to consider carefully societal issues such as global climate change and social inequality (Sharma & Stewart, 2022; Wong et al., 2021). Wynder et al. (2013) have shown that the introduction of environmental topics into accounting education seemed to encourage students and practitioners to place a greater emphasis on environmental performance. Schaltegger (2013) found that accounting practitioners tend to place less emphasis on environmental matters than graduating students which indicates that appropriate accounting education can act as a 'change agent for sustainability' for future accountants.

Dialogic education incorporates inclusiveness in design, mutual trust and understanding, reflective opportunity, and active learning, and encourages systematic and transdisciplinary enquiry (Thomson & Bebbington, 2004). As opposed to the monologic approach to education, dialogic pedagogy encourages open and lively debate. Employing an unconventional style of communication, dialogic pedagogy would promote positive attitudes such as respect, empathy, and tolerance as well as synergistic ecology (Yaqubi & Rashidi, 2019). In addition, it also encourages cooperation and collaboration, but accounting educators must also align with the expectations of dialogic pedagogy by giving students a voice to encourage them to develop higher levels of learning (Bloom, 1956; Wong et al., 2021). For example, Coulson and Thomson (2006) employed a dialogic design for an honours-level undergraduate degree course, 'Accounting and Sustainability' where problems that require critical analysis were examined for potential solutions. It is, therefore, possible that by fostering dialogic accounting education, graduates will better meet employers' preferences with relevant skills and attributes (Wong et al., 2021).

Looking at the substantial rhetoric in education when integrating sustainability into the accounting curricula, Wynder et al. (2013) study the understanding of the importance of environmental performance of accounting students in Australia and Germany. Their findings indicate that regardless of the cultural differences, the students recognise and acknowledge the importance of environmental performance so it is possible to extend the teaching and learning approach to the developing countries' context.

Researchers have long called for accounting students to be exposed to a broader view of accounting (e.g. Boyce, 2008). Gray and Collison (2002) found that the operationalisation and embedding of conscientisation during social and environmental accounting allows students to recognise and challenge the taken-for-granted assumptions of the business case approach. This is an example of what Freire (1983) describes as conscientisation in that the moral, political, and ethical dimensions of accounting practice and its societal impact are considered (Wong et al., 2021). Since the students' learning does not stop at university, future accountants must be educated and trained in contemporary issues that influence how they shape their professional and personal lives (Wong et al., 2021). The researchers urge educators to adopt dialogic pedagogical approaches so that values from different perspectives can be promoted and critical reflection can be articulated. Deepening insight into interpersonal learning and providing students with exposure to divergent socio-political perspectives on accountability can be developed and implemented.

Materials and method

This qualitative study introduced an element of dialogic pedagogy in a management accounting course which was offered as part of the Bachelor of Accountancy programme at the University. The course is compulsory for third- and fourth-year students and 203 of them enrol in the course, 'Seminar in Management Accounting,' for the semester between March and August 2022.

The course was designed as an intervention to challenge the typical monologic accounting education. In the course, students were tasked to creatively design environmentally related activities (see Appendix). The students spent time planning, organising,

and managing these activities which demanded soft skills including teamwork, planning, management, and communication. The students were asked to reflect on their educational experience and were tasked with writing about how important EMA is to the environment and sustainability, how their future role can contribute to the environment and sustainability, how and to what extent accounting education facilitates such aspiration, further initiatives which may be required of them, and suggestions for future accounting education.

In terms of dialogic methodology, previous research has surveyed students' perceptions (Boyce et al., 2012; Chabrak & Craig, 2013), but in these studies, students are limited to the survey question answer options which may be interpreted differently by respondents through interviews (Sharma & Stewart, 2022; Wong et al., 2021). However, in the current study, interviews were deemed to be less effective due to the inherent hierarchical and authoritative nature of the teaching profession in Malaysian society. To effectively bring the students' voices into the study, reflective essays enable them to express their experiences and views on whether their education could help them achieve their potential and expected roles. In total 166 of the 203 students (81.77%) enrolled for the Management Accounting course submitted reflective essays. The majority of the graduating accounting students are female (81%; 135) and the rest are male. The students are between 21 and 24 years old (see Figure 1).

Reflective essays submitted by the graduating students were subjected to automatic content analysis using Leximancer software to analyse the content and concerns of their communications (Leximancer, 2021). Leximancer is a text-mining tool useful for analysing the content of collections of textual documents and visually displaying the selected information. The software weights words according to the frequency of occurrence, counts the occurrences and co-occurrences of concepts found within the text, displays the main concepts contained within the text (conceptual analysis), and visually depicts how they are related (relational analysis) (Leximancer, 2021). Within accounting, Leximancer has been used in interrogating accountability (Crofts & Bisman, 2010), reviewing accounting research (Moses & Hopper, 2022) and the public sector auditor role (Axelsen et al., 2017). In the context of accounting education, Leximancer has been employed to examine the use of social media by university accounting students (Khan et al., 2016), and to review the ICT skills required by aspiring and professional

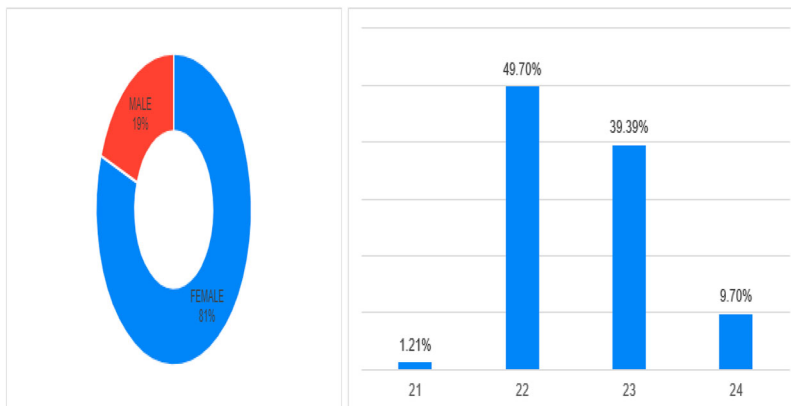


Figure 1. Gender and age of participants.

accountants to perform their roles (Birt et al., 2017) but has not been used in dialogic methodology.

The basic analytical processes were automatically performed by the software with minimum intervention required to merge some words from the concept list such as 'student' and 'students' to embrace a similar concept. Once the emerging themes and concepts are generated, the origin of the narratives can be mapped to the reflective essays uploaded to ensure that the theoretical meaning of the word is not altered by the presence or absence of other words (Leximancer, 2021).

Results and discussion

Based on the research question, we explore how dialogic pedagogical projects transform the perspectives and educational experiences of accounting students. Firstly, we analyse the students' educational experiences in terms of student-led environmentally related activities and the soft skills they have gained. Next, we examine the dominant themes in their narratives, specifically their perspectives on EMA and accounting education, future developments in accounting education, and their anticipated roles as accountants, as discussed below.

Educational Experience

Student-led environmentally related activities

To examine whether the pedagogic project aimed to offer students a reflective opportunity and understanding by engaging them in active learning that promotes systematic inquiry, we examine the group projects chosen by the students and the narratives attached to their photos (see Appendix for some examples). We found that accounting students when given the opportunity and freedom for creativity, are propelled to think critically about the moral, political, and ethical dimensions of accounting education. The Appendix shows some of the environmentally related activities undertaken by the students. The accounting students showcased their creativity such as EMaZing Race, Virtual Run, Eco-Friendly Walk, Cook Without Smoke, and Green TikTok Contest. In the Eco-Friendly Walk, the students incorporated inspiring messages in their photos to encourage others to love and save the environment (A2 and A3). One group, however, seized the opportunity to voice their frustrations with the authority, stating,

'It is horrifying that we have to fight our own government to save the environment' (A1).

While it was evident that the projects provided students with a direct platform to express their opinions and frustrations, it remains unclear whether such criticism of the government would be allowed if this dialogic project were to continue in the future.² If so, it would indeed be a rarity in the educational context of a developing country, where the status quo and student-teacher relations are typically maintained and preserved (Freire, 1996).

Soft skills

Accounting students have criticised their education, stating that it lacks exposure to diverse perspectives, causing concern about meeting market criteria (Wong et al., 2021), inadequately preparing them for the dynamic and evolving nature of

contemporary work, particularly in terms of essential soft skills for the workplace (Brown & Dillard, 2019; Howieson et al., 2014). For example, Azwani stated,

The accounting curriculum should be broadened to ensure that a broad array of generic skills, knowledge and professional attributes can be developed in accounting graduates. (Azwani)

In contrast, the dialogic projects seemed to benefit the students' practical and soft skills by giving them the opportunity to examine real-world problems, enhancing their understanding and knowledge of the current environmental issues, improving communication, design, and ICT skills, as well as teamwork. These accounts³ highlight the possibility of the projects fostering students' higher levels of learning (Bloom, 1956; Wong et al., 2021).

The majority wanted the projects to be continued in the future (e.g. Farah, Nurin, Nadia). The findings support a departure from exclusively prioritising the fulfilment of professional accounting bodies' accreditation requirements which produced graduates highly skilled in accounting techniques and rules but comparatively less adept at critically reflecting on social consequences (Sikka et al., 2007; Wong et al., 2021).

Dominant themes in students' perspectives

Ema and accounting education

Leximancer automatically displays a quick overview of dominant themes in students' narratives which have commonality or connectedness as seen from the Concept Map (Leximancer, 2021). As anticipated, the prevailing themes evident in the reflective essays are 'sustainability,' 'management,' and 'accounting' (refer to Figure 2(a,b)). It can be argued that while the students were focusing on the environmental and sustainability issues, they still emphasised on the technocratic principles and concepts learnt in accounting. Not many of the students were able to link these three themes together. For example, many students expressed hopes that their accounting education would better equip them to manage financial aspects⁴, others, like Najwa, sought increased exposure to current sustainability issues. In terms of relevance, Figure 3 illustrates that education and students accounted for only 24% and 13%, respectively, in the discourse on sustainability. Notably, terms such as 'costs,' 'performance,' and 'financial' continue to dominate in the accounting students' narratives, reflecting the traditional focus of accounting education on techniques and financial aspects (Gray et al., 1994). Similarly, Hazelton and Haigh (2010) found that accounting students tend to be more vocationally oriented.

Some students, such as Alia and Suhaidah, discussed how EMA could prompt companies to recognise potential non-compliance, negative public relations, and health and safety issues. They believed that EMA was crucial, as it equips them as future decision-makers with tools and approaches to enhance sustainability performance, thereby contributing to more sustainable corporate financial outcomes and creating sustainable value.⁵ Their narratives illustrate the prospect of how a dialogic approach can foster forward-thinking and encourage critical thinking about the impact and accountability of businesses on society (Sharma & Stewart, 2022; Wong et al., 2021).

This possibility is particularly crucial in developing countries, where the adoption of EMA has been slow. In these regions, the emphasis on compliance with environmental regulations often supersedes the integration of EMA information into corporate reporting, despite evidence suggesting that such integration can enhance organisational

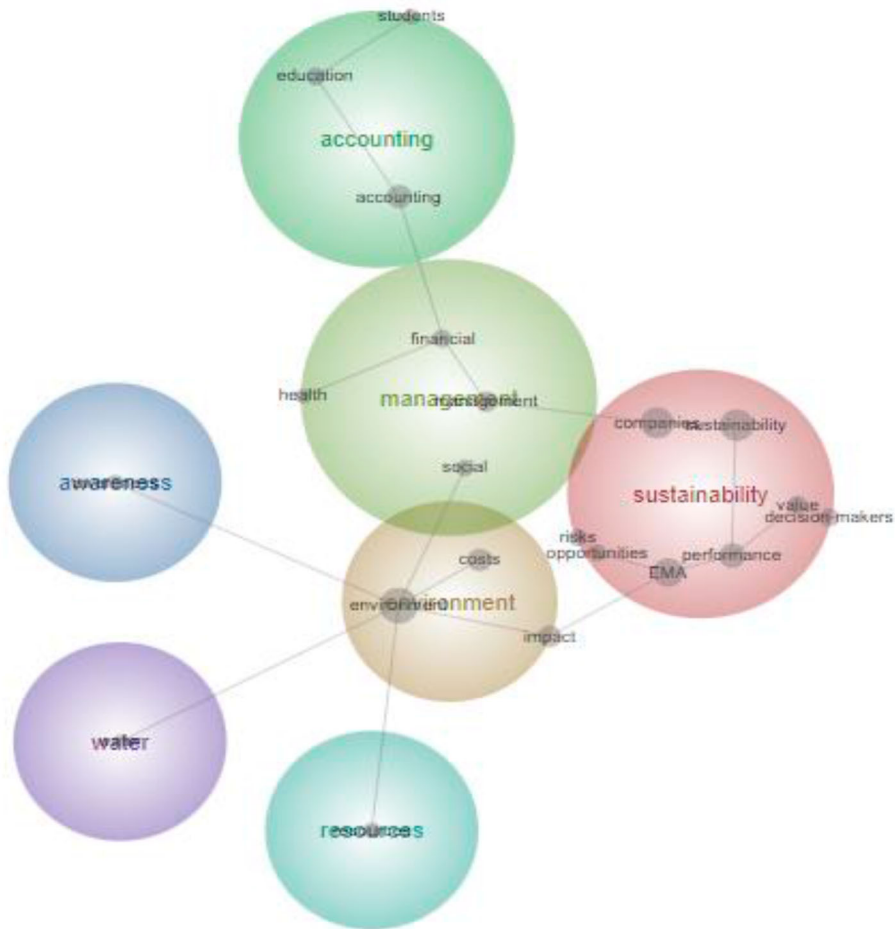


Figure 2. (a) Dominant themes. (b) Themes and the number of hits.

performance (Bartolomeo et al., 2000; Gibassier & Alcouffe, 2018; Mohd-Arifin, 2016; Mokhtar et al., 2016).

Future accounting education

Previous studies documented that accounting programmes instill shallow learning techniques that constrain graduates' ability to be engaged citizens (Gray & Collison, 2002). Scholars such as Sikka et al. (2007) and many others argue that students' voices are often 'silenced' in pursuit of accounting accreditation and excellence in accounting techniques and rules, rather than critical reflection and consideration of social consequences. Expressing hope, Balqis, for example, opined that,

[Future] Accounting education should encourage students to be innovative and discuss more current issues ... (Balqis)

Our analysis also revealed students' expectations for future accounting education, covering course structure, content, and delivery. Regarding course structure, Shahira suggested a dedicated course on sustainability and business, while Nadya and Anis

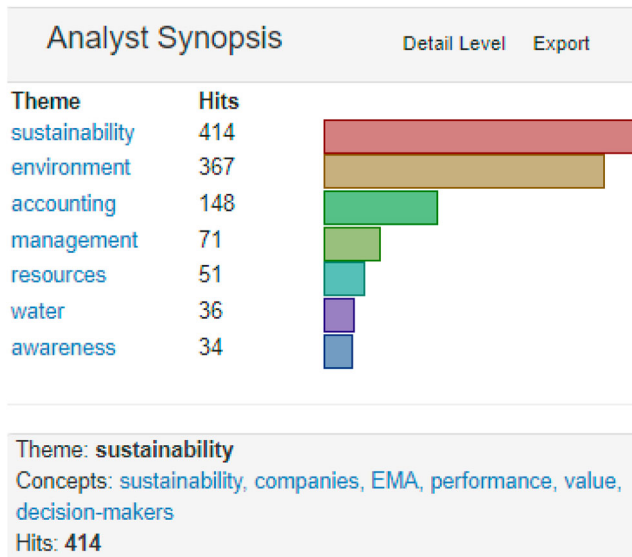



Figure 2 *Continued*

proposed multiple courses to deepen accounting students' awareness and understanding of the environment's significance to businesses. Norul however, recommended EMA as a stand-alone, core course to offer students in-depth technical and financial perspectives. These narratives appear to align with scholars' advocacy for integrating environmental and sustainability aspects into tertiary accounting curricula (Al-Hazaima et al., 2022; Castilla-Polo et al., 2022; Sharma & Stewart, 2022). However, there is no universal guideline yet to be followed, and even if there is, it might take years for universities in developing countries to follow suit.

In terms of course content, students such as Adriani and Balqis recommended that accounting education must stay updated with current trends. According to Batrisha, staying up to date with current issues helps individuals become better versions of themselves. This implies that accounting educators can no longer feel complacent; they must also ensure they stay up to date with the knowledge and demands of the profession (Sharma & Stewart, 2022). Some students explicitly mentioned the importance of technical know-how, such as the incorporation of non-financial measures and methods for assessing the business's environmental impact. Additionally, Nura recommended the focus on the proficiency of analysing and interpreting environmental costs and benefits. Wong et al. (2021, p. 537) found similar results in that accounting students stressed that accounting curricula should focus on interpreting and evaluating information.

The analysis suggests the dialogic approach opened the students' conscientisation of their own learning, what and how it should be delivered (Coulson & Thomson, 2006; Gray & Collison, 2002; Hazelton & Haigh, 2010; Thomson & Bebbington, 2004; Wong et al., 2021). This is critical because Aiznur argued that students lack certainty in what they know and do not see the practical relevance of their learning. In terms of delivery, she suggested universities unlock students' potential by providing interesting or interactive delivery methods to significantly improve accounting education for future generations. Fazira proposed that the lecturers incorporate non-traditional platforms like YouTube or other social media.

Export 





















	Count	Relevance	
environment	342	100%	
sustainability	246	72%	
companies	189	55%	
accounting	148	43%	
costs	94	27%	
performance	93	27%	
education	83	24%	
impact	80	23%	
management	71	21%	
financial	54	16%	
resources	51	15%	
value	46	13%	
students	44	13%	
social	38	11%	
decision-makers	37	11%	
water	36	11%	
awareness	34	10%	
health	27	8%	
risks	26	8%	
opportunities	24	7%	

Figure 3. Ranked concepts.

Some students suggested university trips to industries practising EMA or inviting industry experts to speak to students to learn how they manage the environmental impacts of their business.⁶ Fahrul, Anita, and Aiznur focused on the possibility of industrial internships to help students appreciate how class learning is applied in real life. Internships and collaboration with the industry not only connect students to the real world but also enhance their educational experience and improve the curriculum to meet industry demands (Sharma & Stewart, 2022; Thomson & Bebbington, 2004; Wong et al., 2021). Implementing proactive educational methods is crucial to meeting the students' needs and expectations in tertiary education (Freire, 1996; Thomson & Bebbington, 2004). However, we also raised concerns like those highlighted in previous

studies (e.g. Wong et al., 2021) regarding whether the students' expectations would align with the definitions of core and proper accounting education set by professional accounting bodies. Nevertheless, Fariesha found the pedagogic projects enjoyable and believed they had the potential to shift the focus from exam-oriented learning. Nurin indicated that such educational activities not only brought enjoyment but also expanded her knowledge horizon.

Interestingly, some students insisted on the availability of instructional materials to the students and not focussing totally on students' activities as they experienced through the dialogic intervention approach. This implies that the students still need some control over the direction of their learning. Indeed, the dialogic expectations are more challenging to the 'student' as much as to the 'teacher' (Gray, 2019). For example, in this study, educators⁷ observed their discomfort as they shifted away from a position of control, challenging the traditional authority structure they typically uphold. Nonetheless, the literature suggests that in the future, it may be imperative for accountants to engage in critical and creative thinking (Boyce, 2008; Sharma & Stewart, 2022) supporting the view to shift away from conventional and monologic accounting education (Al-Hazaima et al., 2022; Bebbington et al., 2007). These conceptual suggestions may require all parties involved, the educator, the students, and the accounting professional bodies to actively engage in a reflexive process about the content of the (proposed) new course, fostering critical consciousness, and educational and social transformation (Bebbington et al., 2007; Freire, 1996).

Accountants' Future roles

It is crucial for future accountants to reorient business actions, especially in developing countries, toward sustainable development (Bebbington et al., 2007). In this study, students were asked to reflect on their future roles and aspirations as accountants. Some students described their future role as being connected to environmental concerns, such as avoiding waste and engaging in recycling initiatives. For example, Fatim stated that 'the less water used, the less wastewater that eventually ends up in the ocean,' and Fazira added that,

'Numerous marine creatures and birds are killed each year as a result of ingesting plastic or being entangled in it. I'll start by using reusable bags when I go shopping, giving up single-use water bottles, bags, and straws, and finally avoiding buying anything made of or packaged in plastic wherever I can.' (Fazira)

Other students expressed a desire to assess ecological opportunities and risks at work and proposed investing in renewable energy, applying the concept of 'reduce, reuse, recycle (3R),' and supporting local vendors.⁸ Ummi emphasised that these initiatives are important to demonstrate respect for the environment and care for future generations. This contrasts with studies which suggest that accounting students are dismissive of non-technical learning and pedagogy (Hazelton & Haigh, 2010). Perhaps, the embedding of conscientization through active learning made the students realise there is a 'universe of all possible accountings' (Gray & Collison, 2002).

They also perceived that understanding environmental sustainability could be crucial in an advisory role⁹ and to protect their employer organisation from adverse consequences (e.g. Solehah), making it sustainable and more impactful for society (Nora

and Zulaika). Indeed, enhancing their understanding of how business attitudes can harm the environment indirectly acknowledges their future responsibility as catalysts of change, promoting a shift from prioritising profit maximisation and shareholders' values (Bebbington et al., 2007; Greenland et al., 2022; Wong et al., 2021).

Regarding their role in the wider community, Nurain and Muhammad highlighted the importance of educating people in the community to help others understand the importance and value of natural resources. Nurain emphasised that,

'Coming together and creating awareness is essential for protecting the environment as a community. Some community members may need more education to understand why they should protect the environment.' (Nurain)

Similarly, other students such as Erra, Ummi, and Siti Nur aimed to contribute to educating fellow citizens as their main goal. For Sara, spreading awareness about EMA to the future accountant generation was more important. Nonetheless, the students have transformed into engendered, thoughtful citizens who are eager to engage with their societies and communities (Wong et al., 2021). In summary, the analysis shows that the pedagogic intervention study has the potential to develop students' intellectual, ethical, reflective, and critical capabilities, preparing them for professional careers and active citizenship (Gray et al., 1994; Gray & Collison, 2002), potentially extending the accounting agenda toward more socially progressive goals (Wong et al., 2021).

Conclusion

The research question allows us to examine how a pedagogical project, employing dialogic environmental and sustainability can transform students' perspectives and educational experience.

We contribute to the accounting education literature, first, by providing examples of pedagogic projects employing dialogic environmental, and sustainability and how they shaped accounting students' educational experience and encouraged students to think critically about the impact of accounting on business and society (Coulson & Thomson, 2006; Wong et al., 2021). The students, often perceived as 'dull,' demonstrated creativity and initiative in managing, leading, and owning environmental and sustainability learning activities. They appreciated opportunities for creativity, teamwork, and communication skills development. They also voiced concerns about the state of accounting education and emphasised the need for pedagogic interventions to produce accountants who can drive positive change thus, critically reflecting in their curricula (see Sikka et al., 2007). They expressed a commitment to transforming business practices for the benefit of the environment and future generations, thus, aspiring to be engaged citizens in their communities (Gray et al., 1994; Gray & Collison, 2002; Yaqubi & Rashidi, 2019). Therefore, the findings demonstrate the potential benefits of developing critical higher levels of learning but also give voice and desire for reform (Bloom, 1956; Wong et al., 2021). This hopefully forms an initial, yet fundamental, step in producing a new breed of engaged accountants who are aware and understand the realities of the world in which they live, who are ready for change and attuned to the demand of future work (Howison et al., 2014; Sharma & Stewart, 2022).

We further contribute by providing insights that accounting education can act as a change agent for sustainability through education (Schaltegger, 2013; Sharma & Stewart, 2022; Wong et al., 2021). The findings provide evidence that if the aspiration

is to link the educational process to the changing real-world situation which concerns the environment, then the universities (and educators) should continuously design and redesign courses to improve the delivery processes and outcomes (Coulson & Thomson, 2006). Furthermore, the educators in this study observed how the iterative communication process broke down the legacy of the authority structure that they previously enjoyed. This inherently indicates that authority is merely a privilege rather than a right if curriculum transformation is the aim. As demonstrated in the study, achieving a focus on student outcomes through dialogical interactions requires educators to be motivated and willing to reevaluate and reshape courses, addressing both content and delivery (Coulson & Thomson, 2006; Wong et al., 2021).

We also contribute to bridging the gap in the literature on accounting education for sustainability and the integration of environmental issues into accounting education. Our findings from a developing country enrich the current empirical findings in the literature in providing support for a dialogic approach intervention in tertiary accounting education. We concur with Wynder et al. (2013) that fostering awareness and appreciation among accounting students could be achieved through a dialogic approach to teaching and learning, transcending cultural differences and national origins. Since the current literature does not specifically provide guidance and methodology on how a dialogic approach could be implemented, our findings could provide useful insights into different types of student-led learning activities that could foster applied learning experiences, especially in resource-constrained environments. Overall, the findings infer that it is possible to produce a new generation of socially responsible accountants through alternative educational approaches (Sharma & Stewart, 2022; Thomson & Bebbington, 2004; Wong et al., 2021), and contribute to the global discourse on effective accounting education methodologies focusing on a dialogic approach.

Practical Implication

The findings from this study suggest that it is possible to educate the younger generation to understand the logic and importance of environmental aspects in accounting education by changing the way accounting is taught. Educators must be mindful of how to effectively implement collaborative learning within their local context, enabling students to be creative while also fostering critical inquiry and the discovery of their critical conscience (Thomson & Bebbington, 2004). The completion of students' activities could be followed by a classroom meeting where students actively participate in sharing their perspectives, and experiences, and learning from each other. They could be asked to constructively assess other groups' chosen learning activities and collectively construct their knowledge, for example, on the critical role of EMA, to represent the classroom's shared learning. They could design posters or in this study, document their shared learning in a magazine.

Some students suggested fieldwork and engagement with the communities. Therefore, educators can engage with local charities or small businesses challenged by their environmental knowledge and sustainability, arranging field visits to the premises for students to understand these challenges and reflect within their groups on potential solutions. These problem-based learning activities require students to collaboratively solve real-world problems, strengthening their soft skills. Educators merely serve as mentors and facilitators to ensure that students present their ideas to the host organisations. This may inspire them to connect with reality and discover how they could participate critically and creatively

to start making a positive change in the local areas where they live, providing mutual learning for all parties involved.

Limitation

The limitations of the study are several. First, the findings from one university might not be representative of all accounting students, especially in countries where there is a student-teacher hierarchical relationship and a prevalent monologic methodology. The results were contingent on whether the students were able to freely express their views on the education they received and their aspirations for future roles, particularly in relation to environmental and sustainability issues. As such, due to the cultural inclination of students to conform, which is instilled as norms in early education, it is possible that not all voices may have been captured, and some may still be undiscovered.

To sum up, it is recognised that students' learning extends beyond university, and the constantly evolving expectations impact the professional landscape, necessitating flexibility in both accounting educators and accounting education. Nevertheless, students emphasised that the time is ripe for a transformation in accounting education (Coulson & Thomson, 2006; Hazelton & Haigh, 2010; Thomson & Bebbington, 2004; Thomson & Bebbington, 2004). They no longer wish to be silenced or asked to conform solely to the status quo of current accounting education, understanding that the only constant is change.

Notes

1. The reflective essays were submitted through Google Form. No interview was conducted, and pseudonym were used to maintain anonymity of the students.
2. In Malaysia, students' activism was repressed until December 2018 when finally, the members of the Parliament voted unanimously to amend the Universities and University Colleges Act 1975 to allow student political participation on campus.
3. E.g. Adilah, Farah, Fatini, Suhaida, Batrisha, Nurain, Wan, Adrin, Haliza, Hamizah, Irfan, Jamiah, Liza, Nurain, and Siti Nur.
4. Ana, Farhan, and Shahrul
5. e.g. Aqilah, Ayuni, Damia, Eka, and Fatin
6. e.g. Adlina, Fazrina, Izati, Sabrina, and Shazwani
7. All except the second author were the educators for this dialogic project.
8. e.g. Akhmi, Erra, Farah, Mida, and Ummi.
9. Adrina, Aiznur, Fatina, Hamizah, Sara, and Sabrina.

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Appendix

Student-designed environmentally related activities

A. Capture the nature

A. Capture the Nature



B. Other activities

B. Other Activities

B1 – Cooking Without Smoke



B2 – EMAzing Race



B3 – Virtual Run



B4 – Tik-Tok Contest

