

THE EFFECTIVENESS OF AN EDUCATIONAL GAME IN DEVELOPING PARTICULAR PROFESSIONAL VALUES, ATTITUDES AND ACUMENS



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JGTFAT002

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FEBRUARY 2023

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Dedicated to my late parents, Nazir Ahmed Jogiat (1959-2018) and Zubeida Ahmed Jogiat (1971-2022) who etched in my heart the importance of two things – family and education. I am forever thankful for the love, support, and encouragement that they showed me my entire life. All that I am and all that I have achieved is indebted to them. Although they are gone, what remains of their love and light continues to guide me in all that I do. Their light illuminates the darkness so that I can walk forward.

I will never forget how proud my dad was when I qualified as a chartered accountant, and I will endeavour to continue to make both my parents proud.

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ABSTRACT

The world that we live in is ever-changing at a rapid pace. In order for chartered accountants to remain relevant in our ever-changing world, it is essential that their skills evolve at the same pace. Professional values attitudes and acumens (PVAAs) are crucial skills that must be developed during the journey to becoming a chartered accountant, as required by the South African Institute of Chartered Accountants (SAICA). The purpose of this study is to develop and evaluate the effectiveness of a game that aims to further develop these skills. The game was developed and played by twenty third year Bachelor of Accounting students. A convergent mixed-method research design was applied, to obtain students' perspectives on the PVAAs they applied and developed during the playing of the game. Quantitative and qualitative data was obtained through the use of a survey and the facilitation of focus group interviews. The game was perceived to be effective in creating awareness around the importance of the development of these skills and encouraging application of them. Participants indicated that they enjoyed the game and preferred it over traditional teaching methods. The findings suggest that the game may be effective in further developing these skills in accounting students; thereby providing a practical, engaging teaching option within this challenging area of accounting education.

Keywords: Acumens, Attitudes, Auditing, Ethics, Game-based learning, Innovative teaching, Perceptions, Professionalism, Values

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CHAPTER 1: INTRODUCTION

The South African Institute of Chartered Accountants (SAICA) describes the world that we live in as a VUCA world – volatile; uncertain; complex; and ambiguous (SAICA, 2021). This creates an ever-changing environment, with rapid advancements in technology and it places demand on the skills required by future Chartered Accountants in South Africa (CAs(SA)). SAICA has responded to these demands by introducing the SAICA CA2025 competency framework, which outlines the competencies that an entry-level CA(SA) is expected to demonstrate (SAICA, 2021). The first step in the process to qualifying as a CA(SA) is the completion of an academic programme (SAICA, 2021). SAICA is an education and training quality assurer and accredits certain academic programmes that are specifically designed to allow accounting graduates access to the Initial Test of Competence (ITC). SAICA is thus able to monitor and maintain the quality of the academic programmes provided by SAICA-accredited higher education institutions.

SAICA expects the competencies that are outlined in the SAICA CA2025 competency framework to be developed through the academic programme and has issued guidance on the content, development, and assessment of competencies in the academic programme. One of the key changes from the previous SAICA competency framework is that the SAICA CA2025 competency framework highlights the importance of the non-technical competencies to be integrated with the technical competencies. Non-technical competencies are also known as pervasive skills, soft skills, social and interpersonal skills, generic skills or transferable skills (Barac et al, 2021; Bridges, 1993; Malan & van Dyk, 2021). To understand this in practical terms, they can also be defined as those skills and behaviours that graduates are expected to demonstrate in order for them to be successful in the formal workplace (Barac & du Plessis, 2019; Collet et al., 2015).

The SAICA competency framework comprises three competency types, namely: (i) professional values and attitudes; (ii) enabling competencies and; (iii) technical competencies in value creation (SAICA, 2021). Professional values and attitudes are competency areas that are pervasive in all other competencies and include ethics, citizenship, and lifelong learning values and attitudes (SAICA, 2021). Professional values and attitudes are defined as the professional behaviour and characteristics that characterise CAs(SA) as members of the CA profession (IFAC, 2017). The enabling competencies are competencies that are essential skills required of a CA(SA), which will enable the performance of his/her work in the value creation

process. They include business, decision making, relational, and digital acumens. Technical competencies refer to the content that makes up accounting and other business disciplines and the ability of CAs(SA) to apply that knowledge to perform a role to a defined standard. They are categorised into six areas which include, inter alia, strategy and governance to create sustainable value, reporting on value creation and assurance, and related services (SAICA, 2021). Professional values and attitudes and the enabling competencies essentially replace the pervasive skills as per the previous SAICA competency framework and are defined as professional values, attitudes and enabling acumens (PVAAs).

The broader literature shows that it is not only SAICA that requires graduates to develop these skills during the academic programme, but employers as well (Bowles et al., 2020; Dolce et al., 2020; Ismail et al., 2020; Mhlongo, 2020; Senan & Sulphey, 2022). The academic programme can therefore be considered a crucial aspect in the development of these skills for the purposes of students' future employment. Quality education needs to be a critical focus for the academic programme, and the role that educators play in attaining that is important (Lubbe et al., 2020). Consideration needs to be given to whether educators are equipped in developing pervasive skills in students (Rebele & St. Pierre, 2019) and to effective ways in which these skills can be developed (Ballantine & Larres, 2009; Fouché & Visser, 2009; Haywood et al., 2004; Sawyer et al., 2000; van der Merwe, 2013; Weil et al., 2004). The development of these skills may have an impact on the employability of accounting graduates. Educators are tasked with the development of these skills but are not necessarily equipped with the right tools to develop them. In this regard, innovative methods are required to be explored and the effectiveness thereof tested so as to better equip educators in achieving successful development of these skills.

Various teaching and learning methods have been researched as tools for developing these skills. Games have been found to be one of the effective methods to do so (Fouché & Visser, 2009; Haywood et al., 2004; Viviers et al., 2016). However, these studies have not targeted the development of particular PVAAs; rather, these studies investigated students' perceptions of the nature of pervasive skills students developed via such games. Games that are created specifically to target the development of particular PVAAs, such as ethics and professionalism, have yet to be developed and tested.

Given the challenges faced by the accounting profession and the criticism it has received in recent years (Oben, 2021), there is a need for public interest to be restored. Ethics and

professionalism have been identified as pervasive skills at an undergraduate level that could be improved and incorporated into the core accountancy modules (Keevy, 2020). This is also required as per the SAICA competency framework (SAICA, 2021). The problem is therefore that ethics and professionalism skills development appear to be lacking at an undergraduate level and is thus an area in which improvements could be made. Coupled with the pressing need to restore public perception of the accounting profession, an opportunity exists to ensure early development of these skills at an undergraduate level, so that they can be applied in the professional environment thereafter.

The aim of this study was to investigate a possible solution in the form of an innovative tool that could be used to develop these skills, and to evaluate the effectiveness thereof. This was done through the development of an educational game with specific learning objectives relating to the development of particular PVAAs. The particular PVAAs included in the learning objectives relate to personal and professional ethics as well as decision making acumen and relational acumen. The research objectives (ROs) are therefore as follows:

- RO1. To develop an educational game with specific learning objectives relating to the development of particular PVAAs.
- RO2. To investigate whether the particular PVAAs included in the learning objectives of the educational game had been developed and achieved, based on students' perceptions.
- RO3. To evaluate the effectiveness of the educational game.

This study seeks to answer the following research questions (RQs):

Is the use of an educational game within the core module of auditing at a SAICA-accredited educational institution, perceived to be successful in furthering the development of PVAAs in accounting students? More specifically:

- RQ1. Have the particular PVAAs of personal ethics and professional ethics been perceived to be further developed?
- RQ2. Have the particular PVAAs of decision making acumen and relational acumen been perceived to be further developed?

In formulating the methodology to be used in answering the research questions, the aspects that were considered included the development of the educational game, the theoretical framework to be applied, the game participants and structure of the game, the research design, the data

collection and procedures and the profile of the participants. These aspects are discussed in detail in Chapter 3.

This study contributes to the body of research and the ongoing debate over effective teaching strategies for integrating PVAA skills development into the accounting curriculum. To keep up with the constantly evolving nature of accounting and its related demands for accounting education, it is necessary to assess the value of novel teaching approaches in accounting education on a continuous basis. The educational game upon which this study is based, borrows some ideas from existing games; yet it is uniquely focused on developing particular PVAAs and thus comprises original and novel activities. The further development of these PVAAs are the stipulated learning objectives of the educational game. Research suggests that these PVAAs, namely, professional and personal ethics, have not been effectively developed in undergraduate students (Marx et al., 2018; Viviers, 2016). The study therefore aims to provide accounting educators with a foundation for the design of strategies aimed at improving PVAA skills development.

Ethical clearance was obtained from the University of Cape Town, as well as the SAICA-accredited private higher education institution at which the study was performed.

The limitations of the study that have been identified include that the study was only performed at one SAICA-accredited private higher education institution, the number of participants was limited, there was no analysis of prior PVAA skills development exposure, the researcher was also the auditing lecturer of the participants and that the participants have different personality types. These limitations are discussed in detail in Chapter 5.

The remainder of this research paper is structured as follows: first, the need for the research is emphasised by means of a review of the relevant literature that pertains to the development of PVAA's skills in accounting education. The development process of the game used in this research paper is then discussed, followed by a description of the research design and method. The empirical results of the study are reported next and analysed, concluded by a summary of the main findings. Lastly, limitations of the study and areas of future research are presented.

CHAPTER 2: LITERATURE REVIEW

The literature review commences with a high-level overview of the competencies included in the SAICA CA2025 competency framework. Thereafter, it focuses on employer's expectations of accounting students. Employers expect graduates to possess the competencies necessary to their profession, and therefore the role that educators play in the development of these competencies is explored next. As it is found that educators do indeed have a role to play in the development of these competencies, the literature review continues to investigate innovative and effective methods that could be used by educators to develop these competencies. From the investigation, various methods are identified, and game-based learning (GBL) is investigated further. As the purpose of this study is to find an innovative and effective way to develop particular PVAAs, the literature on (GBL) in developing these skills in accounting education is discussed. The literature review concludes with an assessment of the current state of the accounting profession, arguing for the urgent need to develop particular competencies.

2.1 THE COMPETENCIES INCLUDED IN THE SAICA CA2025 COMPETENCY FRAMEWORK

CAs(SA) are defined by SAICA as professionals who are “responsible leaders, who behave ethically and create sustainable value for a wide range of stakeholders in the organisation” (SAICA, 2021, para.3). As previously mentioned, the competency framework comprises of three competency types. CAs(SA) must display these competencies at an integrated level. SAICA (2021) explains these competencies in detail within the competency framework.

Professional values and attitudes are those personal and professional values that enable CAs(SA) to be accountable and trustworthy and to act with honesty and integrity. The demonstration of moral and ethical behaviour is a non-negotiable requirement for CAs(SA) and is vital for survival of the profession in a world riddled with ethical dilemmas (SAICA, 2021). By holding the professional designation, it is expected that CAs(SA) will uphold ethical principles and that their actions will enhance the CA profession as a whole. Professional values and attitudes are comprised of three competency areas, namely: (1) ethics values and attitudes; (2) citizenship values and attitudes; and (3) lifelong learning values and attitudes (SAICA, 2021).

The second competency type is enabling competencies. These are pervasive to a CAs(SA) work and behaviour and CAs(SA) are required to have the competencies and to have the ability to

transfer these competencies and use them across all the roles that they hold. These competencies allow the professional to function as a competent one. SAICA expects the basis of the enabling competencies to be developed during the academic programme so that they can be built upon, and ultimately enhanced during the training and professional programme (SAICA,2021). Enabling competencies are categorised into four competency areas, namely: (1) business acumen; (2) decision making acumen; (3) relational acumen; and (4) digital acumen (SAICA, 2021).

The third of these is technical competencies in value creation. A CA(SA) must be able to solve problems by applying knowledge that they have accumulated through their academic programme as well as their training and professional programme. The process should also result in value creation. Technical skills development has always been, and still is, a key aspect of the academic programme. Technical skills are categorised into six competency areas, namely: (1) strategy and governance to create sustainable value; (2) stewardship of capital: business processes and risk management; (3) decision making to increase, decrease or transform capital; (4) reporting on value creation; (5) tax and governance compliance; and (6) assurance and related service (SAICA, 2021).

One of the key changes from the previous SAICA competency framework is that the SAICA CA2025 competency framework highlights the importance of the non-technical competencies to be integrated with the technical competencies. As described previously, non-technical competencies are also known as pervasive skills, soft skills, social and interpersonal skills, generic skills, or transferable skills (Barac et al., 2021; Bridges, 1993; Malan & van Dyk, 2021). To understand this in practical terms, they could also be defined as those skills and behaviours that graduates are expected to display in order for them to be successful in the workplace (Barac & du Plessis, 2019; Collet et al., 2015).

2.2 EMPLOYERS' EXPECTATIONS OF ACCOUNTING GRADUATES

There have been many studies in a global context that have investigated employers' expectations of accounting graduates' skills (Bowles et al., 2020; Ismail et al., 2020; Senan & Sulphay, 2022). In a recent study, Dolce et al. (2020) found that between technical skills and soft skills, the latter are often prioritised by employers. The rankings showed that the top 10 skills that employers were looking for were all soft skills (Dolce et al., 2020). The top skills included, *inter alia*, teamwork, public speaking, and written and oral communication.

Furthermore, a discrepancy in the expected level of importance of soft skills to students and a student's ability to self-evaluate these skills was found (Dolce et al., 2020). The results of students' self-evaluation of the importance of soft skills were that they deemed these to be less important than that expected by employers.

In another recent study within South Africa, researchers asked the question of whether South African employers are calling for pervasive skills when recruiting (Mhlongo, 2020). The results indicated that accounting professionals need to be able to demonstrate skills that go beyond the technical. The study by Mhlongo (2020) suggests that investment in the development of pervasive skills integrated with technical skills may prove to be beneficial to students/graduates, as well as the overall accounting education system. The development of professional skills needs to be incorporated concurrently with the development of technical accounting principles (Lansdell et al., 2020). This supports the change that SAICA has made in highlighting the importance of the non-technical competencies.

2.3 THE ROLE THAT EDUCATORS AND THE ACADEMIC PROGRAMME PLAY IN THE DEVELOPMENT OF PERVASIVE SKILLS

There has been increased emphasis on the role that educators play in the development of these skills. Lack of accountability, corporate governance, and ethical conduct are but some of the few recent challenges that the accounting profession has encountered, and it is critical that the profession responds to those challenges through quality education and training (Lubbe et al., 2020). As introduced earlier, an interesting aspect in this debate is whether educators and educational institutes are equipped in developing these skills. Rebele and St. Pierre (2019) argue that technical skills development ought to be the primary objective of accounting education. Whilst they acknowledge the increased call for the development of soft skills at an undergraduate level and do not disregard the importance thereof, they question whether educators have the required expertise to develop these non-technical skills. On the other hand, there have been numerous studies aimed at finding effective ways in which educators could develop these non-technical skills in accountancy students (Ballantine & Larres, 2009; Fouché & Visser, 2009; Haywood et al., 2004; Sawyer et al., 2000; van der Merwe, 2013; Weil et al., 2004). It is agreed that these skills cannot be taught on their own as stand-alone subjects and must rather be embedded in the core subjects that form part of the accountancy curriculum (Keevy, 2020; Tang, 2019).

According to Barac and du Plessis (2019), the development of pervasive skills is a large consideration within SAICA-accredited academic programmes, but integration with core subjects is something that seems to be lacking and needs to be implemented. Although the academic programmes do have dedicated modules to teach some of these pervasive skills, such as information technology or business ethics, integration with and an understanding of how these fit in with the core subjects can be improved upon (Barac & du Plessis, 2019). This serves as further support for SAICA's change to the new SAICA CA2025 competency framework and highlights the need for more to be done at an undergraduate level. Contrarily, heads of accounting departments perceived that the practical workplace is the best place for students to develop some of the pervasive skills, and did not perceive this to be achievable within the theoretical confines of universities (Barac & du Plessis, 2019). Integration with the core modules can possibly assist in bridging the gap between undergraduate level and the practical workplace.

Students have been found to be generally aware of the importance of pervasive skills development, but perceive that there is a lack of exposure to developmental opportunities at an undergraduate level, particularly to that of leadership skills (Viviers, 2016). Viviers (2016) examined the perceptions of students, educators and employees with regards to the development of pervasive skills, to find, alarmingly, that educators were aware that students needed to develop these skills, but were nonetheless not incorporating opportunities for students to develop them into their teaching approaches. Marx et al. (2018) confirmed that this perception still existed two years later, when entry-level CAs(SA) stated that some of these skills were developed only through their practical experience, while they were undergoing their traineeship. This implies that none were developed during their academic programmes. Certain skills, such as critical thinking, managing people, and negotiating, were perceived to be developed through the practical traineeship, but the development of creativity and emotional intelligence were specifically found to be lacking (Marx et al., 2018). The authors suggest that further research could be conducted to identify methods that could be used by academic programmes to impart these skills.

The above discussion reiterates the need for these perceptions to be changed and for educators to incorporate active development of these skills into the accountancy curricula. Villiers & Viviers (2018) recommend that more action be taken to ensure that students are provided with opportunities to develop the PVAAs as required by SAICA. A way in which this could be

achieved is by emphasising the need for educators' perceptions to be changed and by equipping them with the tools and methodologies that they require to effectively bring about this change. Therefore, the literature is clear that it is important for educators to incorporate the development of these skills into the teaching and learning strategies implemented at an undergraduate level. More could and should be done by educators to develop the PVAAAs, especially since there are clear guidelines on the required PVAAAs that entry level CAs(SA) are expected to demonstrate at the end of the pre-qualification process, which includes the completion of the academic programme (SAICA, 2021).

2.4 INNOVATIVE AND EFFECTIVE WAYS TO DEVELOP THE COMPETENCIES

Being aware of the need to incorporate soft skills development into the curricula is a starting point in producing accounting graduates fit for employment, however, finding innovative and effective ways to do so remains a challenge for educators. The challenge has been accepted by many researchers who have conducted research on how to do so. Some of the methods used that have been perceived to develop these soft skills include the use of case studies (Ballantine & Larres, 2009; Sawyer et al., 2000; Weil et al., 2004), the use of simulations (van der Merwe, 2013), and the use of educational games (Fouché & Visser, 2009; Malan & van Dyk, 2021; Viviers et al., 2016).

The use of educational games, in particular, will be explored in more detail, as it is important to relate to students and make the learning experience as enjoyable as possible, to encourage active participation. Educational GBL has been found to have the potential to impact education positively, with results such as increased academic performance, higher levels of motivation of students, and more overall commitment from them (Manzano-León et al., 2021). Educational games have been found to have further benefits, including the creation of the learning environment, which in turn leads to an improvement of the learning outcomes (Zeng et al., 2020). An opportunity presents itself for accounting educators to use GBL as a way of experimenting with a different teaching strategy (Moncada & Moncada, 2014). However, there is a lack of research explaining certain conflicting results on the benefits of the use of educational games (Krath et al., 2021). Krath et al. (2021) propose that further research is required in order to understand which elements contribute to successful GBL, so that we can improve those individual elements to better the chances of success and derive the many positive benefits. Viviers (2016) developed a framework of design variables that could be considered

when developing an educational game as a teaching intervention. The design framework includes participants, rules and engagement, logistics and activities (Viviers, 2016).

It is fundamental to understand the nature of GBL, so that the benefits derived from the use of this teaching method can also be better appreciated and understood. Qian and Clark (2016) define GBL as “an environment where game content and game play enhance knowledge and skills acquisition, and where game activities involve problem solving spaces and challenges that provide players/learners with a sense of achievement” (p. 51). There are many different types of games, including serious games, digital games and entertainment games (Malan & van Dyk, 2021). A serious game is also known as an educational game, and is a broad concept (Carenys & Moya, 2016). It has specific learning objectives or aims that serve to achieve a predetermined educational purpose. Serious games are not merely an adaptation of an existing game, but have been developed with the main objective of enhancing learning (Boyle et al., 2014). Hence, serious games go beyond entertainment. On the other hand, entertainment games take original content and principles and adapt them with the goal of teaching certain concepts to students (Boyle et al., 2014). Examples of this are traditional board games, such as 30 Seconds, and the well-known reality television show *The Amazing Race*. A digital game refers to any game with the purpose of learning played by making use of a computer or internet access (Carenys & Moya, 2016). An interesting point made by Calabor et al. (2019) is that educators are a key factor in the implementation of GBL, they are also considered as one of the main barriers. By understanding the different types of games, educators could be better equipped in developing games that will achieve their desired learning objectives.

2.5 GBL IN DEVELOPING PERVASIVE SKILLS IN ACCOUNTING EDUCATION

There must be a change to accounting education so that value can be added to learners and society (Fouché & Visser, 2009). Fouché and Visser (2009) argue that creative teaching methodologies could be applied as means of making a difference in accounting education. They developed a board game that was used in the introduction to accounting with the goal of improving students' interest, knowledge, and competencies. A survey was then conducted to gather the results. The results indicated that the game was successful in creating a favourable learning environment (Fouché & Visser, 2009). The inherent risk with using a game as a teaching methodology is that students may not take it seriously, however, this study found that students did take it seriously (Fouché & Visser, 2009). The enhancement of technical competencies, a broader understanding of the role of accountants, and soft skills were some of

the areas that students indicated were enhanced through playing the game (Fouché & Visser, 2009). The fact that students felt their soft skills were enhanced is supportive of using GBL to develop pervasive skills in accounting education.

Viviers et al. (2016) identified that, although there are the various methods, such as case studies, simulations, and the use of educational games being used to attempt to develop pervasive skills, most of these focused on limited and specific pervasive skills. Looking at specifically the use of educational games, Viviers (2016) developed the concept of ‘The Amazing Tax Race’, an educational game comprising tax-related tasks, which were all integrated and presented to final year undergraduate accounting students. The game was perceived to have a positive effect on the accounting students, encouraging them to apply a wider range of pervasive skills (Viviers et al., 2016). The most prominent pervasive skills that were perceived to be applied in playing the game were “teamwork, communication (listening and verbal), and problem solving” (Viviers et al., 2016, p. 13), while the least prominent were “communication (written), professionalism, ethical awareness, and leadership” (Viviers et al., 2016, p. 14).

Most recently, Malan and van Dyk (2021) tested the theory of the usefulness of GBL in developing pervasive skills and concluded that GBL is an innovative and fun way for students to develop pervasive skills through active and experiential learning. The authors used two games, one being a board game similar to Monopoly in commerce 100, which is a first-year undergraduate module, and the other being similar to 30 Seconds in accounting 200, which is a second-year undergraduate module. The game was played by the same cohort of students during their first and second year of study, respectively. The results indicate that the board game was effective in developing skills such as critical thinking, professionalism, and strategic thinking, and the 30 Seconds was effective in developing listening, communication, time management, and teamwork skills (Malan & van Dyk, 2021).

From the literature, it is evident that GBL is an innovative, fun, and effective way to develop pervasive skills, but echoing the sentiments of Viviers et al. (2016), games seem to be highly effective in developing limited specific skills, such as communication and teamwork, and not as effective in developing others, such as ethical awareness and leadership. A gap exists in finding ways to develop the other required skills. The International Federation of Accountants (IFAC) recommends that experiential methods ought to be used in developing these skills as opposed to traditional lectures that simply describe ethical theories and frameworks

(IFAC,2015). Examples of suggested experiential methods include case studies, role-plays, educational games and ethical discussions.

As noted previously, some studies have argued that pervasive skills development cannot be a stand-alone task, but instead, needs to be incorporated with the core modules (Keevy, 2020; Tang, 2019). Pervasive skills as per SAICA's (2017) previous competency framework's categorisation of ethical behaviour and professionalism (category IA), personal attributes (category IB). and professional skills (category IC), and their importance of integration with the core modules were explored (Keevy, 2020). Ethical behaviour and professionalism are described as the ability to use an ethical reasoning process; protect the public interest; act competently with honesty and integrity; perform work competently and with due care; maintain objectivity and independence; avoid conflict of interest; protect the confidentiality of information; maintain and enhance the profession; and adhere to laws, professional standards, and policies (SAICA, 2017).

2.6 THE STATE OF THE PROFESSION AND THE NEED FOR URGENT INTERVENTION IN THE DEVELOPMENT OF PARTICULAR COMPETENCIES

Criticism has been directed towards accounting as a profession, given the recent large scale corporate scandals both nationally and internationally, which involved the involvement of accounting professionals (Oben, 2021). This has caused the credibility of the profession to come into question and damaged its reputation. Public trust arguably needs to be restored, and educators have a role to play in that restoration process, as the importance of ethical behaviour and professionalism is something that needs to be instilled in students from the very beginning. The importance of ethics and the role that this plays in their success as future professionals must be emphasised throughout the academic programme (Barac, 2009; Dolce et al., 2020). The suggested experiential methods, as per IFAC (2015), need to be both considered and implemented in order to do so. Haywood et al. (2004) found that the use of a game has resulted in a positive response by students on their understanding of ethical and professional responsibilities, and designed a game called "The Ethics Bingo Game", with the purpose of presenting it as a classroom intervention aimed at enhancing the development of students' critical perspectives on ethics. The game was found to be successful in achieving the learning objectives of the enhancement of critical thinking skills in students and encouraging student engagement through a fun and interesting alternative method used to direct attention towards solving ethical dilemmas. This supports the use of games as an effective method for teaching

pervasive skills, such as those of ethics and professionalism, where students generally do not fully grasp ethical consequences when traditional methods are used (Haywood et al., 2004).

A recent case in point is that of accounting student, Sibongile Mani, who on 30 March 2022 was sentenced to five years in prison (Le Roux, 2022). The reason for her sentence comes after an incident in 2017, when the National Student Financial Aid Scheme (NSFAS) mistakenly paid R14 million into her personal bank account instead of R1,400. Her perceived windfall turned to misfortune when she spent approximately R800,000 of this money on alcohol, luxury weaves, electronics, toys and gift cards, without first questioning how the money may have come into her possession and who it rightfully belonged to. The Court ruled that this was theft, and that a suspended sentence was deemed inappropriate. This begs the question of whether, *as an accounting student*, she should have known better. The incident as described highlights the particular importance of the need for the academic programme to develop ethical behaviour competencies in accounting students -. It reiterates the calls upon educators to ensure that accounting students are aware of the importance of ethics and professionalism and that they know how to behave when ethical dilemmas befall them.

2.7 CONCLUSION TO THE LITERATURE REVIEW

The core module of auditing has been identified as a module in which ethical behaviour and professionalism could be developed (Keevy, 2020) and educational games have been found to be effective in developing some pervasive skills (Malan & van Dyk, 2021; Viviers et al., 2016). Developing ethical behaviour and professionalism in accounting students are both necessary (Barac & du Plessis, 2019; Marx et al., 2018; Viviers, 2016) and required by SAICA (SAICA, 2021). The research objective of this study is therefore to develop an educational game with the learning objectives of developing PVAAAs, focusing on ethical behaviour and professionalism, and to assess the perceived effectiveness thereof by students who participated in the game. The researcher based the development of the game on *The Amazing Tax Race* game (Viviers, 2016), but adapted it to meet the requirements of this study to become *The Amazing Ethics Race*.

The next chapter describes the process of the game development in detail, as well as the research design and method applied for purposes of this study.

CHAPTER 3: METHOD

A key element of this study was the development of the educational game: *The Amazing Ethics Race*. The ability of the researcher to be able to develop a game that was designed to achieve the required learning objectives, and was practical and enjoyable, was critical to the fundamental basis of this study. This chapter first describes the development of *The Amazing Ethics Race* in detail, highlighting the learning objectives and explaining exactly how the game achieved these learning objectives. A discussion on the theoretical framework that this study is based on and the game participants and structure is included. The research design is then outlined, followed by a description of data collection and procedures. This chapter concludes with a description of the population profile.

3.1 DEVELOPMENT OF THE EDUCATIONAL GAME: “THE AMAZING ETHICS RACE”

The game was developed with a focus on achieving the learning objectives of developing specific PVAAs. The specific PVAAs that were identified and included as PVAAs to be further developed as part of the learning objectives are those that are closely integrated with auditing and are listed in Table 1 below.

Table 1: PVAAs included in the learning objectives of The Amazing Ethics Race

Professional values and attitudes	Enabling competencies	
	Decision making acumen	Relational acumen
Personal ethics	Analytical/critical thinking	Communication skills
Professional ethics	Problem solving	Leadership skills
	Judgement and decision making	People skills
	Professional scepticism	Relationship-building skills
		Teamwork

The activities in the model game were adapted for auditing with the objective of developing the PVAAs as listed above. Some of the activities were not easily adaptable and instead, the researcher developed novel auditing-related activities. Each activity was pilot tested voluntarily by second year Bachelor of Accounting Students at a SAICA-accredited private higher education institution to ensure that the activities were logical and doable. Feedback was provided to the researcher regarding where improvements could be made, or where specific aspects did not make sense. This was to enhance the practicality of the activities embedded within the educational game. Each activity was also timed, so as to gauge how long it would

take students to complete them. This was done in order to ensure that each activity took approximately the same amount of time to complete, to avoid a situation where two teams clashed at a station. The feedback was considered and updated for by the researcher who then re-tested and re-timed the activities with the students until satisfied that the activities and its timing to complete were suitable.

Examples of the activities included a “spot the red flags” activity, in which participants were provided with various statements regarding a company’s corporate governance practices and were required to spot those that were red flags indicating poor corporate governance practices. The “scepticism 101” activity involved participants receiving invoices for a sample of operating expenses, and then being required to scrutinise the support to find misstatements or suspicious documentation. The activities incorporated common games and concepts such as beer-pong, (i.e., throwing a ping pong ball across a table with the aim of landing the ball in the cup on the other end of the table) idols (i.e., creating and singing songs), cross word puzzles, and physical puzzles, to ensure a familiar and fun experience for the participants. However, the developer/researcher ensured that games remained focused on ethical and professional behaviour concepts. Please refer to Appendix A for specific details of the game and all its activities.

3.2 THEORETICAL FRAMEWORK

Experiential learning theory provided a theoretical framework, since it defines learning as “the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p. 38). Knowledge results from the combined grasping and transforming experience (Kolb, 1984). This theory can be seen as a shift from passive to active engagement, which is what the playing of games aims to achieve. Participants were required to actively participate in the game and through the experience develop the ethical and professional values, attitudes, and acumen that the game intended for them to develop.

Ethics and professionalism are by their very nature difficult competencies to develop, as they are ideas that are formed by various factors, including an individual’s personal values and attributes. Experiential learning theory allows for these ideas to be changed, as it states that knowledge and ideas are not fixed, but rather that they are formed and reformed (Kolb, 1984). The experiential learning cycle includes concrete experience, reflective observation, abstract conceptualisation, and active experimentation (Kolb, 1984). The playing of the game created

the concrete experience of a learning cycle in which the participants were able to reflect and learn. This led to active experimentation, to which what was learnt was now to be applied.

3.3 GAME PARTICIPANTS AND STRUCTURE

The game involves a race against time. There was a total of 20 participants who formed four teams of five participants each. The participants comprised of third year Bachelor of Accounting students enrolled for auditing at a SAICA-accredited private higher education institution. Various activity stations were set up across campus. The researcher was responsible for preparation and organisation of all aspects of the game. Assistance was obtained from second year students, who were involved in the testing of the activities, as well as colleagues of the researcher to man the stations. The researcher therefore formed a committee to assist the researcher on the day, so as to ensure that the game would run smoothly, that students were aware of what they needed to do at each station, and that students were participating accordingly. A meeting was held with all committee members the day before the game was held to go over their roles and responsibilities. The researcher did not man a station, but rather moved from station to station while the game was being played to observe the interaction at each station and make field notes.

On the game day, participants were required to meet the researcher at a venue communicated to them prior to the day. Rules of the game were explained to them. Refer to Appendix B for the rules of the game. Consent forms were signed by each participant. They were given their team colours and then proceeded to the starting station. Each team received a clue card that would lead them to their first station. They continued to receive a clue card at each station after the activity was successfully completed. The clue cards contained a riddle which students had to solve and would lead them to a particular venue on campus (e.g., classroom number, lecturers lounge, computer room etc.). The total number of stations included in the race was eight stations located at various venues across campus. Refer to Appendix A2 for the clues.

The teams were sent to different venues in each round as per a rotation schedule to avoid clashes between teams at a station. A “buffer” round was included to further reduce the risk of clashes whereby teams were sent to stations 1 to 4 in the first round, and 5 to 8 in the second round, and then back to 1 to 4 in the third round on a rotation basis. This ensured that there was always a “buffer” round between the teams as only stations 1 to 4 were occupied in round 1, where no teams were sent to station 5 to 8. Once teams completed the activities at stations 1 to 4, they

were sent to stations 5 to 8 in round 2, with no teams being sent to station 1 to 4. Refer to Appendix A1 for the rotation schedule.

Once the clues were decrypted, participants were required to confirm the location with the committee member before leaving the station they were at so that the committee member could confirm the venue that they identified is correct. This was done to eliminate the risk of having students wandering and getting lost around campus. To be successful at each station, students needed to complete the activities presented, which involved applying specific PVAAs as per the overall learning objectives of the game. They had to work quickly and effectively as a team as they were in a race against time, communicate well and apply analytical thinking.

The activities placed focus on ethical and professional behaviour, which aimed to raise awareness on these PVAAs. Please refer to Table 2 on the following page where a mapping of each activity with the specific PVAAs expected to be applied by participants is detailed.

Table 2: Mapping of activities to PVAAs

	Professional Values and Attributes		Decision making acumen				Relational acumen				
	Personal ethics	Professional ethics	Analytical/critical thinking	Problem solving	Judgment and decision making	Professional scepticism	Communication	Leadership	People	Relationship-building	Teamwork
<p><u>Station 1 activity: CPC Idols</u></p> <p>This activity requires the students to recall information and display their understanding of the fundamental principles. It requires teamwork and creativity to write the song. The fundamental principles and the understanding thereof are aligned to personal ethics and professional ethics as students need to understand that they should not do anything that compromises these principles. A demonstration of the understanding of this principle is crucial.</p>	x	x					x	x	x		x
<p><u>Station 2 activity: Professional pong</u></p> <p>This activity requires the students to apply their knowledge and understanding of ethics in order to answer the questions. The questions also require students to be aware of general information they should know as students who are wanting to be CAs(SA).</p>	x	x					x				x
<p><u>Station 3 activity: Scepticism 101</u></p> <p>This activity requires the students to apply professional scepticism and judgement in order to find the five misstatements/suspicious evidence. Students will need to think critically and be critical in order to be able to identify the misstatements. Students do not get this practical experience in the classroom and their thinking will be stretched.</p>			x	x	x	x	x				x
<p><u>Station 4: Sweet auditing</u></p> <p>This activity requires the students to respond quickly and think carefully as they race against time to count the sweets as quick as possible trying not to make an error. Students will then need to recall the number of the international auditing standard that deals with certain concepts, as a future CA(SA) student should be aware of the international standards on auditing, and what they entail.</p>			x	x			x	x			x

Table 2 (contd.): Mapping of activities to PVAAs

	Professional Values and Attributes		Decision making acumen				Relational acumen				
	Personal ethics	Professional ethics	Analytical/critical thinking	Problem solving	Judgment and decision making	Professional scepticism	Communication	Leadership	People	Relationship-building	Teamwork
<p><u>Station 5: Dilemma drama</u></p> <p>This activity requires the students to first complete a crossword puzzle searching for words relating to ethics and then apply their knowledge and understanding of ethics to various relatable ethical dilemmas. This will test the student’s ability to differentiate between right and wrong in personal ethical dilemma situations.</p>	x		x	x			x	x			x
<p><u>Station 6: Sanctioned</u></p> <p>This activity requires the students to practice research skills as they need to search for information and research the case. Through this activity, students have the opportunity to learn the real word consequences of unethical and unprofessional behaviour.</p>	x	x	x	x			x	x			x
<p><u>Station 7: Spot the red flags</u></p> <p>This activity requires the students to respond quickly and sort the flag colours as they race against time. Students then need to apply knowledge they have regarding operations and governance of a company to be able to identify red flags for possible fraud. Students will need to think critically and critic each statement to consider whether it is a red flag or not.</p>		x		x	x		x	x			x
<p><u>Station 8: Ethics puzzle</u></p> <p>This activity requires the students to respond quickly and complete the puzzle as soon as possible as they race against time. The activity then affords students the opportunity to learn and understand the components of personal ethics as they will need to match the columns correctly.</p>	x			x			x	x	x		x

3.4 RESEARCH DESIGN

A mixed methods approach and implementation of both quantitative and qualitative research methods in order to explore and describe the effectiveness of the educational game as a means to develop specific ethical and PVAAAs was considered to be most appropriate in answering the research question of this study. More specifically, a convergent mixed methods design was used, which involved a single-phase approach, whereby both quantitative and qualitative data was obtained and analysed separately (Creswell & Creswell, 2018). This approach was selected due to the key assumption being met, namely that both the quantitative and qualitative data will yield the same results. A mixed methods approach was selected as it has the potential to analyse data with greater depth and breadth as opposed to the use of singular approaches in isolation (Almalki, 2016). The ability to analyse data with greater depth was found to be useful in this study as the information obtained allowed for assessing the effectiveness of the educational game. Furthermore, to capitalise on the benefits and interactions that occur between qualitative and quantitative research (Tashakorri & Creswell, 2007), a mixed methods was followed. Quantitative data was collected by means of survey design, in the form of a questionnaire, together with qualitative data, which was collected through focus-group interviews with the participants. Refer to Appendix C for the survey and Appendix D for the focus-group interview discussion framework.

3.5 DATA COLLECTION AND PROCEDURES

Due to the research subjects comprising students, the main ethical concern that was considered in such research design was that the research subjects should not experience embarrassment, harm or any other material disadvantage (Saunders et al., 2009). Consequently, ethical clearance applications were submitted to and were obtained from the University of Cape Town, as well as the SAICA-accredited private higher education institution at which the data was collected. Consent was also obtained from all participants to use the data collected for purposes of this research and to be reported on an aggregated basis only.

Furthermore, in order to ensure that all research activities were conducted ethically, the researcher implemented safeguards which included clearly communicating the research objectives to the research subjects, respecting the privacy of all participants by reporting on results in aggregate only, maintaining confidentiality of the information provided at all times and ensuring the protection of the integrity of the data collected.

3.5.1 Quantitative techniques

An online survey was used through the employment of Qualtrics software to administer the survey. The face validity of the survey was considered by an experienced researcher, prior to it being administered. The survey was also tested by a colleague of the researcher to identify any errors in the structure or any confusing/contradictory questions. After the participants played the game, the link to the survey was sent to them to complete. The design of the survey was based on a questionnaire previously used by Viviers (2016) and was obtained directly from the author concerned. Included in the design were a mixture of closed and open-ended questions. The survey was updated for it to be aligned with the new SAICA CA2025 competency framework and further adapted to be applicable to *The Amazing Ethics Race*. The areas that were addressed in the survey questions are summarised in Figure 1 below, namely: demographic information, perceptions on the benefits and limitations of *The Amazing Ethics Race*, personal meaning derived, and the overall participants perceptions on the exposure to and the use of PVAAs during participation in *The Amazing Ethics Race*. Refer to Appendix C for a full account of these areas.

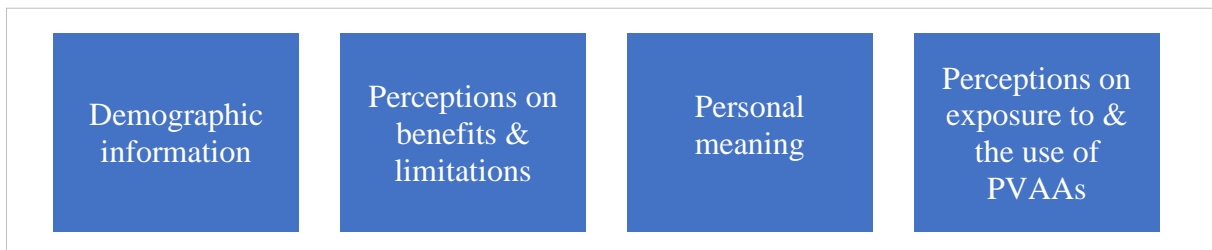


Figure 1: The areas that were addressed in the survey questions

3.5.2 Qualitative techniques

After the game was played, and the survey completed, focus group interviews were held with each group. This provided the participants with an opportunity to elaborate on the quantitative data that had been collected through the survey and to provide rich qualitative data on detailed views and opinions with regards to the effectiveness of the educational game. A set of pre-determined, open-ended questions were developed to guide the researcher as the facilitator, and participants were in turn guided to share their experience and views on the playing of the educational game. The questions were based on those used by Viviers et al. (2016), but were adapted to be applicable to *The Amazing Ethics Race*. Refer to Appendix D for the discussion points framework for the focus group interviews.

The focus group interviews were recorded and transcribed using Otter.ai software, and thereafter, the data was organised and analysed. The discussion points framework was set up to group together all questions relating to the particular PVAAAs included in the learning objectives of *The Amazing Ethics Race*. This assisted in organising the data collected in terms of themes related to specific PVAAAs. The qualitative data was organised by means of grouping together statements made by participants during the interviews that reflected development and application of the particular PVAAAs.

Field notes were also taken by the researcher during the study and were utilised in the results reporting. For purposes of this study, the field notes included observations noted during the playing of the educational game, notes taken during the interviews, as well as any other information provided by the participants at any point during the study.

The educational game was played on 4 November 2022. After the game was played and on the same day, the survey was distributed via email to all participants to complete. Participants were given approximately two hours to complete the survey and to have lunch; and were then - invited to attend focus group interviews with their teams. The focus group interviews were held per team. The reason for hosting the focus group interviews on the same day as the game was played was to preserve the experience of the students at that point in time, directly after they had played the game, and while they still remembered the experience first-hand. This would ensure the most accurate data collection. Furthermore, it minimised the risk of participants not participating in the interviews as they were not required to come onto campus for the interviews another day. With the date of the game being close to final examinations, hosting the focus group interviews on the same day was the best option, both in terms of accuracy of data collection as previously alluded to, as well as for logistical purposes. This proved to be successful, with the 100% focus group interview attendance by participants.

The quantitative data was analysed first, after which, the qualitative data was analysed separately, in line with the convergent mixed methods approach. The qualitative data results were then incorporated into the quantitative data results to be reported on, as they proved to yield the same results as per the key assumption in the convergent mixed methods approach.

3.6 PROFILE OF PARTICIPANTS

There was a total of 25 students registered for third year auditing on the Bachelor of Accounting programme at the SAICA-accredited private higher education institution at which the study was

conducted in 2022. These students comprised the target population. The 20 students (four teams of five students each) that participated in the educational game, comprised the sample population. All students had an equal chance of participating in *The Amazing Ethics Race*. The concept of the game was explained to them, and thereafter, they were required to volunteer to participate if they wanted to do so. Due to participation being completely voluntary, the sample is regarded as a sample of availability, as opposed to a random sample from the target population. From the sample population of 20 students, 20 completed surveys were received, representing a 100% response rate. Participants were interviewed in focus groups as well. Whilst there is no sampling condition that needed to be met in terms of appropriate coverage for the qualitative data analysis, it was encouraging to see that all 20 students (100%) who participated in *The Amazing Ethics Race* willingly attended the interviews. The profile of the sample population is presented in Figure 2 below.

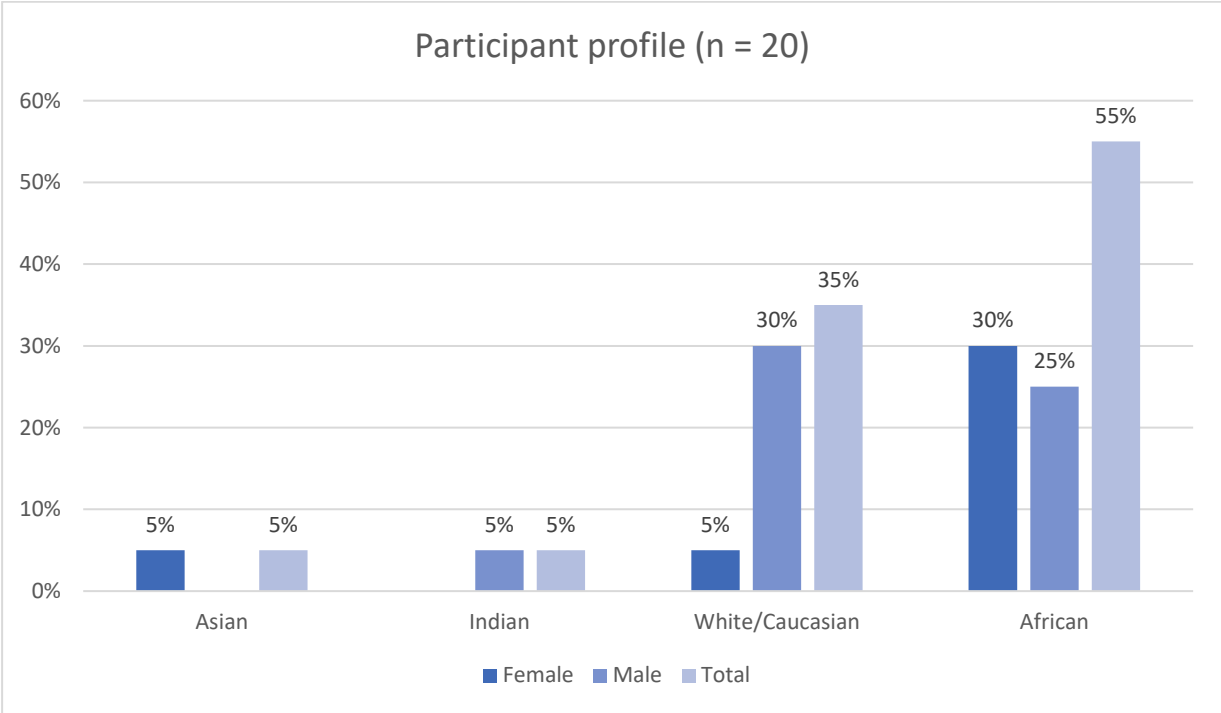


Figure 2: Participant profile

The majority of participants were African females and white males, representing 30% each of the total sample. In total however, there were more males who participated than females as the sample comprised of 40% females and 60% males. Most of the participants were African representing 55% of the total population. These observations are in line with the class as a whole.

The findings and results of the study are analysed and discussed in the next chapter.

CHAPTER 4: RESULTS AND DISCUSSION

This chapter reports on the findings and results of this study. The results of each question contained in the survey as per Appendix C are analysed and discussed. Key findings are highlighted and compared to prevailing literature. Results from the focus group interviews are included in the discussions as they yielded the same results. The quantitative data therefore supports the results obtained through the qualitative data.

4.1 PERCEPTION ON THE IMPORTANCE OF THE DEVELOPMENT OF PVAAs

The perception of the importance of the development of PVAAs is presented in Table 3 below.

Table 3: Perception of the importance of the development of PVAAs

Sub Q #	1	2	3	4	n	\bar{x}	SD
3.1 To what extent do you think that the development of Professional Values, Attitudes and Acumens (PVAAs) (soft skills such as critical thinking, integrated thinking, problem solving, teamwork, communication, leadership, relationship-building) should form part of SAICA's competency framework.	0	0	4	16	20	3.8	0.4

Scale interpretations: 1 = Not at all; 2 = Very little; 3 = Quite a bit; 4 = A great deal

The mean perception score for importance of the development of PVAAs being included as part of SAICA's competency is 3.8, with 80% of the participants agreeing that the extent to which the development of PVAAs should form part of the competency framework is 'a great deal'. Of the participants, 20% indicated that they agreed 'quite a bit'. What is motivating is that no students indicated that that there should be little to no development of these skills. This indicates that students are aware of the importance of the development of these skills, which is positive, as it may encourage willingness of students to participate in innovative teaching and learning methods to develop these skills. Furthermore, the importance ascribed by students to the development of these skills implies that their responses provide valid data in addressing the broad research question of the study.

4.2 PERCEPTIONS ON THE EFFECTIVENESS OF THE EDUCATIONAL GAME TO DEVELOP PVAAs

To gain insight into whether the game was effective in developing the PVAAs, participants were asked to provide their perceptions on the application of the PVAAs in the survey conducted (Questions 6 and 7). They were asked their opinions on how much they engaged in various actions, each indirectly representing a PVAA. The indirect portrayal is based on how the PVAAs are defined in the literature, and what they signify. There were 16 sub-questions included in Question 6 as presented in Table 4 below, and 10 sub-questions included in Question 7.

Table 4: Perceptions on the effectiveness of the educational game to develop PVAAs (Question 6 results)

Sub Q #		1	2	3	4	n	\bar{x}	SD
6.1	I had to apply analytical and critical thinking skills to solve problems.	0	0	13	7	20	3.35	0.48
6.2	I had to take a stand to convince my fellow team member(s) of facts and theory application.	2	13	4	1	20	2.2	0.68
6.3	I had to listen to fellow team members and/or instructions of the committee members at the various stations.	0	2	9	9	20	3.35	0.65
6.4	I directed my team on what to do and how to do it.	0	8	8	4	20	2.8	0.75
6.5	I played an important role contributing to the success of my team.	0	4	10	5	20	3.15	0.73
6.6	I had to apply my personal ethics.	1	4	10	5	20	2.95	0.8
6.7	I had to exercise professional judgement and decision making.	1	0	10	9	20	3.35	0.73
6.8	I had to exercise professional scepticism.	1	3	10	6	20	3.05	0.8
6.9	I had to adapt to change and unexpected events.	0	3	10	7	20	3.2	0.68
6.10	I had to manage around conflict and differences of opinion.	9	6	4	1	20	1.85	0.91
6.11	I had to deal with different personalities, backgrounds, and cultures.	3	7	5	5	20	2.6	1.02
6.12	I learned from the way my team members interpreted different concepts.	3	7	5	5	20	3	0.45
6.13	I had to adhere to the rules of the activities of the race.	0	2	16	2	20	3.75	0.43
6.14	I performed self-management and managing others as it was a race against time.	0	4	12	4	20	3	0.63
6.15	I thought differently about ethical concepts due to being forced to think creatively.	0	5	8	7	20	3.1	0.77
6.16	The manner in which I presented myself adhered to the requirements of the SAICA code of conduct of professional conduct.	0	0	9	11	20	3.55	0.5

Scale interpretations: 1 = Not at all; 2 = Very little; 3 = Quite a bit; 4 = A great deal

The results of the sub-questions are presented in Tables 4 and 5, respectively. As stated, the actions included in each sub-question represented a particular PVAA and therefore this indirectly represented application of the PVAA, which constitutes the indirect portrayal referred to. This assisted in answering the broad research question. Thereafter, participants were asked more directly about the specific PVAAs that the game aimed to develop in the survey conducted (Questions 11 and 12). This assisted in answering the specific sub-research questions regarding whether the specific PVAAs of personal and professional ethics (RQ1) and decision making acumen and relational acumen (RQ2) were perceived to be developed.

As seen in Table 4, there are certain sub-questions for which the mean perception score ranges from 3 to 4, meaning that participants were of the opinion that they had applied those PVAAs (as implied indirectly by the action included in the sub-question), quite a bit (3), or a great deal (4). Participants scored the sub-question of having to adhere to the rules of the game the highest, with a mean score of 3.75. This is indirectly attributed to personal ethics, as participants' ethics were not compromised during the game, which could have resulted in incidences of cheating. Participants agreed that they presented themselves in a manner that adhered to the SAICA Code of Professional Conduct, which indicates that they are aware of the code and what is required of them. However, what is interesting is that this scored a mean of 3.55 and not 4. It is expected of participants to not only be aware of the principles of the SAICA Code of Professional Conduct, but to aim to practice such principles as aspiring CAs(SA). This was not the case as 45% of the participants felt that the manner in which they presented themselves adhered to the code 'quite a bit' and not 'a great deal'.

Other sub-questions that scored highly were that participants had to apply analytical and critical thinking skills to solve problems, that they had to exercise professional judgement and decision making, and that they had to listen to fellow team members and/or instructions from committee members at each station. This is explained through the design of the activities, as certain activities did require the application of specific PVAAs as indicated in Table 2. For example, the activity at Station 3 (scepticism 101) required analytical and critical thinking skills to solve problems and the activity at Station 7 (spot the red flags) required the application of judgement and decision making. Furthermore, in order for participants to complete the race in the quickest amount of time, they had to listen carefully and follow instructions well, so that they did not waste time by not following the instructions and having to re-do activities. This required the application of good communication skills. Through these indirect actions as described in the

sub-questions, and perceptions of how strongly they were applied, the following PVAAs, as illustrated in Figure 3 below, appear to have been applied the most.

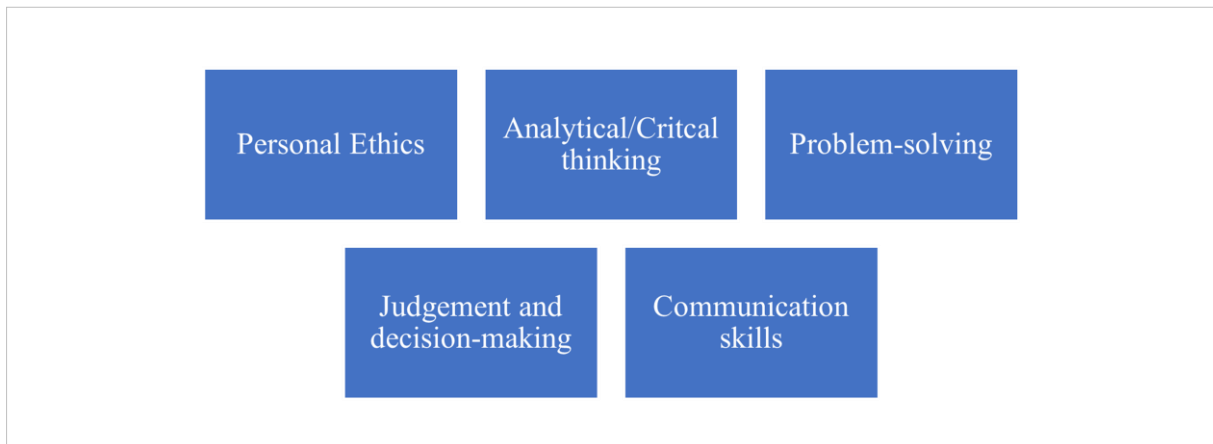


Figure 3: PVAAs perceived to be applied the most

The Amazing Tax Race identified the following to be the PVAAs most applied: “teamwork, communication (listening), problem solving and communication (verbal)” (Viviers et al., 2016, p. 13). Problem solving and communication are confirmed to have been most developed in the version of the educational game used in this study as well. However, as the educational game in this study was adapted to have an ethical focus, it resulted in personal ethics and judgement and decision making being perceived as being applied the most by the participants. The study by Viviers et al. (2016) found ethical awareness to be one of the PVAAs least developed. This could be due to the game not being intended to have that specific focus, thereby confirming that, by adapting the activities to achieve particular learning objectives, the development of particular PVAAs could be achieved.

The above is supported by the following noteworthy comments collected from participants during the focus-group interviews:

Personal ethics

One participant stated: “*We stuck to the rules. We tried to just get through them quickly.*” This comment indicates a willingness by students to adhere to instructions, whilst also retaining a drive to succeed and perform well. A separate statement that confirmed the student’s willingness to adhere to the instructions was: “*We made sure that we followed the rules at all times.*”

Another comment made was: “*It was fun to not think about cheating.*” This comment is interpreted two-fold. On the one hand, it indicates is that the game was enjoyable and exciting

for the students and that at no point did they even consider cheating. On the other hand, it raises the question as to whether cheating would have crossed students' minds had the game not been enjoyable. The comment both supports the application of personal ethics during the game and reiterates the rationale for this study where it alludes to students thinking about cheating in other situations, which is of concern and proves that more needs to be done at an undergraduate level in terms of the development of PVAAs, particularly relating to ethics. Some of the other points raised by participants were: *"And it's important for professionals to follow ethical things because like the six sanctions, that was an eyeopener. I didn't even know it was so bad until we read through it and then like, yoh."*; *"It's difficult. It's hard to not only uphold ethics and principles, but to spot incorrect unethical issues."* and *"require us to actually think about what is not ethical and what is a problem."*

The students acknowledge that ethical principles are not as clear cut as they may seem. There are often grey areas that require a lot more consideration. The success of the "sanctioned" and "spot the red flags" activities included within *The Amazing Ethics Race* in creating awareness of and application of ethical PVAAs are highlighted here. Students were exposed to a real-life scenario and learnt the consequences of unethical behaviour which they referred to as "An eyeopener". Also, having to spot the red flag statements proved to be more difficult than students expected, causing them to have to think carefully about the ethical aspects they prompted. Haywood et al. (2004) argue, as corroborated in this research, that the use of games is an effective tool to develop critical perspectives on ethics.

Analytical/critical thinking

The following comments by participants are identified as evidence of the application of analytical/critical thinking: *"The analysing of the documents was nice"*; *"And the ping pong. Yeah, that was yeah, that quiz was cool. Yeah, you had to think fast"*; *"also, the invoices one yeah, that one was that one was a thinker"*; and *"So, it does get you moving on the spot as well. Yeah, it does boost your critical thinking skills. because yeah, you literally move there and then you have to, like do a puzzle as quick as you can."* From these comments, it is noted that student's experienced that the activities required them to think at speed. In addition, having to switch between the various unique activities boosted the application of critical thinking. Whilst the overall theme of the activities focussed on ethical concepts, the activities themselves differed vastly from singing to puzzles. This was an intentional design element of the educational game which was aimed at boosting analytical/critical thinking as participants were

required to adapt their thinking on the spot at each activity station. A statement made by a participant which well summarises the application of analytical/critical thinking is: *“Your brain is moving.”*

Problem solving

The application of problem solving skills came through in the following statements made by participants: *“I think also, one thing that we learned is that we need to actually, I think, calm ourselves down in the situation and then like thoroughly read through like, you know, either the notes or the information that is given to us then again, I think we would have been able to solve things faster”*; and *“It was solving the riddles. Solving the riddles and everything added a little bit of it. Critical thinking the puzzle putting stuff together and also the singing thing had to think. And then also with the crossword diagonals.”* The skill of remaining calm and thinking clearly to be able to solve problems faster is something that is noted as specifically being applied by the participants. The participants were faced with problems at each activity, and they were required to solve them. Field notes from the researcher include participants indicating that even the song that they had to write and sing was a problem that they faced and needed to solve. This problem in particular took them well out of their comfort zone, however a rapid solution was necessary for them to proceed in the educational game.

Judgement and decision making

Noteworthy points raised by participants relating to this PVAA include: *“I think it was quite good, because we all decided together. It wasn't just, there was no argument surprisingly”* and *“I think was all on the spot. We all made the decisions.”* These indicate that all participants were involved in the decision making process and had an opportunity to apply this skill. Also, they made these decisions together without conflict, which shows that they were able to make effective quick decisions under the time pressures that they faced. With regards to the application of judgement, the following was noted: *“And each of the activities you feel made you use that professional scepticism and that judgment and actually think beyond what you know, in the textbook.”* Being required to actually think beyond the textbook is a positive observation made by the participant and cements the effectiveness of the game in going beyond traditional teaching methods.

Communication skills

When it came to communication skills, one participant indicated the following: *“I just feel like specifically within the group, we communicated well, we communicate, we communicate*

respectfully. I feel like all in all, we were just treating each other as equals.” This portrays application of effective communication skills. Participants added to this by stating the following: *“Even in the puzzle, it looked like chaos it was all over, and everyone was like over each other, but it works, it just came together. It was like organised chaos”* and *“we communicated. I don’t think we had a communication problem. It’s because of our communication that we did so well.”* Participants acknowledged that it is due to the application of good communication skills that they were able to perform well in the educational game. Another observation is that, at times, they felt like it was chaotic under the time pressure but were able to use their communication skills to cope. One of the highlighted comments made within this theme was: *“We even communicated without words. Because I mean, like the actions of the puzzle for a very good example, we just went and no one was speaking.”* The comment affirms the participant’s understanding of communication skills comprising of more than only verbal skills.

Managing conflict around differences of opinions and taking a stance to convince fellow team member(s) of facts and theory application scored the lowest, with scores of close to 1.85 and 2.2, respectively. This means that the opinion of participants was that they had to apply this very little (2) or not at all (1). This could be ascribed to the fact that the game was a race, leaving little time for conflict, where participants required to work both efficiently and effectively as a team due to time constraints. Through the focus group interviews, it was noted that the teams indicated that they worked well together as a team. They did not have a person in the team that was an evident leader, where each played an equal role and played to their strengths at each activity. With the added pressure of it being a race, they trusted each other when one person put their hand up to start or lead the activity and there were no conflicts that arose. No overall leader was mentioned by either of the teams. This supports the scores as per the survey.

Through these indirect actions described in the sub-questions and perceptions of how strongly they were applied, the PVAAs as illustrated in Figure 4 below appear to have been applied the least.



Figure 4: PVAAs perceived to be applied the least

This finding is in line with the findings of Viviers et al. (2016), who noted that that leadership skills were also identified as being one of the PVAAs least developed. The findings are supported by the following noteworthy comments from the focus-group interviews:

The statements made by participants included the following: *“I think it was a joint effort. Whoever knew the stuff and felt confident took the lead”*; *“I think it was like whoever got there first, started it and then they would look at it and you know, if they were unsure that they would just pass it on, and I think we weren’t scared to ask for other people’s advice. We really relied on each other”*; and *“I think the second station and all that we were so confident that when you start then everyone just follows. We found the flow.”* All these statements allude to the fact that there was no one clear leader within the group. The strategy implemented by the participants was to rely on the strengths of their teammates, and to trust whoever felt confident with a specific activity. Further statements that clearly point this out are as follows: *“We all had an equal share of leadership”* and *“no real big leader just shared effort.”* Although these comments do support leadership skills being applied the least, a consideration to be made is that, due to there being no clear leader, participants may have perceived that no leadership skills were being applied. Each team member had a share of leadership and applied this skill when they arrived at a particular station, feeling confident, and taking the lead.

4.3 PERCEPTIONS ON THE EXPERIENCE OF PARTAKING IN “THE AMAZING ETHICS RACE”

Question 7’s sub-questions, presented in Table 5 below focused more on the experience of the game as a whole, and aimed to determine what students may have learnt. The mean score for all the sub-questions was between 3 and 4 indicating that the participants experienced the statements in each sub-question ‘quite a bit’ (3) or ‘a great deal’ (4). The sub-question with the highest score of 3.95 was that *The Amazing Ethics Race* experience involved learning by having fun, which means that 19 out of 20 participants scored this sub-question a 4 (a great deal).

Table 5: Perceptions on the experience of partaking in The Amazing Ethics Race (Question 7 results)

Sub Q #		1	2	3	4	n	\bar{x}	SD
7.1	Had a variety of learning opportunities.	0	0	8	12	20	3.6	0.49
7.2	The games at each station progressed in a logical manner.	1	0	8	11	20	3.45	0.74
7.3	Learning by having fun.	0	0	1	19	20	3.95	0.22

Sub Q #		1	2	3	4	n	\bar{x}	SD
7.4	There was active participation from team members.	0	0	2	18	20	3.9	0.3
7.5	The practical nature of the games helped me see the relevance of what I am learning.	0	0	8	12	20	3.6	0.49
7.6	It focused on the Professional Values Attitudes and Acumens (PVAAs) I require for my profession.	0	0	10	10	20	3.5	0.5
7.7	Practical application of knowledge contributed to my understanding of ethical concepts.	0	0	14	6	20	3.3	0.46
7.8	Helped me obtain a holistic perspective (the bigger picture) of ethics as a concept.	0	0	9	11	20	3.55	0.5
7.9	Took into consideration my previous knowledge.	0	1	10	9	20	3.4	0.58
7.10	Helped develop relationships with fellow students.	1	1	6	12	20	3.45	0.8

Scale interpretations: 1 = Not at all; 2 = Very little; 3 = Quite a bit; 4 = A great deal

The above implies that participants felt that they were learning by having fun which is what GBL aims to achieve. GBL was used as an alternative teaching method to traditional teaching methods to teach students PVAAs that are difficult to teach by means of traditional teaching methods. The risk in this regard, however, was that by using GBL, the teaching and learning aspect may be compromised. It could have led to too much fun and no learning. It is therefore encouraging to note that 95% of participants felt that they were still learning, even though they were having fun. This was specifically questioned more directly in the focus group interviews when participants indicated that the game was a lot of fun; the researcher then asked if they learnt something as well, to which the answer was always 'yes'. This further supports that the teaching and learning aspect was not lost through the use of the game. The use of GBL to encourage learning by having fun is supported and argued by many other researchers (Haywood et al., 2004; Malan & van Dyk, 2021; Viviers et al., 2016)

Active participation from the team also scored a high mean of 3.9. This was also considered a risk with the use of GBL, especially within a team setting, as there may be instances where certain team members do not participate, relying instead on the rest of the team and therefore not being actively engaged in the learning experience. Of the participants, 90% indicated that there was a great deal of active participation from team members and 10% indicated that there was quite a bit. Other variables that had a high score were that the practical nature of the games helped participants see the relevance of what was being learnt and that the game helped obtain a holistic perspective (the bigger picture) of ethics as a concept.

4.4 PERCEPTIONS ON EXPOSURE TO PARTICULAR PVAAs

Participants were then asked more specifically and directly about the PVAAs that were included in the learning objectives of the game. The responses to Question 11, as presented in Table 6 below, indicate if participants agreed or disagreed to being exposed to the specific PVAAs.

Table 6: Perceptions on exposure to particular PVAAs (Question 11 results)

Sub Q #	Variable	1	2	3	4	n	\bar{x}	SD
11.1	Personal ethics	0	0	12	8	20	3.4	0.49
11.2	Professional ethics	0	0	13	7	20	3.35	0.48
11.3	Analytical/critical thinking	0	0	8	12	20	3.6	0.49
11.4	Problem solving	0	0	7	13	20	3.65	0.48
11.5	Judgement and decision making	0	1	13	5	20	3.25	0.54
11.6	Professional scepticism	1	1	13	5	20	3.1	0.7
11.7	Communication skills	0	0	9	11	20	3.55	0.5
11.8	Leadership skills	0	1	11	8	20	3.35	0.57
11.9	People skills	0	0	10	10	20	3.5	0.5
11.10	Relationship-building skills	1	1	9	9	20	3.3	0.78
11.11	Teamwork	0	0	4	16	20	3.8	0.4

Scale interpretations:: 1 = Strongly disagree; 2 = Disagree; 3 = Agree; 4 = Strongly agree

The PVAAs that scored the highest means and that were therefore the most prominent in terms of participant exposure during *The Amazing Ethics Race*, were: teamwork, problem solving, and analytical/critical thinking, as summarised in Figure 5 below.

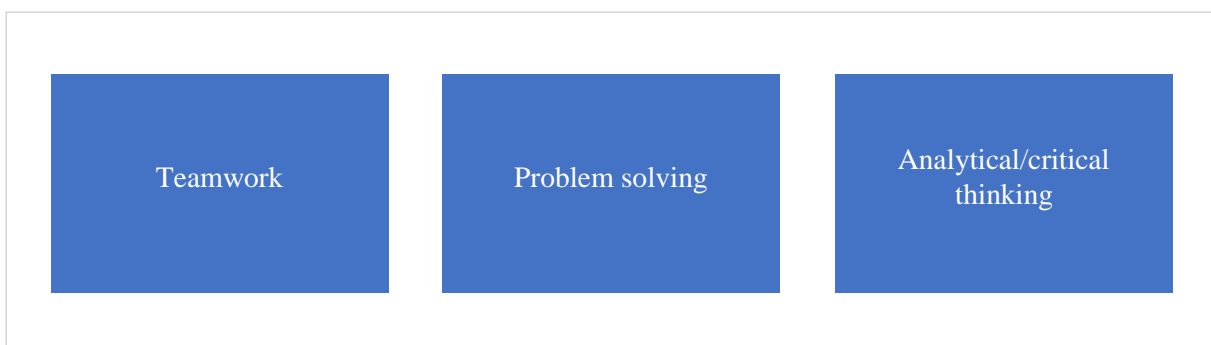


Figure 5: The PVAAs that scored the highest means in terms of participant exposure

The PVAAs that scored the lowest means and were therefore the least prominent in terms of participants exposure during *The Amazing Ethics Race*, were professional scepticism, judgement and decision making, and relationship building skills, as summarised in Figure 6 below.

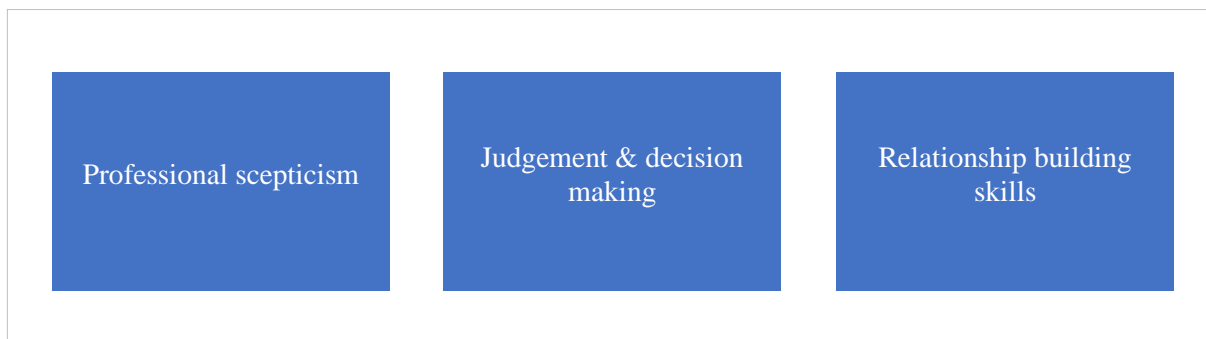


Figure 6: The PVAAs that scored the lowest means in terms of participant exposure

Although least prominent with the lowest mean, it is important to note that the mean score for all the PVAAs ranged between 3 (agree) and 4 (strongly agree). This indicates that the majority of participants perceived *The Amazing Ethics Race* to expose them to all the PVAAs as per the learning objectives of the educational game.

In Question 12, participants were asked to rank the PVAAs in the order in which they were perceived to be most developed through participation in *The Amazing Ethics Race*, with 1 being the most developed, and 11 being the least developed. The mean scores therefore provide an indication of the overall results. The PVAAs with the lowest mean score were perceived to be ranked as most developed, and those with the highest mean score were perceived to be ranked as least developed. This is illustrated in Table 7 below.

Table 7: Ranking of PVAAs perceived most and least developed (Question 12 results)

Sub Q #	Field	\bar{x}	SD
12.1	Personal ethics	5.9	2.86
12.2	Professional ethics	5.25	2.93
12.3	Analytical/critical thinking	3.9	1.79
12.4	Problem solving	4.4	2.33
12.5	Judgement and decision making	6.3	2.15
12.6	Professional scepticism	8.1	2.47
12.7	Communication skills	5.55	2.99
12.8	Leadership skills	6.6	2.99
12.9	People skills	8.95	2.52

Sub Q #	Field	\bar{x}	SD
12.10	Relationship-building skills	7.1	3.6
12.11	Teamwork	3.95	3.15

Note: n = 20

Taking into consideration the mean scores for each PVAA as indicated in Table 7, the following ranking was devised, as illustrated in Figure 7 below. The ranking as presented in Figure 7 are consistent with the results from Question 6 and 11, with the top ranked PVAAs being the ones that participants indicated that they applied through the actions described in the sub-questions in Question 6 the most and were most prominent in terms of participant exposure to them during *The Amazing Ethics Race* as discovered in Question 11. The same is true for the least ranked PVAAs.



Figure 7: Ranking devised from mean scores for each PVAA

The results of Question 11 and 12, presented in Tables 6 and 7 respectively, assist with the answering of the sub-research questions as to whether the specific PVAAs of personal ethics, professional ethics, decision making acumen, and relational acumen have been further developed. Question 11's responses support the answer that they have been, whilst Question 12's responses assist in broadening that answer to highlight those PVAAs that were perceived to be more developed than others.

4.5 PERCEIVED ADVANTAGE / BENEFIT OF "THE AMAZING ETHICS RACE"

To comprehensively assess whether *The Amazing Ethics Race* was effective, participants were asked to indicate the biggest advantage of the educational game and were also given the option

to list any other benefits. These were asked in separate open-ended questions in the survey (Question 8 and 10). The responses were analysed and categorised into themes. The results of these are summarised in Table 8 below.

Table 8: Biggest perceived advantage of The Amazing Ethics Race (Question 8 and 10 results)

Themes	Frequency	Percentage
Teamwork skills development	10	23%
Learning by having fun/Alternative fun learning method	14	33%
Communication skills development	2	5%
Relationship building skills	2	5%
Tested knowledge	3	7%
Importance of ethics	2	5%
Out of comfort zone	2	5%
Bigger picture/outside-the-box learning	2	5%
Time management skills	1	2%
Critical thinking skills	1	2%
Importance of exercise	2	5%
Social aspect	1	2%
Problem solving skills	1	2%

Note: N = 43 which is the total number of advantages and benefits mentioned as participants mentioned more than one.

The overall biggest advantage or benefit as perceived by the students and indicated in Table 8, is learning by having fun. This represents 33% of the total advantages/benefits listed, followed by teamwork skills developed representing 23%. These findings are in line with the findings of Viviers et al. (2016), who found that teamwork and learning by having fun were the top two benefits perceived by participants who played their game.

4.6 PERCEIVED DISADVANTAGES OF “THE AMAZING ETHICS RACE”

For the purposes of improving subsequent iterations of the educational game, participants were required to indicate its disadvantages in Question 9 of the survey. The responses were analysed and categorised into themes. The results of these are summarised in Table 9 below.

Table 9: Biggest perceived disadvantage of The Amazing Ethics Race (Question 9 results)

Themes	Frequency	Percentage
The weather (it was raining)	4	20%
Running	10	23%
Competing	1	2%

Themes	Frequency	Percentage
Location of stations	1	2%
Risk of others cheating	1	2%
Bias	1	2%
No disadvantages	2	5%

Note: N = 20 which is the total number of disadvantages mentioned as each participant mentioned one only.

The biggest disadvantage highlighted by the participants was the element of running that was required by the any game. This was exacerbated by the fact that it was raining on game day. The researcher had, however, updated the location of the stations after checking the weather forecast. Locations that were completely outdoor as per the initial educational game developed were removed and substituted. All stations where activities were hosted were indoor, however there were a few instances in which students did face the challenge of the rain between stations, which could not be avoided. This resulted in less running being required than initially planned, due to the change of station locations. Nevertheless, students felt that this was the biggest disadvantage, where they mentioned that they realised how unfit they were.

The weather, combined with the element of running, represents 43% of the disadvantages indicated by the students in the survey. This was supported by the focus-group interviews where one participant commented that they realised that their gym membership was a waste of money. The game was a race against time, and naturally in this situation, participants were required to run. They were informed of this prior to the game day and requested to wear comfortable shoes and clothing. The researcher notes that this could perhaps be explained in more detail prior to the game day in future, so that students are fully prepared and know what to expect in terms of the physical requirements of the game. This finding is in line with the findings of Viviers et al. (2016), in which it was noted that the physical aspects of the game were perceived to be its biggest constraint.

The ‘competing’ and ‘risk of others cheating’ disadvantage is noted, however may be implicitly associated with the format of any game. A disadvantage mentioned by one participant, but which is noteworthy, is that of bias. The full comment included that there may be bias or objectivity due to the nature of the educational game. This refers to the activities at the stations and the manning of the stations. For example, in activity 1 “CPC Idols”, the committee member manning the station had to score the performances of the teams, where it was necessary to receive a score of 8 or above in order to advance to the next station. There could be bias involved

in this process, especially since the stations were manned by colleagues and students within the faculty, who may be familiar with the participants. This is listed as one of the limitations to this study and is noted by the researcher. In future, greater emphasis will be placed on ensuring a greater level of objectivity. This finding was not noted by Viviers et al. (2016) as a disadvantage arising from the game used in that study. This could be due to the fact that *The Amazing Ethics Race* placed focus on ethical awareness in particular, which caused students to consider this aspect fully.

Another disadvantage that was mentioned once was that of the locations of the stations. To elaborate on this, it was mentioned that some teams started at a station close to the starting station, while others had to go to a station very far away first for example, second floor of a completely different building. However, this disadvantage is not valid, as all teams rotated to every station, and the end station was the same as the beginning station, therefore each team had to cover the same amount of distance, where only the timing differed. There were two participants that indicated that they had no disadvantages to report.

4.7 PERSONAL REFLECTION BY PARTICIPANTS

The personal reflection by participants was paramount into answering the research question as it provided direct evidence on whether the game was effective in broadening participants views on the importance of the targeted PVAAs that were included in the learning objectives of the game, as well as whether the game was effective in exposing participants to the development of those PVAAs.

Table 10: Personal reflections of participants (Question 13 results)

Sub Q #	Variable	1	2	3	4	n	\bar{x}	SD
13.1	Participating in The Amazing Ethics Race broadened my view on the importance of certain Professional Values, Attitudes and Acumens (PVAAs), such as ethics, for chartered accountants	0	0	10	10	20	3.5	0.5
13.2	I think The Amazing Ethics Race is an effective teaching method to expose me to the development of Professional Values, Attitudes and Acumens (PVAAs)	0	0	10	10	20	3.5	0.5
13.3	I enjoyed the social aspects of the Amazing Ethics Race	0	0	4	16	20	3.8	0.4

Scale interpretations: 1 = Not at all; 2 = To a small extent; 3 = To a medium extent; 4 = To a large extent

From the results presented in Table 10 above, it is evident that participants found that their participation in the educational game broadened their view on the importance of the targeted PVAAs and that *The Amazing Ethics Race* was an effective teaching method in exposing

participants to the development of those skills with a mean score of 3.5 for both variables. This means that participants either agreed that this was applicable to a medium extent (3) or to a large extent (4). It was found that 80% of participants enjoyed the social aspects of *The Amazing Ethics Race* to a large extent (4). These reflections are key in the determination of whether the educational game was effective or not. Developing an educational game in which participants experience what was meant to be experienced and could reflect upon, was challenging, specifically due to the game in its entirety not being fully tested until the game day on which participants played the educational game. Even though elements of the educational game were tested, the entire experience was not. The results presented in Table 10 indicate that, despite this, the educational game was successful in achieving what it aimed to achieve.

The social aspect of the educational game is also important as the game aims to achieve PVAAs, therefore relationship-building skills and people skills could be built through social interactions, which are skills that are sometimes lacking in a Bachelor of Accounting students' experience, due to the pressure embedded within this degree. This could be a reason why 80% of participants indicated that they enjoyed the social aspects of the educational game to a great extent. They do not have many social-interactive learning opportunities like this with their classmates as provided by participating in the educational game, specifically as most of the time they spend together is in a traditional classroom setting or doing traditional group assignments. *The Amazing Ethics Race* was something fun and different, as described in the results presented in Table 8, and this could have contributed to the students enjoying its social aspect. This type of social-interaction and skill development is important in producing well-rounded CAs(SA) and is why these skills have been included in the SAICA CA2025 competency framework.

4.8 VIABILITY OF “THE AMAZING ETHICS RACE” AS A TEACHING METHOD

The long-term viability of *The Amazing Ethics Race* or similar teaching methods as a tool that educators could use to assist in the development of PVAAs is a crucial aspect to be considered in determining the educational game's overall effectiveness. The perception as to whether students would recommend the educational game or other similar teaching method(s) is important, as students buy-in to these alternative teaching methods is another key driver of their success. The use of GBL as a teaching method has been enjoyed and recommended by participants in previous studies, which support the results of the current study (Haywood et al., 2004; Malan & van Dyk, 2021; Viviers et al., 2016)

Table 11: Perceptions on the viability of The Amazing Ethics Race and/or similar teaching methods (Question 14 results)

Sub Q #	Variable	1	2	3	4	n	\bar{x}	SD
14.1	The development of Professional Values, Attitudes and Acumens (PVAAs) (soft skills such as critical thinking, integrated thinking, problem solving, teamwork, communication, leadership, relationship-building) should form part of my CA(SA) curricula at under-graduate level.	0	0	6	14	20	3.7	0.46
14.2	I would recommend The Amazing Ethics Race to other students.	0	0	3	17	20	3.85	0.36
14.3	I would recommend teaching methods similar to The Amazing Ethics Race to be hosted in order to develop my Professional Values, Attitudes and Acumens (PVAAs).	0	0	7	13	20	3.65	0.48

Scale interpretations: 1 = Strongly disagree; 2 = Disagree; 3 = Agree; 4 = Strongly agree

Question 14.1 aimed to confirm whether participants understood the importance of the development of PVAAs, and more specifically, that the development of those skills needs to begin at an undergraduate level. A mean score of 3.7 indicates that the participants agreed (3) or strongly agreed with this (4). As per the results presented in Table 11 above, 70% of participants strongly agreed. This is helpful, as aligning students understanding of the importance of the development of these skills with those of the SAICA CA2025 competency framework will assist in students taking responsibility to ensure that they develop these skills.

The recommendation of *The Amazing Ethics Race* to other students scored a mean of 3.85. This indicates that 85% of participants strongly agreed with this (4). This unlocks the potential for this educational game to be introduced every year to third year students, and also at different higher education institutions. The activities at each station could be adapted to, for example, make it applicable to second year auditing students, and to be played at a second-year level. Furthermore, the content could be adapted for other subjects and other specific skills targeted. The possibilities for adapting the game are endless. Students are creative, and there is also an option to ask them to assist in developing activities. It is suggested that third year students develop activities for second year students. This would act as revision for third years, as students would need to understand the content thoroughly. This would also be considered learning in a different way.

The recommendation for teaching methods similar to *The Amazing Ethics Race* scored a mean of 3.65. Therefore, 65% of students strongly agreed with this and 35% agreed. This also opens the door to many opportunities for creative, experiential, and alternative teaching methods to be implemented inside and outside of the classroom. It supports the argument that alternatives to the traditional teaching methods are required in the pursuit of the effective development of PVAAs.

4.9 DESCRIPTION OF “AMAZING ETHICS RACE” IN ONE WORD

To summarise the experience of the participants, they were required to describe *The Amazing Ethics Race* in one word. The results appear in Table 12 below and in Figure 8 thereafter.

Table 12: Description of The Amazing Ethics Race in one word (Question 15 results)

Word used to describe The Amazing Ethics Race	Frequency	Percentage
Intriguing	1	5%
Teamwork	1	5%
Remarkable	1	5%
Amazing	4	20%
Productive	1	5%
Exciting	1	5%
Learnjoying (learning and enjoying)	1	5%
Fun	7	35%
Intuitive	1	5%
Enjoyable	1	5%
Excellent	1	5%

Note: n = 20

The word used the most to describe *The Amazing Ethics Race* was “Fun”, represented by 35% of the participants, followed by “Amazing” represented by 20% of the participants. There are many other positive words used by participants to describe the game as indicated in Table 12, the most noteworthy of which is “Learnjoying”. The participant explain that this word refers to leaning and enjoying, where the game serves to ensure that students enjoy the experience, but at the same time also learn the learning objectives of the educational game.



Figure 8: Word cloud of terms used to describe The Amazing Ethics Race (Question 15 results)

It is well evidenced that the participants enjoyed the educational game and had a lot of fun from the following statements made during the focus-group interviews: *“The most fun day”*, *“It was really enjoyable”*, *“I enjoyed this game”* and *“It was really fun.”* This is useful in concluding that the educational game itself was designed in a manner that ensured the participants enjoyed themselves. However, as mentioned previously, the researcher had to be very careful in ensuring that the element of fun did not outweigh the learning opportunities presented by the educational game. The following comments made by participants confirm that, although it was a lot of fun, learning still took place: *“It’s actually a fun way to learn new things. Yeah, there’s a lot of things I did really not know”*, *“Yeah, it was learning while having fun”* and *“I think it is a nice way to learn.”*

One participant stated: *“We’re using information that we got but not in a conventional way. So, it was like in a more exciting way, and I think we remember that just because we were doing a game instead of writing an exam and exciting yeah.”* This comment supports that a change in a teaching approach is considered refreshing by students and is something that they will remember. Other statements that are interpreted as students welcoming the change in approach are as follows: *“But it was fun. Not having your head in the book, the whole time but still learning. It was an integrated experience. It was fun but we learnt something”*; and *“I think it was it was the main thing that we definitely learned is the practical side.”*

The element of time pressure within the educational game did not deter from the enjoyability of the game as observed by the following statement made by a participant: *“Each challenge was timed and pressure, but it was fun pressure.”* This is a useful takeaway in terms of the development of skills such as the ability to work under pressure. Enjoyment outweighed a sense of pressure to win.

One more noteworthy comment is the following: *“I feel like there was never a moment where we felt like we were doing the incorrect thing, or we needed to skip a station. I felt like every single station was like as important as the previous one and was as enjoyable as the previous one. So, there was never a lack of like, ‘we don't want to do this anymore’. It was really fun.”* It is encouraging to note that the students enjoyed the entire experience and at no point felt like they were getting bored or that they had enough of the educational game.

CHAPTER 5: CONCLUSION

The main purpose of this study was to develop an educational game and determine whether the educational game (*The Amazing Ethics Race*) would be useful in the development of specific PVAAs as per the SAICA CA2025 competency framework. It was found that the educational game was perceived to be effective in creating awareness of the development of these PVAAs and encouraging application of them, as indicated by both the quantitative and qualitative data presented. A key consideration in the design and development of the game was that the element of fun should not overwhelm the element of learning. Whilst *The Amazing Ethics Race* was a fun experience for participants, they asserted that it was still a learning experience and that application of particular PVAAs was required.

An interesting finding was that of the participants responses to the question as to whether the manner in which they presented themselves adhered to the SAICA Code of Professional Conduct. Not all participants answered, ‘a great deal’, which would have been expected. Although not specifically bound by the SAICA Code of Professional Conduct yet, considering what third-year auditing students know about the Code and the fact that they are aspiring CAs(SA), it is expected that they would have answered this question in line with whether they maintained the five fundamental principles of integrity, objectivity, professional behaviour, professional competence, and due care and confidentiality at all times. What was it that caused some participants to feel like they did not? The answer to this is unknown, and perhaps something that can be explored in further research.

The PVAAs perceived to be the most developed were analytical/critical thinking, teamwork, problem solving, professional ethics, communication skills, and personal ethics. The PVAAs perceived to be least developed were judgement and decision making, leadership skills, relationship-building skills, professional scepticism, and people skills. This provides insight and guidance to the researcher in terms of how to adapt the game in future to ensure that there is a greater emphasis being placed on the PVAAs perceived to be least developed. For instance, for the purposes of this research and to encourage participation in it, students were allowed to choose their own teams. This meant that they knew their team members well and there was perhaps no need for relationship-building skills or people skills to be heavily applied. An adaptation would be to consider allocating teams in future to encourage stronger development and application of these particular skills. Similarly, activities could be adapted and developed with a greater emphasis on judgement and decision making and professional scepticism.

From the results, it could be argued that *The Amazing Ethics Race* was perceived as a refreshing and energising way of learning for the participants. Importantly, it gave participating students practical exposure to what they learn in the classroom, which is a great way to solidify understanding of novel theoretical concepts. Participants particularly enjoyed the social aspects of the educational game, which encourages development of particular PVAA's on its own.

Overall, positive feedback was provided by participants on the experience of their participation in *The Amazing Ethics Race*. Generally, participants agreed that the educational game was a successful and effective teaching method for the development of the specific PVAA's included in the learning objectives of the game. The educational game was recommended by participants and similar teaching methods encouraged. The recommendations by participants in favour of the educational game provides strong evidence in support of its effectiveness.

The contribution of these findings is that they provide a recommendation that accounting educators embrace change and incorporate innovative teaching methods similar to *The Amazing Ethics Race* into their teaching and learning strategies. Specifically, for the PVAA's that can be a challenge to teach, develop and encourage application by means of traditional teaching and learning methods.

5.1 LIMITATIONS OF THE STUDY AND FUTURE RESEARCH

5.1.1 Limitations of the study

As with any research conducted, it is important to acknowledge the limitations to the study. A limitation identified is that this study was only performed at one SAICA-accredited private higher education institution. Consequently, it was only performed with one set of students. Therefore, a broad perspective of different student profiles was not attained. For example, students at a public higher educational institution may be exposed to different PVAA skills development to those at private higher education institutions that have smaller classes in terms of student numbers. This could have an impact on the participants perspectives on the effectiveness of *The Amazing Ethics Race*. The number of participants is also noted as a limitation as the number of participants was limited as the target population was only 25, due to the small number of enrolled students at the SAICA-accredited private higher education institution where the research was conducted. Of the 25 students comprising the study population (N), a total of 20 students volunteered to participate in the educational game and therefore the study sample population was 20 (n). This is a small sample, however, it was

deemed appropriate, as the focus was placed on the experience and the perspectives of the participants. Basic descriptive statistical analysis techniques were applied, and qualitative data gathered to support the small sample size in order to enhance the quality of the data.

Other limitations identified include that there were no tests nor analysis performed on prior PVAA skills development exposure, and that there could have been possible bias from participants. The level of development of the students PVAA skills was not tested prior to playing *The Amazing Ethics Race* and then compared to the level of PVAA skills after participation in *The Amazing Ethics Race* to measure the true benefit of the game. Rather the study tested perceptions of the usefulness of *The Amazing Ethics Race* to develop PVAAs. The researcher was the auditing lecturer to the participants during the year, therefore there may have been response bias from the students due to the familiarity threat. It was made clear to the students that participation was completely voluntary, and that it would be conducted outside of class time. Another measure taken to minimise the impact of this limitation was to further clarify that participation in *The Amazing Ethics Race* would not have any impact on the usual assessment of the auditing module. A final limitation noted is that of different personality types of participants. There is the possibility that students' various personality types, learning preferences, and styles may have influenced the outcome of the results.

5.1.2 Areas of future research

The study could be repeated at different SAICA-accredited higher education institutions to validate the results. It could be repeated over several years on different groups of students and the results of each study could be analysed to determine whether there is consistency between higher education institutions and different groups of students, thereby proving that this is not a limitation. *The Amazing Ethics Race* could be adapted to add focus on the PVAAs that were perceived to be least developed during this study (leadership skills, relationship-building skills, professional scepticism, and people skills) and then tested to determine whether the changes had been effective in developing these PVAAs. Alternatively, a different educational game could be developed and tested, with a focus being on these specific PVAAs. An interesting element and point made by many participants is that they would recommend *The Amazing Ethics Race* as an ICE (Integrated Curriculum Engagement) activity. This has a weighting towards the cumulative result for the module in the assessment structure at the SAICA-accredited private higher education institution where the research has been conducted. This creates an opportunity to investigate the use of GBL teaching methodology in assessment

strategies and whether this could result in increased motivation for accounting students to perform well.

REFERENCES

- Almalki, S. (2016). Integrating Quantitative and Qualitative Data in Mixed Methods Research—Challenges and Benefits. *Journal of Education and Learning*, 5(3), 288. <https://doi.org/10.5539/jel.v5n3p288>
- Ballantine, J., & Larres, P. M. C. (2009). Accounting undergraduates' perceptions of cooperative learning as a model for enhancing their interpersonal and communication skills to interface successfully with professional accountancy education and training. *Accounting Education*, 18(4–5), 387–402. <https://doi.org/10.1080/09639280902719366>
- Barac, K. (2009). South African training officers' perceptions of the knowledge and skills requirements of entry-level trainee accountants. *Meditari Accountancy Research*, 17(2), 19–46. <https://doi.org/10.1108/10222529200900010>
- Barac, K., Plant, K., & Olivier, M. M. (2021). Preparing Chartered Accountants who are Fit for Purpose in the Fourth Industrial Revolution (4IR). *SAQA BULLETIN*, 220. <http://www.saqa.org.za/docs/pol/2015/Legislation Matters.pdf>
- Barac, K., & du Plessis, L. (2019). Teaching pervasive skills to South African accounting students. *Southern African Business Review*, 18(1), 53–79. <https://doi.org/10.25159/1998-8125/5645>
- Bowles, M., Ghosh, S., & Thomas, L. (2020). Future-proofing accounting professionals: Ensuring graduate employability and future readiness. *Journal of Teaching and Learning for Graduate Employability*, 11(1), 1–21. <https://doi.org/10.21153/JTLGE2020VOL11NO1ART886>
- Boyle, E. A., Macarthur, E. W., Connolly, T. M., Hainey, T., Manea, M., Kärki, A., & Rosmalen, P. Van. (2014). *A narrative literature review of games, animations and simulations to teach research methods and statistics*. 2–4.
- Bridges, D. (1993). Transferable Skills: A philosophical perspective. *Studies in Higher Education*, 18(1), 43–51. <https://doi.org/10.1080/03075079312331382448>

- Calabor, M. S., Mora, A., & Moya, S. (2019). The future of 'serious games' in accounting education: A Delphi study. *Journal of Accounting Education*, 46(April 2017), 43–52. <https://doi.org/10.1016/j.jaccedu.2018.12.004>
- Carenys, J., & Moya, S. (2016). Digital game-based learning in accounting and business education. *Accounting Education*, 25(6), 598–651.
- Collet, C., Hine, D., & du Plessis, K. (2015). Employability skills: Perspectives from a knowledge-intensive industry. *Education and Training*, 57(5), 532–559. <https://doi.org/10.1108/ET-07-2014-0076>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design* (5th ed.). SAGE Publications.
- De Villiers, R. (2010). The incorporation of soft skills into accounting curricula: preparing accounting graduates for their unpredictable futures. *Meditari Accountancy Research*, 18(2), 1–22. <https://doi.org/10.1108/10222529201000007>
- Dolce, V., Emanuel, F., Cisi, M., & Ghislieri, C. (2020). The soft skills of accounting graduates: perceptions versus expectations. *Accounting Education*, 29(1), 57–76. <https://doi.org/10.1080/09639284.2019.1697937>
- Fouché, J., & Visser, S. (2009). An evaluation of the integration of a board game in introductory. *South African Journal of Higher Education*, 22(3), 588–601. <https://doi.org/10.4314/sajhe.v22i3.25804>
- Haywood, E., McMullen, D., & Wygal, D. (2004). Using Games to Enhance Student Understanding of Professional and Ethical Responsibilities. *Issues in Accounting Education*, 19(1), 85–99.
- Ismail, Z., Ahmad, A. S., & Ahmi, A. (2020). Perceived employability skills of accounting graduates: The insights from employers. *Elementary Education Online*, 19(4), 36–41. <https://doi.org/10.17051/ilkonline.2020.04.104>
- Keevy, M. (2020). Core subjects in accounting academic programmes: Development of pervasive skills. *South African Journal of Accounting Research*, 34(2), 140–160. <https://doi.org/10.1080/10291954.2020.1727081>

- Kolb, D. A. (1984). *Experiential Learning: Experience as The Source of Learning and Development*. Prentice Hall, Inc., 1984, 20–38. <https://doi.org/10.1016/B978-0-7506-7223-8.50017-4>
- Krath, J., Schürmann, L., & von Korfflesch, H. F. O. (2021). Revealing the theoretical basis of gamification: A systematic review and analysis of theory in research on gamification, serious games and game-based learning. *Computers in Human Behavior*, 125(July), 106963. <https://doi.org/10.1016/j.chb.2021.106963>
- Lansdell, P., Marx, B., & Mohammadali-Haji, A. (2020). Professional skills development during a period of practical experience: Perceptions of accounting trainees. *South African Journal of Accounting Research*, 34(2), 115–139. <https://doi.org/10.1080/10291954.2019.1662575>
- Le Roux, K. (2022). *student-who-mistakenly-got-r14m-from-nsfas-sentenced-to-5-years-in-jail* @ www.capetalk.co.za. Retrieved April 1, 2022, from <https://www.capetalk.co.za/articles/442004/student-who-mistakenly-got-r14m-from-nsfas-sentenced-to-5-years-in-jail>
- Lubbe, I., Peta Myers, L., & van Rooyen, A. (2020). Introduction to Special Issue: Challenges for Academics Educating Accounting Professionals in South Africa. *South African Journal of Accounting Research*, 34(2), 91–95. <https://doi.org/10.1080/10291954.2020.1750544>
- Malan, M., & van Dyk, V. (2021). Perceived pervasive skills acquired through educational games in an accounting undergraduate degree. *Journal of Economic and Financial Sciences*, 14(1), 1–10. <https://doi.org/10.4102/jef.v14i1.555>
- Manzano-León, A., Camacho-Lazarraga, P., Guerrero, M. A., Guerrero-Puerta, L., Aguilar-Parra, J. M., Trigueros, R., & Alias, A. (2021). Between level up and game over: A systematic literature review of gamification in education. *Sustainability (Switzerland)*, 13(4), 1–14. <https://doi.org/10.3390/su13042247>
- Maseko, K. N., & Masinire, A. (2020). Trainee accountants' perceptions of the usefulness of the business ethics curriculum: A case of SAICA in South Africa. *South African Journal of Higher Education*, 34(4), 130–154. <https://doi.org/10.20853/34-4-3627>

- Marx, B., Mohammedali-HajiAhmend, & Lansdell, P. (2018). University Accounting Programmes and the Development of Industry 4.0 Soft Skills. *Financial Sciences*, 1–17.
- Mhlongo, F. (2020). Pervasive skills and accounting graduates' employment prospects: Are South African employers calling for pervasive skills when recruiting? *Journal of Education*, 80. <https://doi.org/10.17159/2520-9868/i80a03>
- Moncada, S., & Moncada, T. (2014). Effect of PTSD on psychosocial and functional outcomes in younger versus older veterans: Findings from the mind your heart study. *Journal of Higher Education Theory and Practice*, 14(3), 9–19. <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed16&NEWS=N&AN=71438034>
- Oben, J. A. (2021). *Credibility Crises Facing the Accounting Profession in South Africa*. April. <https://doi.org/10.13140/RG.2.2.20596.48002>
- Qian, M., & Clark, K. R. (2016). Game-based Learning and 21st century skills: A review of recent research. *Computers in Human Behavior*, 63, 50–58. <https://doi.org/10.1016/j.chb.2016.05.023>
- Rebele, J. E., & St. Pierre, E. K. (2019). A commentary on learning objectives for accounting education programs: The importance of soft skills and technical knowledge. *Journal of Accounting Education*, 48, 71–79. <https://doi.org/10.1016/j.jaccedu.2019.07.002>
- SAICA. (2021). *ca2025 @ www.saica.org.za*. Retrieved March 22, 2022, from <https://www.saica.org.za/initiatives/competency-framework/ca2025>
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. 5th Ed. Pearson education.
- Sawyer, A. J., Tomlinson, S. R., & Maples, A. J. (2000). Developing essential skills through case study scenarios. *Journal of Accounting Education*, 18(3), 257–282. [https://doi.org/10.1016/s0748-5751\(00\)00019-1](https://doi.org/10.1016/s0748-5751(00)00019-1)
- Senan, N. A. M., & Sulphey, M. M. (2022). Construction and validation of the employability questionnaire for accounting graduates. *Education and Training*, 64(1), 141–159. <https://doi.org/10.1108/ET-04-2021-0152>

- Tan, L. M., & Laswad, F. (2018). Professional skills required of accountants: What do job advertisements tell us? *Accounting Education*, 27(4), 403–432.
<https://doi.org/10.1080/09639284.2018.1490189ss>
- Tanaka, S., & Sithole, M. (2015). Quality in Accounting Graduates: Employer Expectations of the Graduate Skills in the Bachelor of Accounting Degree. *European Scientific Journal*, 11(22), 165–180.
- Tang, K. N. (2019). Beyond Employability: Embedding Soft Skills in Higher Education. *Turkish Online Journal of Educational Technology - TOJET*, 18(2), 1–9.
- Tashakkori, A., & Creswell, J. W. (2007). Editorial: The New Era of Mixed Methods. *Journal of Mixed Methods Research*, 1(1), 3–7. <https://doi.org/10.1177/2345678906293042>
- van der Merwe, N. (2013). An Evaluation Of An Integrated Case Study And Business Simulation To Develop Professional Skills In South African Accountancy Students. *International Business & Economics Research Journal (IBER)*, 12(10), 1137.
<https://doi.org/10.19030/iber.v12i10.8127>
- Villiers, R. R. D. E., & Viviers, H. A. (2018). Evaluating the effective development of pervasive skills: the perceptions of students at two South African SAICA-accredited universities. *Journal for New Generation Sciences*, 16(1), 17–39.
- Viviers, H. A. (2016). Qualitative evaluation of the design variables of a teaching intervention to expose accounting students to pervasive skills. *Industry and Higher Education*, 30(6), 402–412. <https://doi.org/10.1177/0950422216664244>
- Viviers, H. A. (2016). Taking stock of South African accounting students pervasive skills development: Are we making progress? *South African Journal of Higher Education*, 30(2), 242–263. <https://doi.org/10.20853/30-2-645>
- Viviers, H. A., Fouché, J. P., & Reitsma, G. M. (2016). Developing soft skills (also known as pervasive skills) Usefulness of an educational game. *Meditari Accountancy Research*, 24(3), 368–389. <https://doi.org/10.1108/MEDAR-07-2015-0045>
- Weil, S., Oyelere, P., & Rainsbury, E. (2004). The usefulness of case studies in developing core competencies in a professional accounting programme: A New Zealand study.

Accounting Education, 13(2), 139–169.

<https://doi.org/10.1080/09639280410001676602>

Zeng, J., Parks, S., & Shang, J. (2020). To learn scientifically, effectively, and enjoyably: A review of educational games. *Human Behavior and Emerging Technologies*, 2(2), 186–195. <https://doi.org/10.1002/hbe2.188>

APPENDICES

APPENDIX A: DETAILS OF THE GAME

Appendix A1: Team rotation schedule

Appendix A2: Clues

Appendix A3: Committee members

Appendix A4: Station 1 Activity: CPC Idols

Appendix A5: Station 1 Activity Instructions - CPC IDOLS

Appendix A6: Station 2 Activity - Professional Pong

Appendix A7: Station 2 Activity Instructions - Professional Pong

Appendix A8: Station 3 Activity - Scepticism 101

Appendix A9: Station 3 Activity Instructions - Scepticism 101

Appendix A10: Station 4 Activity - Sweet Auditing

Appendix A11: Station 4 Activity Instructions - Sweet Auditing

Appendix A12: Station 5 Activity - Dilemma Drama

Appendix A13: Station 5 Activity Instructions - Dilemma Drama

Appendix A14: Station 6 Activity - Sanctioned

Appendix A15: Station 6 Activity Instructions - Sanctioned

Appendix A16: Station 7 Activity - Spot the Red Flags

Appendix A17: Station 7 Activity Instructions - Spot the Red Flags

Appendix A18: Station 8 Activity - Ethics Puzzle

Appendix A19: Station 8 Activity Instructions - Ethics Puzzle

Appendix A20: The Amazing Ethics Race - Ethics Puzzle

APPENDIX B THE AMAZING ETHICS RACE RULES

APPENDIX C THE AMAZING ETHICS RACE SURVEY

APPENDIX D FOCUS GROUP INTERVIEW DISCUSSION FRAMEWORK

APPENDIX A: DETAILS OF THE GAME

Appendix A1: Team rotation schedule

Pink team	Green team	Blue team	Yellow team
Starting station	Starting station	Starting station	Starting station
Station 1	Station 2	Station 3	Station 4
Station 5	Station 6	Station 7	Station 8
Station 2	Station 1	Station 4	Station 3
Station 6	Station 5	Station 8	Station 7
Station 3	Station 4	Station 1	Station 2
Station 7	Station 8	Station 5	Station 6
Station 4	Station 3	Station 2	Station 1
Station 8	Station 7	Station 6	Station 5
End station	End station	End station	End station

Pink team	Green team	Blue team	Yellow team
Starting station	Starting station	Starting station	Starting station
CPC Idols	Professional Pong	Scepticism 101	Sweet auditing
Dilemma drama	Sanctioned	Spot the red flags	Ethics puzzle
Professional Pong	CPC Idols	Sweet auditing	Scepticism 101
Sanctioned	Dilemma drama	Ethics puzzle	Spot the red flags
Scepticism 101	Sweet auditing	CPC Idols	Professional Pong
Spot the red flags	Ethics puzzle	Dilemma drama	Sanctioned
Sweet auditing	Scepticism 101	Professional Pong	CPC Idols
Ethics puzzle	Spot the red flags	Sanctioned	Dilemma drama
End station	End station	End station	End station

Appendix A2: Clues

<p>Each clue will be printed 4 times (in the team colours), so that the committee members know that when, for example, the blue team comes to their station and completes the activity, they must give them the blue clue as it will be a clue to the station that the team needs to go next in terms of the rotation schedule.</p>	
Start	Teams will be given their first clues
1	<p>Have an appointment on campus but not sure where to go? Report to this main place and they will show</p> <p>Answer: Reception</p>
2	<p>The place we have class every second week, the permanent structure - it's not the prefabs you seek. Take that LR number and add 2, it is this LR doors that you will walk through</p> <p>Answer: Lecture Room 28</p>
3	<p>She's your program manager, and to this she commits, but do you know where she sits?</p> <p>Answer: LR31 (Fathima's office)</p>
4	<p>It is lunch time on campus and time for the permanent staff to eat, but where do they go to get their food heat?</p> <p>Answer: Kitchen across the library</p>
5	<p>Lecturers gather here and it's where they will be, with some coffee and cake or perhaps some tea</p> <p>Answer: Lecturers lounge</p>
6	<p>The new building is up, there's so much to explore! It's time to go to the highest accessible floor. Calculate the sum below for the LR with the next show.</p> <p>$100-80+70+50-20-110=10$</p> <p>Answer: LR10 (New building)</p>
7	<p>With the construction of the new building, the prefabs are a thing of the past, we now have a replacement class. Go to the class floor and have a look next door.</p> <p>Answer: LR8 (New building)</p>
8	<p>Remember the computer room facilities in first and second year that were used by you? The one you are looking for rhymes with shoe.</p> <p>Answer: Computer room 2</p>
End	<p>Back to where it began, is where it will end. Be the first team to arrive and you will claim a prize.</p> <p>Answer: Parking lot</p>

Appendix A3: Committee members

The following committee members (comprised of the researchers' colleagues and students not participating in the race), will be responsible for manning the stations and the activities as follows:

Station	Activity	Committee member	Location
Station 1 activity	CPC Idols	(Full time lecturer)	LR10 (New building)
Station 2 activity	Professional Pong	(Second year student)	LR8
Station 3 activity	Scepticism 101	(Full time lecturer)	LR31
Station 4 activity	Sweet auditing	(Second year student)	LR28
Station 5 activity	Dilemma drama	(Second year student)	Reception
Station 6 activity	Sanctioned	(Academic support coordinator)	CR2
Station 7 activity	Spot the red flags	(Second year student)	Kitchen across the library
Station 8 activity	Ethics Puzzle	(Third year student)	Lecturers lounge

Appendix A4: Station 1 Activity - CPC Idols

Description
<p>This activity involves a combination of “CPC Fundamental principles” with “Idols”. Each team must select a specific fundamental principle in terms of the SAICA Code of Professional Conduct by choosing a card from a bowl. The team must work together to write a 1-minute song about the fundamental principle and perform the song by means of singing and dancing. Teams also receive musical instruments that must be used during the performance. The purpose of the song is to clearly communicate and to bring across the message regarding the meaning of the fundamental principle.</p> <p>The committee member manning the station acts as a judge and evaluates the song and the performance by awarding a mark out of 10. The team must score at least 8 before being allowed to receive the next clue. If not, the song needs to be performed again in order to obtain the desired score.</p>
Equipment needed
<ul style="list-style-type: none">• Cards indicating a specific fundamental principle and song• Bowl for the cards• Music instruments• Pens and paper• Judging score flash cards (Indicating the numbers 1 to 10)
Details
<ul style="list-style-type: none">• Fundamental principles• Integrity• Objectivity• Professional behaviour• Professional competence and due care• Confidentiality

Appendix A5: Station 1 Activity Instructions - CPC IDOLS

THE AMAZING ETHICS RACE

CPC IDOLS

It's your time to shine! Choose a card from the bowl and write a song about the SAICA CPC fundamental principle chosen. The purpose of the song must be to clearly communicate and to bring across the message regarding the meaning of the fundamental principle.

Rules:

- You will have 6 minutes to prepare and then you must perform (You can start performing earlier if you are ready)
- Your performance must be 1 minute long
- All team members must participate
- Your team must perform the song by means of singing and dancing
- Musical instruments provided must be used during the performance

The committee member will score your performance out of 10. If you receive anything less than 8, you will need to reperform the song until you score 8 or more.

You must receive a score of higher than 8/10 from the committee member to receive your next clue.

GOODLUCK AND ENJOY!

Appendix A6: Station 2 Activity - Professional Pong

Description		
<p>Party paper cups pre-numbered from 1 to 20 are positioned at the end of a long table. Team members must take turns to stand at the opposite side of the table and attempt to bounce a ping-pong ball (or table-tennis ball) into a paper cup. The ball must first make contact with the tabletop before landing inside a paper cup. Teams are allowed to decide for themselves the order in which team members will take part, but they must rotate. Therefore, each team member must participate. If a team member bounces and does not get the ping-pong ball in a cup, it is still the next team members turn.</p> <p>A list containing 20 pre-numbered items (i.e., 15 auditing-related questions and 5 booby-trap activities) is held by the committee members manning this station. As soon as a team member successfully lands a ball inside a paper cup, the number of the cup is traced to the list and will either indicate an auditing-related question that the team member should answer or a booby-trap activity that either the team member or the team as whole should perform. Team members must take turns and rotate until they have correctly answered 3 questions. When a specific paper cup related to a specific question has been attempted, the cup must be removed by a committee member and is no longer in play. As soon as 3 questions have been answered correctly, the team is allowed to receive their next clue. If all the questions have been asked and the team still does not have 3 questions answered correctly, they will get a 2-minute penalty and then can get their next clue.</p>		
Equipment needed		
<ul style="list-style-type: none"> • 20 party paper cups (pre-numbered from 1 to 20) • List containing 15 auditing-related questions and 5 booby-trap activities. • Items needed to execute booby trap activities 		
Details		
Auditing related questions:		Answers
1	Time penalty. Team needs to wait for 30 seconds before continuing?	
2	What is the new SAICA competency framework called?	CA2025
3	Who were the auditors of Enron at the time of the Enron scandal?	Arthur Anderson
4	What is the name of the replacement standard for ISQC 1?	ISQM 1
5	What is the name of the CAs(SA) profession's regulatory body?	SAICA
6	Drink a lemon juice shooter before continuing	
7	Is personal ethics important if you want to be a CA(SA)?	Yes
8	Who is the current minister of finance?	Enoch Godongwana
9	Who was the audit firm of the Guptagate scandal companies?	KPMG
10	How many fundamental principles are included in the CPC?	5
11	What is the name of the professional body that oversees auditors in SA?	IRBA
12	Is it okay to sign an attendance register for your best friend who is absent?	No
13	Drink a lemon juice shooter before continuing	
14	Is an audit firm allowed to charge contingent audit fees?	No
15	How long is IRBA's APD programme?	18 months
16	Hop on 1 leg for 30 seconds	
17	How long are SAICA articles	3 years
18	What is the name of the second SAICA board exam	APC
19	Is it okay to share answers to an individual assignment with your friends?	No
20	Time penalty. Team needs to wait for 30 seconds before continuing	

Appendix A7: Station 2 Activity Instructions - Professional Pong

<p>THE AMAZING ETHICS RACE</p> <p>PROFESSIONAL PONG</p>
<p>Team members must take turns to stand at the opposite side of the table and attempt to bounce a ping-pong ball into a plastic cup.</p>
<p>Rules:</p>
<ul style="list-style-type: none">• The ball must first make contact with the tabletop before landing inside a paper cup.• Teams are allowed to decide for themselves the order in which team members will take part, but they must rotate.• Therefore, each team member must participate.• If a team member bounces and does not get the ping-pong ball in a cup, it is still the next team members turn.
<p>A list containing 20 pre-numbered items (i.e., 15 auditing-related questions and 5 booby-trap activities) is held by the committee members manning this station. As soon as a team member successfully lands a ball inside a paper cup, the number of the cup is traced to the list and will either indicate an auditing-related question that the team member should answer or a booby-trap activity that the team member should perform.</p> <p>Team members must take turns and rotate until they have correctly answered 3 questions.</p> <p>When a specific paper cup related to a specific question has been attempted, the cup must be removed by a committee member and is no longer in play.</p> <p>As soon as 3 questions have been answered correctly, you will receive your next clue.</p> <p>If all the questions have been asked and the team still does not have 3 questions answered correctly, you will get a 2-minute penalty and then can receive your next clue.</p>
<p>GOODLUCK AND ENJOY!</p>

Appendix A8: Station 3 Activity - Scepticism 101

Description					
This activity involves teams having to apply professional scepticism to a scenario. Teams are provided a scenario in which there is a sample that has been selected for testing and supporting documentation providing. Teams will need to analyse the supporting documentation and identify five misstatements or suspicious documentation using their professional skills and professional scepticism. Teams must correctly identify all five misstatements or suspicious documentation before they can receive their next clue.					
Equipment needed					
Scenario and supporting documentation (Invoices)					
Details					
Scenario:					
You are the third-year audit trainee at Amazing Auditor's Incorporated and you are auditing the operating expenses of CMW (Pty) Ltd, a motor vehicle manufacturer, for the year ended 30 June 2022. You have selected a sample for testing and have requested the invoices, your sample selected is as follows:					
Sample number	Date	Description	Invoice number	Amount	Answer
1	10/12/2021	Stationery	IN9876	R 7,100	Entity name is wrong
2	26/09/2021	Repairs & maintenance	1008974	R 5,600	Nothing
3	30/06/2022	Advertising	5897	R 16,000	Cut-off error
4	01/03/2022	Insurance	INV2546	R 2,589	Nothing
5	11/08/2021	Electricity	IN967845	R 22,910	Amount is incorrect
6	12/11/2021	Entertainment	78964	R 22,000	Fishy description - wedding gown?
7	15/07/2022	Repairs & maintenance	1008995	R 13,154	Exact same support as 2 (wrong support)
8	01/04/2022	Security	6983	R 12,750	Nothing
You have been provided with the invoices as the supporting documentation, using your professional skills and professional scepticism, identify 5 misstatements or suspicious evidence in the support that has been provided by the client.					
The misstatements/suspicious evidence will be:					
1	Invoice in the name of WCM (Pty) Ltd instead of CMW (Pty) Ltd				
2	Cut-off error. Invoice dated 2 July 2022				
3	Duplicate invoices from the same vendor, same date, same amount, description etc				
4	Amount per GL does not agree to the invoice				
5	Description is suspicious - does not relate to a usual expense that a vehicle manufacturer should have e.g., Wedding dress				

Appendix A9: Station 3 Activity Instructions - Scepticism 101

THE AMAZING ETHICS RACE

SCEPTICISM 101

You are the third-year audit trainee at Amazing Auditor's Incorporated and you are auditing the operating expenses of CMW (Pty) Ltd, a motor vehicle manufacturer, for the year ended 30 June 2022.

You have selected a sample for testing and have requested the invoices as supporting documentation, your sample selected is as follows:

Sample number	Date	Description	Invoice number	Amount
1	10/12/2021	Stationery	IN9876	R 7,100
2	26/09/2021	Repairs & maintenance	1008974	R 5,600
3	30/06/2022	Advertising	5897	R 16,000
4	01/03/2022	Insurance	INV2546	R 2,589
5	11/08/2021	Electricity	IN967845	R 22,910
6	12/11/2021	Entertainment	78964	R 22,000
7	15/07/2022	Repairs & maintenance	1008995	R 13,154
8	01/04/2022	Security	6983	R 12,750

You are provided with the invoices as the supporting documentation, using your professional skills and professional scepticism, identify 5 misstatements or suspicious evidence in the support that has been provided by the client.

GOODLUCK AND ENJOY!

Appendix A10: Station 4 Activity - Sweet Auditing

<p>Description</p> <p>Each team receives 4 containers filled with a different number of sweets. Each container is uniquely labelled (e.g., Smartieauditor, Beancounters, Audittots, Minttoaudit). The team must count the number of sweets in each container and provide the exact number (as pre-determined) to the committee members manning this activity. When the exact number of sweets each container has been successfully provided, the team receives decipher instructions to get to a word. The team must use the numbers they have counted which will be in the instructions, to determine the word. The committee members manning this activity must verify the word. Once the word has been correctly provided, the team is allowed to receive their next clue.</p>
<p>Equipment needed</p> <ul style="list-style-type: none"> • 20 containers filled with pre-determined number of sweets (4 per team) • Trays to count the sweets on • Decipher instruction card • Pens and paper • Calculator (for calculations)
<p>Details</p> <p>Instruction card:</p> <p>Now that you have the numbers right, let's see if you can figure out what can happen if your ethics is compromised. Follow the instructions for each of the containers, once done, don't be surprised.</p>
<p>Smartieauditor</p> <p>Take the number of smarties counted, add the international standard on auditing number that deals with the auditor's responsibility in relation to fraud to it then subtract 296 and add 10.</p> <p>Answer: $56+240-296+10=10$</p>
<p>Beancounters</p> <p>Take the number of jelly beans counted, add the international standard on auditing number that deals with planning to it then subtract 340.</p> <p>Answer: $41+300-340=1$</p>
<p>Audittots</p> <p>Take the number of jelly tots counted, add the international standard on auditing number that deals with the auditor's responsibility in relation to laws and regulations to it then subtract 293 and 10.</p> <p>Answer: $62+250-293-10=9$</p>
<p>Mintoaudit</p> <p>Take the number of mints counted, add the international standard on auditing number that deals with materiality to it then subtract 366</p>

Answer: $58+320-366=12$

Now take your final answers and see to which letter of the alphabet they correlate

Answer:

Container	Final answer	Alphabet
Smartieauditor	10	J
Beancounters	1	A
Audittots	9	I
Mintoaudit	12	L

Appendix A11: Station 4 Activity Instructions - Sweet Auditing

<p>THE AMAZING ETHICS RACE</p> <p>SWEET AUDITING</p> <p>Count the number of sweets in each jar. Now that you have the number of sweets in each jar, let's see if you can figure out what can happen if your ethics is compromised, Follow the instructions for each of the containers, once done, don't be surprised.</p>
<p>Smartieauditor</p> <p>Take the number of smarties counted, add the international standard on auditing number that deals with the auditor's responsibility in relation to fraud to it then subtract 296 and add 10</p> <p>Formula:</p> <p>Number of smarties + ISA number – 296 + 10</p> $+ \qquad \qquad \qquad - \ 296 \quad + \ 10 \quad =$
<p>Beancounter</p> <p>Take the number of jellybeans counted, add the international standard on auditing number that deals with planning to it then subtract 340</p> <p>Formula:</p> <p>Number of jellybeans + ISA number – 340</p> $+ \qquad \qquad \qquad - \ 340 \quad =$
<p>Audittots</p> <p>Take the number of jelly tots counted, add the international standard on auditing number that deals with the auditor's responsibility in relation to laws and regulations to it then subtract 293 and 10</p> <p>Formula:</p> <p>Number of jelly tots + ISA number – 293 – 10</p> $+ \qquad \qquad \qquad - \ 293 \quad - \ 10 \quad =$
<p>Mintoaudit</p> <p>Take the number of mints counted, add the international standard on auditing number that deals with materiality to it then subtract 366</p> <p>Formula:</p> <p>Number of jelly tots + ISA number – 366</p> $+ \qquad \qquad \qquad - \ 366 \quad =$
<p>Now take your final answers and see to which letter of the alphabet they correlate.</p> <p>What could happen if you compromise your ethics? Once you figure this out, you receive your next clue.</p>

Jar	Answer	Corresponding Letter of the alphabet
Smartieauditor		
Beancounter		
Audittots		
Mintoaudit		
GOODLUCK AND ENJOY!		

Appendix A12: Station 5 Activity - Dilemma Drama

<p>Description</p>												
<p>In this activity, teams match various scenarios with the appropriate and inappropriate responses. First teams must identify the 5 words in the crossword puzzle relating to ethics before they can be given the scenarios. Every scenario will have an appropriate and inappropriate answer. Each team will be given a set of scenarios with corresponding appropriate and inappropriate actions. These will be shuffled. Team's must match up scenarios to actions. Teams must match them correctly in order to receive their next clue.</p>												
<p>Equipment needed</p>												
<ul style="list-style-type: none"> • Crossword puzzle • Scenario cards • Appropriate response cards • Inappropriate response cards • Sheet for teams to place the scenario + appropriate response + inappropriate response together 												
<p>Details</p>												
<p>Word search:</p>												
<div style="text-align: center;"> <p>The Amazing Ethics Race Word Search</p> <p>Find all the words hidden in the across, down, and diagonally, with backwards.</p> <pre> Y T S E N O H M R Y R O R O S L A R O M D T T S S B O P U H K N C I R A E E R R M E G H O V U A U H L I N T E G R I T Y L A I N G L D L N T H E A V E C E H W S I C F T V I I I A O T T T E U T T O N P T I U Y O J L F E U B L A D A I C B S E T R S E E E T A E O H F I T S S S E N R I A F E </pre> <table style="width: 100%; text-align: center;"> <tr> <td>ATTITUDES</td> <td>HONESTY</td> <td>OBJECTIVITY</td> <td>TRUTHFUL</td> </tr> <tr> <td>BEHAVIOUR</td> <td>INTEGRITY</td> <td>PRINCIPLES</td> <td>VALUES</td> </tr> <tr> <td>FAIRNESS</td> <td>MORALS</td> <td>RIGHT</td> <td></td> </tr> </table> </div>	ATTITUDES	HONESTY	OBJECTIVITY	TRUTHFUL	BEHAVIOUR	INTEGRITY	PRINCIPLES	VALUES	FAIRNESS	MORALS	RIGHT	
ATTITUDES	HONESTY	OBJECTIVITY	TRUTHFUL									
BEHAVIOUR	INTEGRITY	PRINCIPLES	VALUES									
FAIRNESS	MORALS	RIGHT										

Scenarios (The responses were cut out and jumbled, students needed to organise as per the below):

	Scenario	Appropriate response	Inappropriate response
1	You have scratched another car trying to make your way out of a tight parking spot as you are late for an exam, what do you do?	Leave a note with your contact details and report the accident to the police.	Leave and avoid the hassle of reporting an accident and the risk of missing your exam.
2	Exams are over and you are ready for the holidays. Your friend has told you about a website for downloading movies without having to purchase the rights to download the movies. What do you do?	Do not download the movies from the website and rather look for alternative things to do in the holidays or legitimate sites that you can download or stream from.	Use the website to download the movies, it's not such a big deal because all your friends are doing it and you deserve to enjoy the holidays.
3	You are seen as an influencer on Instagram and have been approached to promote a product that you have no interest in and do not use. The company that approached you is offering R2,000 a post. What do you do?	Do not accept the offer as it would be misleading to promote a product that you do not use nor have any interest in.	It's a quick way to make money. Accept the offer, it is probably a good product, just not one that you would buy.
4	You have completely forgotten about an assignment that is due tomorrow because you planned a holiday mid semester and now don't have enough time to complete it. You can get a friend's assignment to copy. What do you do?	Try to complete as much as possible and submit your own work. Deal with the consequences of not planning properly.	Get your friends assignment and paraphrase it to make it your own. It's just this one time and hopefully you won't get caught.
	You went shopping and bought an item for R250, you paid R300, but the cashier gave you R100 change. What do you do?	Tell the cashier that he/she has given you R50 extra and return the R50.	Nothing, it is not your fault that the cashier gave you an extra R50. It's a score!

Appendix A13: Station 5 Activity Instructions - Dilemma Drama

Not applicable as activity instructions were not provided for this activity. The details of the game were explained to participants by the committee member.

Appendix A14: Station 6 Activity - Sanctioned

Description		
<p>In this activity, teams will be provided with a press release from IRBA regarding the conclusion of sanctions on the Gupta-linked Linkway auditor. They must use the laptop provided at the station to search for the name of the auditor as well as the 6 sanctions against him/her. These questions will be provided in scrambled text and teams must unscramble the words to know what the questions are. Teams will also be required to present the answers in a short presentation. Each team member must speak during the presentation. They must provide the correct name of the auditor + the six sanctions against the auditor in their presentation before they can receive their next clue.</p>		
Equipment needed		
<ul style="list-style-type: none"> • Press release printed out • Laptop with Wi-Fi (remember to clear search history after each team) • pens + paper 		
Details		
IRBA press release:		
<p>IRBA concludes sanctions hearings on Gupta-linked Linkway auditor</p> <p>15 Feb 2019</p> <p><i>Johannesburg, Friday, February 15, 2019</i> – The Independent Regulatory Board for Auditors (IRBA) has reached the conclusion of its disciplinary process into the improper conduct of the auditor responsible for the Linkway Trading (Pty) Ltd audit. Linkway was mentioned in the Gupta-leaks as the conduit which paid for the Gupta wedding at Sun City. This is the first investigation to reach sanction stage out of a myriad of Gupta-linked inquiries and investigations by various bodies.</p> <p>Says Bernard Agulhas, CEO of IRBA: "We are satisfied with the committee's finding of guilt on the charges. The committee now has 30 days to deliberate and finalise the appropriate sanction."</p> <p>The disciplinary committee had previously found the auditor guilty on all six charges after the hearing process ended last year. During the last two days, the disciplinary committee heard arguments in mitigation and aggravation relating to proposed sanctions against the auditor.</p> <p>Ends</p>		
(IRBA,2019)		
Questions to unscramble:		
1	hwta si eth maen fo the diatruo?	
2	thwa rae eht xsi csnaoinst stagian eth outraid?	
Answers:		
1	Jacques Wessels	
2	Charge 1	Gross negligence regarding the audit of Linkway for the year ending 28 February 2014
	Charge 2	Lack of professional scepticism on the audit of Linkway – lack of identifying and responding to money laundering red flags.
	Charge 3	Dishonesty by changing financial statement to assist Linkway to evade tax.
	Charge 4	Dishonesty to the IRBA relating to the restatement of the financial statement mentioned in charge 3
	Charge 5	Failure to perform appropriate procedures on client continuance
	Charge 6	Lack of independence (attendance of wedding) and incorrect audit opinion
GOODLUCK AND ENJOY!		

Appendix A15: Station 6 Activity Instructions - Sanctioned

THE AMAZING ETHICS RACE

SANCTIONED

Read the following press release and then unscramble the questions and answer them

IRBA concludes sanctions hearings on Gupta-linked Linkway auditor

15 Feb 2019

Johannesburg, Friday, February 15, 2019 – The Independent Regulatory Board for Auditors (IRBA) has reached the conclusion of its disciplinary process into the improper conduct of the auditor responsible for the Linkway Trading (Pty) Ltd audit. Linkway was mentioned in the Gupta-leaks as the conduit which paid for the Gupta wedding at Sun City. This is the first investigation to reach sanction stage out of a myriad of Gupta-linked inquiries and investigations by various bodies.

Says Bernard Agulhas, CEO of IRBA: "We are satisfied with the committee's finding of guilt on the charges. The committee now has 30 days to deliberate and finalise the appropriate sanction."

The disciplinary committee had previously found the auditor guilty on all six charges after the hearing process ended last year. During the last two days, the disciplinary committee heard arguments in mitigation and aggravation relating to proposed sanctions against the auditor.

Ends

(IRBA,2019)

Questions to unscramble:

- | | |
|---|---|
| 1 | hwta si eth maen fo the diatruo? |
| 2 | thwa rae eht xsi csnaoinst stagian eth outraid? |

Once you have given the correct answers to the committee member, you will receive your next clue.

Appendix A16: Station 7 Activity - Spot the Red Flags

Description	
<p>In this activity, teams will be provided with cards which have different statements about companies. They teams will be required to spot the red flag statements that indicate poor corporate governance or the increased likelihood of a scandal occurring. Before the cards with the statements are provided to the students, they will need to sort a bowl of different coloured mini paper flags (made with sticky notes and toothpicks). Once they have sorted the flags and have the red flags separated, they must use that to flag the cards that have the red flag statements. Once the team has correctly flagged the statements, they may receive their next clue.</p>	
Equipment needed	
<ul style="list-style-type: none"> • Different coloured flags to be sorted • Cards with the statements 	
Details	
Statements: There are 15 red flag statements (Red flags highlighted):	
1	Related party transactions that include conflicts of interests involving management
2	A dominant, all powerful and aggressive CEO
3	Risk management processes and procedures are in place
4	High travel and entertainment expenditure
5	Transparent decision making processes
6	A highly skilled and qualified board
7	Governance processes and procedures that are adequately documented
8	The directors are politically exposed persons and are in the media
9	The chair of the board and the CEO have clashing personalities
10	Lack of diversity on the board
11	A code of business conduct is in place
12	Performance of the board is evaluated on a regular basis
13	Variances on costs and expenditure
14	Board that is held accountable
15	A weak CFO but a strong CEO
16	The board of directors display integrity and high ethical standards
17	Excessive number of year-end transactions
18	An incentive structure that reflects the highs of the company's performance
19	Low staff retention rates and high employee turnover
20	Contractual agreements that do not make business sense
21	Clearly defined roles and responsibilities of the executives
22	Extremely complicated accounting for transactions
23	Strong internal control environment
24	Ignorance towards findings made by the auditors
25	Long outstanding creditors
26	Fairness to employees and customers
27	Active corporate social responsibility initiatives
28	Management that is committed
29	Compliance with laws and regulations
30	Regular compensation review and management

Appendix A17: Station 7 Activity Instructions - Spot the Red Flags

THE AMAZING ETHICS RACE

SPOT THE RED FLAGS

Sort the mini paper flags into the different colours.

Once you have the red flags, it's time to spot the red flag statements that indicate poor corporate governance or the increased likelihood of a scandal occurring.

Read each statement carefully and place a red flag next to the statements that you deem to be red flags. Ensure that all your red flags are used.

Once you have correctly identified all the red flag statements, you will receive your next clue.

GOODLUCK AND ENJOY!

Appendix A18: Station 8 Activity - Ethics Puzzle

Description								
<p>In this activity, teams will be provided with a puzzle relating to ethics which they must complete as a team. Once they have completed the puzzle, they must also match the words in the puzzle to their correct description (match the columns). When the matching is done correctly, they may receive their next clue</p>								
Equipment needed								
<ul style="list-style-type: none"> • Puzzle • Match the columns printed out with an answer sheet • Pens 								
Details								
<p>A puzzle with the below image was made:</p>								
								
Match the columns:								
1	If you possess this, you will be respected. With this attribute you command respect. This is often an attribute found in leaders						A	Loyalty
2	Putting others first, without feeling entitled afterwards						B	Integrity
3	Owning up to actions, whether positive or negative, at all times. Quick to accept corrections and make adjustments where necessary						C	Fairness
4	This is borne out of the value you place on whatever you choose to spend your time on.						D	Responsibility
5	Treating people equally regardless of their circumstances in life.						E	Selflessness
6	Committed to upholding principles.						F	Honesty
7	This attribute means telling the truth at all times, not limited to the working environment but in all aspects of life.						G	Self-respect
8	Being faithful or committed, demonstrating a strong level of commitment						H	Passion
Answer:								
1	G	3	D	5	C	7	F	
2	E	4	H	6	B	8	A	

Appendix A19: Station 8 Activity Instructions - Ethics Puzzle

THE AMAZING ETHICS RACE			
ETHICS PUZZLE			
Now that you have completed the puzzle, let's see if you know what the words mean. Correctly match the columns and you will receive your next clue.			
1	If you possess this, you will be respected. With this attribute you command respect. This is often an attribute found in leaders	A	Loyalty
2	Putting others first, without feeling entitled afterwards	B	Integrity
3	Owning up to actions, whether positive or negative, at all times. Quick to accept corrections and make adjustments where necessary	C	Fairness
4	This is borne out of the value you place on whatever you choose to spend your time on.	D	Responsibility
5	Treating people equally regardless of their circumstances in life.	E	Selflessness
6	Committed to upholding principles.	F	Honesty
7	This attribute means telling the truth at all times, not limited to the working environment but in all aspects of life.	G	Self-respect
8	Being faithful or committed, demonstrating a strong level of commitment	H	Passion
GOODLUCK AND ENJOY!			

Appendix A20: Station 8 Activity Answer Sheet - Ethics Puzzle

THE AMAZING ETHICS RACE

ETHICS PUZZLE

Match the column answer sheet:

Now that you have completed the puzzle, let's see if you know what the words mean. Correctly match the columns and you will receive your next clue.

1

2

3

4

5

6

7

8

GOODLUCK AND ENJOY!

APPENDIX B: THE AMAZING ETHICS RACE RULES

- 1 Teams must report at 9:00AM on Friday, 4 November 2022, to Lecture Room 28.
- 2 Every team must have one cell phone which will be carried with the team. The cell phone must also be used to dial the emergency number if one of the team members is injured. Save the following number on the cell phone beforehand: 061 256 4844.
- 3 All teams must wear their “ribbons” for the team to be identifiable during the race. Remember that the race is against time, so do not wear warm clothes, seeing that you will be required to run a bit.
- 4 All teams will receive clues. All the clues in the race are color-coded. Thus, it is your team’s responsibility to make sure that you receive the correct clue. The yellow team must receive the yellow clues, the blue team must receive the blue clues etc.
- 5 Clues must be decrypted which will lead you to your next station. Before you leave the station where you received your clue, decrypt it and then check with the committee member so that they can confirm that you have decrypted it correctly.
- 6 The goal (purpose) of The Amazing Ethics Race is to expose you to the development of Professional Values, Attitudes and Acumens as prescribed by SAICA. These skills include but are not limited to: leadership (team members must take lead, be able to follow and motivate each other) communication (verbal, listening, writing) (you as a team must effectively communicate with one another to complete the race and activities successfully), critical thinking and problem solving (to complete the activities successfully you must work out a strategy and apply your auditing knowledge and think critically about how to solve a practical problem fast and effectively), teamwork (to work together as a team and to be a team player), professionalism (team members must treat each other with respect and must be professional with other teams and the sponsors), ethical awareness (you must keep to the rules of the race and the activities and the activities have an ethical awareness focus).
- 7 Each team must move together as a group. Individual team members may not run ahead and complete activities alone. An activity can only start if the whole team is present. The race is about “teamwork”, so work together as a team and not as individuals.
- 8 Keep all clues seeing that all 9 clues must be handed in and verified at the finish line before your team can check in at the finish-line.

ENJOY THE AMAZING ETHICS RACE!!!!!!

APPENDIX C: THE AMAZING ETHICS RACE SURVEY

Start of Block: Default Question Block

The following questionnaire is part of a master's research study in accounting education. The purpose of this questionnaire is to determine how the game that you played contributed, according to your perception, to the development of the awareness of specific Professional Values Attitudes and Attributes (PVAAs). Your input is very important and valuable as it can contribute to the future of accounting education. You are requested to please complete the questionnaire honestly and to the best of your ability. All of the information obtained from this questionnaire will remain confidential, anonymous and the results thereof will be aggregated. Only the aggregated results will be reported. This study is conducted by Fathima Jogiat under the supervision of Taryn Miller. This study has been approved by the UCT Ethics Committee (REF: REC 2022/09/003) and by the IIE Varsity College Ethics Committee (REF: R. 15746). It will take approximately 10 minutes for you to complete the questionnaire. Your participation is much appreciated. Thank you!

Q1 *My gender is:*

- 01 Male
- 02 Female
- 03 Prefer not to answer

Q2 *My race/ethnic group is:*

- 01 Asian
- 02 African
- 03 Coloured
- 04 Indian
- 05 White/Caucasian
- 06 Prefer not to answer

Q3 *To what extent do you think that the development of Professional Values, Attitudes and Acumens (PVAAs) (soft skills such as critical thinking, integrated thinking, problem solving, teamwork, communication, leadership, relationship-building) should form part of SAICA's competency framework*

- 01 Not at all
- 02 Very little
- 03 Quite a bit
- 04 A great deal

Q4 *I consider myself (generally) as an:*

- 01 Introvert
- 02 Extrovert

Q5 *To what extent were you comfortable in your participation with your fellow teammates in The Amazing Ethics Race?*

- 01 Not at all
- 02 Very little
- 03 Quite a bit
- 04 A great deal

Q6 *To what extent did you have to do or use the following during your participation in The Amazing Ethics Race*

		Not at all	Very little	Quite a bit	A great deal
1	I had to apply analytical and critical thinking skills to solve problems	01	02	03	04
2	I had to take a stand to convince my fellow team member(s) of facts and theory application	01	02	03	04
3	I had to listen to fellow team members and/or instructions of the committee members at the various stations	01	02	03	04
4	I directed my team on what to do and how to do it	01	02	03	04
5	I played an important role contributing to the success of my team	01	02	03	04
6	I had to apply my personal ethics	01	02	03	04
7	I had to exercise professional judgement and decision making	01	02	03	04
8	I had to exercise professional scepticism	01	02	03	04
9	I had to adapt to change and unexpected events	01	02	03	04
10	I had to manage around conflict and differences of opinion	01	02	03	04
11	I had to deal with different personalities, backgrounds and cultures	01	02	03	04
12	I learned from the way my team members interpreted different concepts	01	02	03	04
13	I had to adhere to the rules of the activities of the race	01	02	03	04
14	I performed self-management and managing others as it was a race against time	01	02	03	04
15	I thought differently about ethical concepts due to being forced to think creatively	01	02	03	04
16	The manner in which I presented myself adhered to the requirements of the SAICA code of conduct of professional conduct	01	02	03	04

Q7 *To what extent did The Amazing Ethics Race meet the following criteria:*

		Not at all	Very little	Quite a bit	A great deal
1	Had a variety of learning opportunities	01	02	03	04
2	The games at each station progressed in a logical manner	01	02	03	04
3	Learning by having fun	01	02	03	04
4	There was active participation from team members	01	02	03	04
5	The practical nature of the games helped me see the relevance of what I am learning	01	02	03	04
6	It focused on the Professional Values Attitudes and Acumens (PVAAs) I require for my profession	01	02	03	04
7	Practical application of knowledge contributed to my understanding of ethical concepts	01	02	03	04
8	Helped me obtain a holistic perspective ("the bigger picture") of ethics as a concept	01	02	03	04
9	Took into consideration my previous knowledge	01	02	03	04
10	Helped develop relationships with fellow students	01	02	03	04

Q8 *Mention the one biggest advantage (positive) of The Amazing Ethics Race.*

Q9 *Mention the one biggest disadvantage (negative) of The Amazing Ethics Race.*

Q10 *If you feel that your participation in The Amazing Ethics Race had other benefits, please list those benefits:*

Q11 *By participating in The Amazing Ethics Race, my team and I were exposed to the following Professional Values Attitudes and Acumens (PVAAs):*

		Strongly disagree	Disagree	Agree	Strongly agree
1	Personal ethics	01	02	03	04
2	Professional ethics	01	02	03	04
3	Analytical/critical thinking	01	02	03	04
4	Problem solving	01	02	03	04
5	Judgement and decision making	01	02	03	04
6	Professional scepticism	01	02	03	04
7	Communication skills	01	02	03	04
8	Leadership skills	01	02	03	04
9	People skills	01	02	03	04
10	Relationship-building skills	01	02	03	04
11	Teamwork	01	02	03	04

Q12 *Rank the following Professional Values, Attitudes and Acumens (PVAAs) in the order in which they were developed the most through your participation in The Amazing Ethics Race. 1 being most developed, 11 being least developed.*

1	Personal ethics	_____
2	Professional ethics	_____
3	Analytical/critical thinking	_____
4	Problem solving	_____
5	Judgement and decision making	_____
6	Professional scepticism	_____
7	Communication skills	_____
8	Leadership skills	_____
9	People skills	_____
10	Relationship-building skills	_____
11	Teamwork	_____

Q13 *In reflection, The Amazing Ethics Race had personal meaning for me in terms of:*

		Not at all	To a small extent	To a medium extent	To a large extent
1	Participating in the Amazing Ethics Race broadened my view on the importance of certain Professional Values, Attitudes and Acumens (PVAAs), such as ethics, for chartered accountants	01	02	03	04
2	I think The Amazing Ethics Race is an effective teaching method to expose me to the development of Professional Values, Attitudes and Acumens (PVAAs)	01	02	03	04
3	I enjoyed the social aspects of the Amazing Ethics Race	01	02	03	04

Q14 Please complete the following section:

		Strongly disagree	Disagree	Agree	Strongly agree
1	The development of Professional Values, Attitudes and Acumens (PVAAs) (soft skills such as critical thinking, integrated thinking, problem solving, teamwork, communication, leadership, relationship-building) should form part of my CA(SA) curricula at under-graduate level.	01	02	03	04
2	I would recommend the Amazing Ethics Race to other students	01	02	03	04
3	I would recommend teaching methods similar to the Amazing Ethics Race to be hosted in order to develop my Professional Values, Attitudes and Acumens (PVAAs).	01	02	03	04

Q15 Describe The Amazing Ethics Race in one word

End of Block: Default Question Block

APPENDIX D: FOCUS GROUP INTERVIEW DISCUSSION FRAMEWORK

1. Professional values and attitudes:

- i. Did you keep to the rules of the game as stipulated and how did you deal with (possible) ethical dilemmas?
- ii. Did you want to win at all costs?
- iii. Was everybody treated with respect/in a professional manner throughout the process?
- iv. Did the activities raise awareness around the importance of personal and professional ethics?
- v. What did the activities teach you about ethics and professional behaviour?

2. Enabling competencies:

- i. In what way did the game require you to apply critical/analytical thinking?
- ii. Did you feel challenged to solve problems?
- iii. How was your professional scepticism, judgement and decision making applied?

3. Relational acumen:

- i. Did you plan ahead as a team before you started the game or did you “go with the flow”?
- ii. How did you decide who will do what and who made the decisions?
- iii. How did you go about to ensure that everybody did his/her bit for the team, and nobody felt excluded?
- iv. Did the process raise importance of communication?
- v. What communication problems did you experience?
- vi. Do you now have more confidence to communicate with each other/lecturers?