DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

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ACADEMIC INTEGRITY IN A DIGITAL EPOCH

"WHAT HAPPENED WHEN ARISTOTLE INTRODUCED PHRONESIS TO DIGITAL EDUCATION?

WHY AND HOW SHOULD THEY WORK IN SYNC?"

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DECLARATION

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Signed: Anastasia Konstadopoulou Date: 27/02/2024

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Abstract

Emerging technologies exert accelerating, transformative impacts on global dynamics, organizational structures and both individual and societal paradigms. Within a digital universe, with Artificial Intelligence (AI) to be its key driver, and a series of human augmented innovations, robots and cyborgs to augur a new epistemic phase, the humanistic sphere is encountered with phenomenal forms of existence, novel ontologies, new thinking frameworks and abstract concepts. However, this also warns of a requisite, incremental apprehension for wisdom and the ethical ground these technologies are built upon. In higher education, these leading -edge technologies have engendered revolutionising ramifications, redefining its boundaries, its institutional practices, its pedagogical strategies, and the overall learning experience, turning academia into an integral component of a digital ecosystem. However, academic community has been sluggish in formulating a cohesive strategy towards allowing or prohibiting current advanced technologies (i.e., AI Generators) within formalised educational settings. Such contemporary dilemmas call for prudent decision making, to ensure a harmonious symbiosis between academic actors and technology while safeguarding academic integrity and the good of humanity, at large. Within this complex digital realm, this study proposes phronesis (practical wisdom) as a fundamental basis for its globally digital functioning in higher education, imbuing academic users with wise discernment and critical capacity directed at the judicious navigation of those innovative technologies. Drawn on the Aristotelian philosophy, this study culminates in a heuristic educational construct, the *digital phronesis practicum* model, as an imperative for an ethically- based approach, assigning priority to the digital culture of academic integrity and the flourishing of society. With literature lenses on virtue ethics and on phronesis as the highest of intellectual and moral virtues, the *digital phronesis practicum* model, is framed by four key components (*literacy, reasoning, reflection, eudemonic blueprint)* and a complimentary tool, the *practicum,* operating as the roadmap of a comprehensive practical framework, underpinned by *4Rs* phases (*reconnaissance, reciprocation, realisation*, and *refinement*). The harmonised orchestration of theoretical and practical components of this digital model sets a fundamental infrastructure of digital wisdom ensuring a prudent symbiosis between education and technology for enhancing academic integrity and promoting human welfare.

Keywords: Academic integrity, Digital education, Phronesis, Digital phronesis practicum

CHAPTER ONE

THESIS FRAMEWORK AND OVERVIEW

This prefatory Chapter serves as the thesis framework and overview, encompassing the research context and significance, problem definition, research focus and aims, primary and secondary research questions, objectives, methodology, and the structure of this study.

1.1 Introduction

Digital and AI-driven technologies have rapidly transformative impacts on global dynamics, protocols and policies, governance frameworks, organisational structures, individuals and societies. Within a digital universe, with Artificial Intelligence (AI) to be its key driver, and a series of human augmented innovations, cyborgs, interactive robotics (i.e., NAO and Elias) and brain-computer interfaces (BCIs) (i.e., Emotiv Insight) to augur a new epistemic phase, the humanistic sphere is encountered with phenomenal forms of existence, novel ontologies and philosophies, new thinking frameworks and abstract concepts. However, this warns of a requisite, incremental apprehension for wisdom and the ethical ground these technologies are built upon and applied. In higher education, these leading -edge technologies have engendered revolutionising ramifications, redefining its boundaries, its institutional practices, its pedagogies, enhancing learning outcomes and turning academia into an integral component of a digital ecosystem.

Given this technological backdrop, the current thesis has opted to concentrate mainly, on ongoing innovative cutting-edge digital and AI technologies (see Chapter three), due to their pervasive impact on higher education with their sophisticated tools to offer unparalleled efficiency, scalability, and precision in academic processes. Their dynamic and adaptive potentials accentuate their significance and justify their core function in this study, albeit with certain ethical considerations (see Chapter three).

In light of this context, academic society praises 'information and knowledge ownership' as its 'core values' (Zvereva, 2023, p.3). However, Maxwell, (2012) contends that acquiring scientific knowledge dissociated from a more basic concern for wisdom, can be irrational as it may give rise not only to human benefits but to distinctive modern crises (i.e., environmental, biological, moral), too. Wisdom within a digital education ecosystem entails leveraging the potencies of both humans and machines, academia and intelligent tools. While AI has the capability to handle and analyze data rapidly, humans can provide intuition, empathy, and a holistic comprehension of nuanced situations (Peters, et. al., 2024). Thereby the collaboration of human insight with AI capabilities fosters a mutually beneficial relationship, where each compensates for the limitations of the other (ibid; Jandrić, et. al., 2023).

Yet, academic community has been sluggish in formulating a cohesive strategy towards allowing or prohibiting current advanced technologies (i.e., AI platforms like Chat GPT) within formalized educational settings. Evidently, in a current UNESCO (2023b) survey including more than 400 schools and higher education institutions was demonstrated that fewer than ten percent have developed institutional policies

and/or formal guidance related to the use of generative AI applications. Approaching the issue from another perspective Peters, et. al., (2023) in their work, attest that the use of AI does not inherently obscure the learning process; the pivotal consideration lies in the way it is applied while upholding academic integrity.

That being said, with the exponential growth of intelligent tools in higher education, addressing issues concerning academic integrity and its incurring challenges becomes increasingly complex and critical. The crux of the problem lies in the inadequacy of existing ethical frameworks and practical strategies to effectively and promptly address these challenges in digital contexts. Such nuanced issues resonate *phronesis*, a form of practical wisdom and ethical reasoning, to ensure a harmonious symbiosis between academic actors and technology. Principally, Aristotelian phronesis is the highest of intellectual excellences (i.e., *episteme* and *sophia*; see also, Chapter four for further analysis) operating also as a special moral virtue, with the term virtue to be perceived as a positive moral propriety and as a disposition that enables people to think and act in ways that measure up the situations in which they find themselves (McDermott, et. al., 2022, p.3). In a more succinct way, phronesis enables a person to know 'when to do the right thing to the right person at the right time and for the right reason' (Boney, 2014, pp.44-45; Sellman, 2009; see also, Chapter four of this study).

Thereby, *the research focus* of this thesis is the exploration of Aristotelian phronesis as a fundamental basis for its global implementation in higher education in a rapidly evolving, at a breakneck pace, digital age. Advocating for phronesis pedagogical approaches, is crucial as it enables both faculty members and students to responsibly

and effectively navigate and incorporate technological advancements. In particular, this study having academic integrity and the Aristotelian philosophy of phronesis at its epicentre, *aims to* critically examine how digital and AI technologies impact academic integrity in higher education settings through the lens of virtue ethics. It seeks to explore the ethical challenges and opportunities posed by innovative digital and AI tools, investigate strategies for maintaining integrity amidst technological advancements guided by practical wisdom (phronesis), and propose frameworks or guidelines for promoting ethical practices in digital education. Ultimately, this thesis aims to contribute to a deeper understanding of how academic actors and institutions can wisely navigate the digital landscape while upholding academic integrity principles and creating a better world.

The current thesis is guided by the following research questions (RQ):

RQ1. *'How can a phronesis-based approach facilitate the responsible use of digital and AI tools in higher education to uphold academic integrity and contribute to the common good?'*

RQ2. *'How do digital and AI technologies influence teaching and learning practices?*

RQ3. *'How can the potential complexities of applying phronesis as a philosophical approach in digital higher education contexts be effectively addressed?'*

The primary *objectives* of this research are: Firstly, the conduct of a review of theoretical and empirical literature concerning academic integrity, advanced technologies (digital and AI) in education, and the Aristotelian philosophy of phronesis. The second objective of this study is the construction of a digital model that integrates theoretical approaches and practical strategies underpinned by the

Aristotelian practical wisdom (phronesis), that higher education institutions can implement to uphold academic integrity in a digital environment.

1.2 Methodology

The methodology of this study is a literature review, broadly defined as 'a more or less systematic way of collecting and synthesizing previous research' (Snyder, 2019, p.333; Tranfield, Denyer, & Smart, 2003). It can facilitate the provision of an outline of areas in which the research is interdisciplinary (Snyder, 2019) and this applies to the present study, too. Also, a literature review sets an outstanding means to uncover areas that need more research and which in turn, can lead to the creation of theoretical frameworks and the development of conceptual models (ibid). This is the case of this thesis; It has uncovered a literature gap on phronesis and the way it can empower academic actors to foster practical wisdom so as to use digital and AI tools in education in prudent ways, safeguarding academic integrity. To this end, a *digital phronesis* model has been built to facilitate the responsible use of these innovative tools in higher education. Particularly, an integrative literature review is employed to assess and synthesize the literature so that to induce new theoretical frameworks and perspectives to arise (Torraco, 2005; in Snyder, 2019). For example, the interaction of the concepts of phronesis, academic integrity and digital technology to safeguard academic integrity in higher education, set new theoretical frameworks to assess and explore. Additionally, this type of literature review seeks 'not to cover all the articles ever published on the topic but rather to combine perspectives and insights from

different fields' (Snyder, 2019, p.336). Four phases are embedded in the literature review as arranged in the next lines: *Review design, Review conduct, Review analysis and Review writing up*.

The review designing is the first phase of this methodology and includes the exploration of existing literature referred to academic integrity, digital technologies and phronesis in higher education contexts. Specificities on themes, concepts and (publication) time frames have set the boundaries of this review approach. For instance, concepts related to academic integrity values, digital ethics, Aristotelian philosophy of phronesis as practical wisdom, account for the most fundamental themes to have been explored mainly within a time span of the last five to ten years. Research questions are also included in this early phase. Having arranged a primary research question and certain secondary questions allows this study to provide a structured and comprehensive exploration of its topic. Deployed in the next lines, the first research question sets the primary question reflecting the overarching goal of this thesis, while the secondary questions pertain to specific aspects in detail, ensuring a thorough and nuanced analysis: *'How can a phronesis-based approach facilitate the responsible use of digital and AI tools in higher education to uphold academic integrity and contribute to the common good?'*. The secondary research questions are the following ones: *'How do digital and AI technologies influence teaching and learning practices?', 'How can the potential complexities of applying phronesis as a philosophical approach in digital higher education contexts be effectively addressed?'* As for the selection of literature, it has met specific standards. In particular, it has been relevant to this study and it has been conducted in a way to address predefined criteria

and this is a process perceived to set the most important step towards research quality (Snyder, 2019; Tranfield, et. al., 2003; Wong, et. al., 2013). Thereby, inclusion criteria related to evaluative sources regarding the authority (i.e., who is the author and his credentials), the institution (the author is affiliated with) and the area of (the author's) expertise, the relevance to the research questions and publications in prominent journals and electronic sites (i.e., ScienceDirect, Google Scholar, JSTOR) form strong prerequisites of this study, attributing to its reliability and rigour.

The conduct of this review concerns the second phase. To this end, a comprehensive search strategy has been developed employing selected keywords and phrases such as integrity, academic integrity, digital technology in higher education, phronesis, ethical dilemmas in higher education. The use of Boolean operators (i.e., digital tools and moral dilemmas, phronesis and ethical decision making in a digital education) have refined the search process, making it more precise, saving researcher's time, as well. The electronic data processing involved in this phase has been underpinned by recording bibliographic details (authorship, publication date, name of journal), theoretical frameworks (i.e., 'how Aristotelian phronesis can promote academic integrity in a digital education'), methodologies (i.e., qualitative, quantitative, mixed, desk review), and key findings (i.e., juxtaposition between online and offline academic misconducts) with relevance to the research questions of this thesis. As for the screening of the collected studies it is based on inclusion and exclusion criteria, as mentioned in the first phase (see also, Snyder, 2019). Within this screening context the researcher has conducted a pilot review process which for Snyder, (2019) is perceived as appropriate to be adjusted before the main review performance.

Precisely, the researcher has opted to conduct the review in stages by reading titles and abstracts (of relevant literature) and making selections and afterwards reading full-text articles before making the final selections (ibid, p.337). Once this process has been completed, a full text review performance has taken place, thereby ensuring that the literature meets the inclusion criteria (ibid). During this screening process, the inclusion or exclusion of certain articles has called for the researcher's critical and analytical skills which has been a constructive engagement though quite strenuous and laborious.

An appropriate analysis frames the third phase of this study. Scilicet, after selecting the final sample, a data- abstracted process has been applied (ibid) in the form of conceptualisation of certain ideas (i.e., digital phronesis, digital ethics), values (i.e., honesty, responsibility, fairness), and theoretical perspectives (i.e., pedagogical tact, constructivist learning theory). This process stands as a thematic analysis with the collected data organised into themes and parts, for instance 'academic integrity', 'digital education', and 'Aristotle's philosophy on phronesis'. A synthesis of findings from different studies has also identified those areas where the literature is robust (i.e., academic integrity, digital technology in higher education) as well as areas with literature gaps that require further research. Illustratively, there is inadequate theoretical and empirical literature on phronesis and how it can guide education actors to use digital tools in higher education, prudently. Also, a gap has been observed in the formation of policies concerning the responsible use of digital tools in higher education institutions as well as there is the absence of a universalistic chart on the ethics applied to the use of emerging technologies in higher education. On a

critical analysis basis, the literature of this thesis has extensively covered a framework of aspects, firstly, of academic integrity (see Chapter two), including definitions, values, challenges, significance and strategies to form a holistic culture of it. This provides a robust foundation not only for the acknowledgement of core values and challenges underlying academic integrity, but also for the framing of the researcher's digital phronesis model and the way it can embrace these values while addressing those technological challenges of academic integrity. Secondly, this study has explored digital technologies with AI included in them (see Chapter three), through numerous studies focused on digital tools in higher education. Namely, broadening its technological scope this study has considered a broad range of recent, digital tools, including AI technologies and other emerging technologies. By exploring the ethical and practical implications of these tools, the study seeks to offer a comprehensive standpoint of how to navigate their complexities on higher education. These literature lenses have enabled the *digital phronesis* model to be framed both in a theoretical and practical way so as to guide academic actors towards the ethical use of these technologies. Thirdly the theoretical foundations of phronesis (see Chapter four) set a fundamental part of this thesis, as well. Phronesis as a philosophical concept is well-developed in philosophical literature, with an emphasis on Aristotle's work. Recent research has explored the application of phronesis in education character approaches, in the use of digital technology and in teaching and learning practices. But there is no literature on phronesis and the way it can be fostered in digital education to safeguard academic integrity and the common good. The present study via the *digital phronesis* model (see Chapter five) seeks to bridge this gap to literature providing a nuanced framework of theoretical approaches and practical strategies into the prudent ways

emerging, innovative tools should be used by academic actors to ensure academic integrity. To this end a practical wisdom-based model has been constructed to include certain insightful guidelines for students, faculty members and academic staff on cultivating an environment of responsible technology use ensuring academic integrity. Likewise, the interdisciplinary breadth of the existing literature integrating education, technology, philosophy, ethics, enhances the model's robustness and applicability, making it more comprehensive and rigorous. In other words, by drawing on multiple disciplines, this model is empowered to address complexities in an effective way, providing holistic approaches, theoretically sound and practically viable. Meanwhile, the integration of empirical evidence, focused on effective pedagogies and strategies, amidst a broad range of technologies in higher education can enhance the relevance and applicability of the phronesis-based model.

Writing up the review signifies the fourth phase of this study. The present literature review with its structure and the integration of certain theoretical concepts has culminated in a *digital phronesis* model (see also, Snyder, et. al., 2016; Witell, et.al., 2016). In an explicit way, its structure concisely includes an introduction encompassing the problem, the aims and the significance of the study, the way the framework of concepts (academic integrity, digital technology, and phronesis) are deployed throughout the thesis as well as the research questions (primary and secondary) and the overview of the methodology applied. The review of literature is also included in the structure section, arranged in three theme-parts: The first concerns the theoretical framework of academic integrity, the second the digital technologies and the third part is focused, mainly, on the concepts of phronesis. A final part is included

to accommodate elaboratively the *digital phronesis* model. What follows after the summary of this model, is the deployment of the strengths and limitations of the existing research and the ways the present work can address literature gaps. This structure concludes with the outline of the main literature points, including the model, its implications as well as its next steps on an empirical basis. Besides the appropriate structure of this study, its writing style, the integration of certain concepts and its revision stage have been meticulously employed. To this direction, the researcher has ensured logically structured arguments supported by literature evidence. She has also been mindful of proper citation and adherence to the required reference style (APA). Concerning the integration of theoretical concepts, they have included academic integrity, digital and AI technology as well as phronesis. Also, the feedback on this study received by the supervisor and the examiner has led this study to be revised and refined, which in turn has added up to its clarity, coherence and consistency.

In summary, by arranging the present four phase literature review, this study has developed a comprehensive methodology. This process has contributed to the synthesis of existing knowledge, identification of literature gaps, and has laid a solid foundation for a theoretical exploration of phronesis and academic integrity in the digital era upon which a heuristic model, the *digital phronesis practicum* (for short, *digital phronesis*) has been built.

1.3 Thesis Structure

This thesis, focused on academic integrity, digital and AI technologies in higher education, and the Aristotelian philosophy of phronesis, is structured into five chapters and culminates in the *digital phronesis practicum* model.

The first Chapter serves as the introductory section of this thesis with the inclusion of the context and importance of this research, its problem definition and the research focus and aims, the research questions (primary and secondary ones), the objectives, the methodology and the thesis structure. The second Chapter includes the literature on the conceptual framework of Academic Integrity: An in-depth analysis of academic integrity, an elaborating framework of its five fundamental values (honesty, trust, fairness, responsibility, respect) and a sixth, 'courage', included, as indicated by ICAI (2021), the challenges it faces, its significance and the mechanisms ensuring a culture of academic integrity. The third Chapter pertains to the digital epoch in education and is focused on the impact of digital and AI technology on academic integrity. There is also the integration of facilitators and barriers/challenges, stemming from digital and AI technology impacting academic integrity, signifying crucial issues of this Chapter. Digital ethics in education as well as technical and ethical considerations included in this Chapter set the conclusive, though the most insightful part of this part. Chapter four encompasses a theoretical deployment of Aristotelian philosophy focused on phronesis, its conceptual background and an overview of virtue ethics approach with its fundamentals embedded in it. In turn, what follows is a brief analysis of *digital phronesis*, its interpretation within the context of this study and its significance in

academic contexts, as well as its defence amidst certain complexities. This section is subsequently succeeded by the arrangement of five models upon which the *digital phronesis* model is inspired by. The fifth Chapter is underpinned by the elaborating arrangement of the proposed *digital phronesis practicum* model, as it sets the culmination of this thesis. This includes the detailed analysis of four conceptual components of this model (literacy, reasoning, reflection and blueprint) accompanied by a prototype, practical tool, the *practicum* and its 4Rs phases (reconnaissance, reciprocation, realisation and refinement) to address education communities at a multi-stakeholder level. The summary of this model, its strengths and limitations are also included in this chapter with the conclusion to seal the whole thesis.

CHAPTER TWO

ACADEMIC INTEGRITY

Chapter two includes the literature on the conceptual framework of academic integrity: An in-depth analysis of academic integrity, an elaborating structure of its values (honesty, trust, fairness, respect, responsibility, courage) as indicated by ICAI (2021), the challenges it faces, its significance and the mechanisms ensuring a culture of academic integrity.

2.1 Introduction

This part of the present study, with the literature lenses on academic integrity, approaches this issue, mainly, on a conceptual basis without making any reference to emerging technologies at this stage. By way of explanation, academic integrity, as the beacon of education, is an everlasting principle of the sector, defining education well before digital technologies as well as after them. That being so, the role of this part of the present thesis is value-based. Similarly, it operates as a foundational ground for the formation of the *digital phronesis practicum* model to delve into. Accordingly, its first part includes issues related to integrity basic definitions (integrity as an ambiguous concept), followed by a framework of values embedded within academic integrity, conducive to the fundamental values (honesty, trust, fairness, respect, responsibility, courage) of ICAI (International Centre for Academic Integrity). It is noteworthy that in this study values and virtues are perceived as conceptually coincidental. In turn, this Chapter, encompasses academic integrity and the ways it is addressed and upheld at personal, professional and institutional level. Then, the focus is turned on academic integrity misconducts. Since the purpose of this study is not pertinent with the exploration of academic misconducts (see Appendix 1) or their reasoning, the reference to them is rather rudimentary and indicative of the existing situation in the education sector, mainly from a student perspective and less from a faculty member perspective. What follows, regards the significance of integrity in education, while paving the way towards a digitalised epoch. This part concludes with

a reference to the culture of academic integrity and its determinant factors to cultivate and ensure it.

2.2 Integrity: An Ambiguous Concept

Integrity, besides its highly- valued importance, it bears a multifaceted yet a complex conceptual framework, problematic to accommodate a single and compatible theory (Cox, et. al., 2017). A dominant view demonstrated by Montefiore and Vines, (1999, p. 9) points out that this concept originates from the Latin *'integras'* bearing the meaning of intact, whole and harmony. It can, also, be used as 'a synonym for honesty', though 'something more far-reachin[g]' (Macfarlane, et. al., 2014, p.340). Dictionaries of the English language, such as the Oxford English Dictionary and the Cambridge Dictionary, describe integrity as an 'unimpaired, uncorrupted state, soundness'. Corrupt could be considered as the opposite of this 'unblemished state of perfection' to 'corrode' it and make it 'all away from the ideal' (Montefiore, 1999, OECD, 2018, p. 32).

As is acknowledged to be true, while combining together areas, e.g., integrity and ethics, it is really hard to finally agree on where the concept stands, viewing that every scholar perceives the term from different standpoint and under diverse situations. Indicatively, Huberts, (2018, p.19) defines integrity as a quality or ability to act in line with relevant moral values, norms, and rules, and even further, Macfarlane, et.al., (2014, p.340) within a moral philosophy aspect, conceive the meaning of integrity as

being closely related to the virtues that constitute a 'good' person (MacIntyre, 1981). But Becker, (1998) and Trevinyo-Rodrı´guez, (2005, p.83) raise issues of moral relativism, to be perceived as a serious problem. For Carr, (2022) issues of integrity meanings and conceptualisations are subject to criticism, mainly because they lack a common ground, causing a perplexing context. This perplexity may be ascribed to the fact that these definitions originate from subjective, highly debatable, concepts. Indicatively, if one accepts that integrity is resultant from relevant moral values, then another person may reasonably wonder what these relevant moral values are and whom they address. In turn, it may generate other issues, making the conceptualisation of integrity difficult to concretize (ibid). The helpful perspective, therefore, must embed the more informal norms and values pertinent to judging behaviour, norms, and values that clear up what is right and wrong in given circumstances (Huberts, 2014, pp. 45–46), and societies.

2.3 Academic Integrity: The Framework of its Values

For Dewey education is "a crucial ingredient in social and moral development" (Schiro, 2012, p. 174) and academic integrity is the overarching constituent to define and safeguard education and education institutions. Academic integrity is a complex issue to articulate. Tracey Bretag, (2016, p.3) has denoted that *"[a]cademic integrity is such a multifarious topic that authors around the globe report differing historical developments which have led to a variety of interpretations of it as a concept and a broad range of approaches to promulgating it in their own environments"*. In the

present study academic integrity is considered as a value-based concept, to define higher education teaching and learning processes which are accompanied with digital and AI advanced tools (see Chapter three). Specifically, this study embraces the perspective of the International Centre for Academic Integrity (ICAI, 2021, p.4), which defines academic integrity as 'a commitment to six fundamental values: honesty, trust, fairness, respect, responsibility and courage'. Upholding these fundamental values of integrity, should stand as a shared concern among academic communities at a personal, professional and institutional level. However, amidst a plethora of advanced technological potentials overflooding academia and certain neoliberal dictates like those of hyper-performativity, high quality scholarship, teaching 'excellence', high rankings and metrics (for further analysis see later sections of this Chapter), certain academic values may be contradicted, compromised or/and undermined (Macfarlane, 2019). Consequently, every member of an academic environment should be accountable to themselves and each other, for ensuring the integrity of scholarship, teaching, research, and service (ICAI, 2021, p.9). These fundamental values are highlighted and analysed as follows.

Honesty is widely recognized as an important moral virtue (Wilson, 2018). It is about the quality of being truthful, legitimate, staying free from fraud or deception (Merriam-Webster Dictionary). Referred to the Aristotelian theory, honesty makes individuals maintain it not out of obligation, but from a place of sincere conviction (Aristotle, 1985). From a Kantian point of view, to lie is morally wrong; but then, according to Kant's second formulation of the categorical imperative, a Kantian deontologist would evaluate lying as '*an end in itself, never as a means only*'

(Misselbrook, D., 2013). Also, Frankel, (2006, p.4) sheds light on those *'gray areas between clear-cut situations on which most, if not all, people would agree. There are gray areas (…) between absolutely honest and truthful communication and clear deceit. Within these areas, one can move in small steps, one at a time, from honesty to dishonesty'* (Czajkowska-Białkowska, 2022). This may call for the Aristotelian doctrine of the '*golden mean*' (Aristotle, 2002) the middle ground between two extremes (for an analysis see Chapter four). In a way of illustration, considering honesty as the '*golden mean*', the one extreme (excess) could be bluntness or harshness, and the other extreme (deficiency) would be dishonesty. As the case may be, Saders, (2012) elucidates that Aristotle's exposition of truthfulness is not a fallacious account of the virtue of honesty, but rather it is an unclear, but insightful account of the virtue of integrity. An academic professional who has overpromised on what he is capable of, but culminating in burnout and lack of engagement, could be seen as dishonest while in his effort to act with integrity. Honesty can also accommodate cultural and contextual subjectivity which may arise certain problems in higher education. For instance, universities around the world differ in how they define and address plagiarism (see for analysis, section 2.4), who is responsible for enforcing rules and policies, and which learning practices are regarded as academically dishonest (Gallant, 2008; in Thomson, 2017).

In an academic context, honesty is of utmost importance to the very fabric and integrity of higher education institutions calling for all members to be responsible for adopting and maintaining this principle. On behalf of institutions there must be a commitment with students, faculty, staff, and other stakeholders, since honesty at the

institutional/organizational level constitutes the foundation for the overall academic undertaking (ICAI, 2021, p 4). From a student perspective, academic honesty presupposes the completion of their academic tasks avoiding any academic misconduct (see Appendix 1). Into the bargain, within the framework of an academic honesty policy, all university participants are required to know, understand and maintain it. In this way all the members safeguard academic integrity and academic reputation, fostering a culture of academic integrity extended into their communities. That is to say that developing a culture of academic honesty is essential for providing a sustainable solution to restraining academic dishonesty cases (Sanders, 2012), entailing behaviors that violate the code of academic integrity. In the same vein, Gutmann, (2003) highlights that individuals should change from inside, if the promotion of academic integrity is to happen. Consecutively, this works towards building on their overall moral character. Towards this direction, *'individuals must actively engage in pursuing intellectual and moral virtues, rather than tolerating a lack of concern or knowledge on their own part or by their peers or their institutions for what ought to be the virtuous norm'* (Sanders, 2012, p.187). Also, addressing the Aristotelian moral theory (Aristotle, 2002; see also, Chapter four), Sanders underscores that by practicing honesty, academic societies can develop moral habits with greater ease and pleasure. Granting that, honesty allows for and stimulates trust (Sanders, 2012, p.181), which is considered as a contextual and situational value of utmost importance, underpinned mainly, by reliability, competence, accountability and it is approached and analysed in the next lines.

Trust is regarded as a key factor, bearing a plethora of social, political, educational, scientific, philosophical dimensions and manifestations, to say the least. Perceived as a virtue, trust encompasses rational and emotional dispositions (i.e., compassion) as well as contextual and situational actions occurred in specific place and time (D' Olimpio, 2016). The pervasiveness of trust and its applicability in diverse contexts and relations is perceived as an unquestioned issue, presupposing the presence of many different meanings of the term 'trust', *per se* (Wright, 2010, pp. 615-6; Michel, 2011). Conceptually, trust can be considered as 'the assured reliance on the character, ability, strength, or truth of someone or something' (Merriam-Webster Dictionary).

Given the diversity of types of trust and the contexts it is applied, mainly, at personal and institution level, McLeod, (2023) and Niedlich, et. al., (2021) highlight two types of trust: *Institutional* and *Interpersonal* trust. *Institutional* trust concerns an institution's cardinal principles pertaining mainly to its transparency, fairness, effectiveness and efficiency (Niedlich, et. al., 2021). In the same line, institutions can exert impacts concerning the trust individuals have in each other by establishing a shared cultural background and a reliable framework for relationships (ibid). *Interpersonal* trust is established throughout life experiences and is grounded on the stark assumption or belief that the trusted individual will not abuse or manipulate a person's vulnerability; on the contrary, the trusted individual will act in accordance with that person's expectations (ibid; Misztal, 2011). In other words, *interpersonal* trust assumes that both parties must share attitudes toward one another that allow trust. Furthermore, for trust to be well-founded and feasible, both parties are required to be trustworthy. However, McLeod, (2023) arises certain problematizations over the

risks involved in trusting others. In this case, what we risk while trusting an individual or an institution, for example, is the loss of valuable items that we entrust to others, (i.e., plans, expectations, fame, career, dignity), which can be destroyed by the betrayal of our trust. For these reasons, trust should be well-grounded and justified (i.e., with a firm evidence).

Towards this direction and within a virtue ethics framework, the Aristotelian *phronesis* and the doctrine of the *'golden mean',* (Aristotle, 2002; see also, Chapter four) wisely can help persons to form trustworthy, successful collaborations with others. As D' Olimpio, (2016) points out, knowing when to trust others and being trustworthy, constitutes virtuous character traits. In other words, an individual or an institution should do the right thing at the right time for the right reasons, and the action must have its intended *telos* (purpose) if it (the individual or the institution) is to be deemed as worthy of trust. It is noteworthy that within this prudential framework, trust lies mid-point on the scale between naivety and cynicism (ibid). However, Jones Karen, (2012a, p.84) provides a criticism of this virtue account based on the following *syllogism:* Supposing that trustworthy is a virtue, then being untrustworthy could be regarded as a vice, but that can't be right since a person can never be required to demonstrate a vice, yet this person can be required to be untrustworthy (McLeod, 2023). In way of elucidation, an indicative example is applied: A busy school teacher may be counted on by two different persons, his sick parent and his best friend's child, to perform two incompatible tasks; to take care of his old and sick parent whose condition is crucial at the moment and at the same time he has promised to help his best friend's child in a math's test preparation. In practice, this teacher is under time-

pressure which makes him unable to keep his promise given to his friend. Thus, this teacher has been trustworthy to his parent and untrustworthy to his friend, though untrustworthy in a specific, not in a full sense. Under this *syllogism,* Jones Karen's criticism can be perceived justifiable, but in a way. It is not prudent to consider this teacher and the specific situation in isolation. Other factors like past experiences with the trusted person, his reliability, his honesty can set grounded evidence of his trustworthy character. However, the given example can find its way through the Aristotelian virtue ethics theory, as well. This teacher may be considered as having done the right thing (to care for his parent), at the right time (during his parent's crucial health situation) for the right reason (to help his parent) and for the intended *telos* (to save his parent's life). S*yllogisms* of this type provide a ground for further considerations and analyses which, for reasons of parsimony and relevance, they are not extended in the present study. Nonetheless, this example mirrors the complexities and controversies this value is subject to.

Trust as a value is essential in various contextual and situational manifestations but above and beyond, in those settings related to education, its role is fundamental. That is to say that it would stand as disastrous for a society to not trust its education system which assumes a lack of social cohesion. Giving consideration to academic societies, the value of trust sets their very essence being in consonance with integrity and should be safeguarded by all the agents and participants, in any case. For McLeod, (2023), trust within education settings is, primarily, crucial for knowledge *per se*, either it is scientific knowledge (Hardwig, 1991), moral knowledge (Jones, 1999) or all knowledge, at large (Webb, 1993). McLeod, (2023) also points out that the acquisition

of knowledge is contingent on trust in institutions and the testimony of their participants. Pertaining to students, trust among fellow students, students and faculty and students and administration can be catalytic for their studies. Hence, it is critical for students to cultivate trust by preparing, for example, honest and genuine work, abating from any dishonest behavior (i.e., cheating, plagiarism…). Trust can also be essential between students and researchers' successful collaboration, exchanging truthful information and sharing meaning, so as they may achieve innovative breakthroughs. Thus, students contribute to their institution's excellence, credibility and fame, as well. The significance of trust and the disastrous consequences its deficiency could assume, are mirrored in the next scenario in a Biomedical School: supposing that a Biomedical researcher has provided falsified research data related to a fatal health issue which concerns human lives. This could lead to the loss of human lives, it could also plague the scientific society and severely jeopardize the whole Biomedical research enterprise (see also, Mastroianni, 2008; in Kerasidou, 2017). It could also set a serious barrier for the research integrity and the education quality of the institution. Considering faculty members, trust is a key factor as it engenders an institution's accountability. It eminently should define academic practices, contacts with academic staff and relationships with faculty members and students. Acting for example, by providing their students with clear guidelines for assignments and evaluation 'in an equitable, timely, and forthright manner' (ibid), faculty members can be esteemed trust-builders. However, a problematizing situation may arise when a faculty member experiences a conflict between trust and honesty when his student on the grounds of confidentiality, entrusted to him his contract cheating effort but the teacher's honesty urges himself to report the incident. Such incidents are

designated to raise awareness of the complex ethical dilemmas occurred in academic societies. Beyond any positive or adverse circumstances that the value of trust may assume, the institution, in conjunction with students and academic staff, should go the extra mile striving for excellence, building a climate of trust in the academic and social community. An architecture of transparent processes and outcomes, clearly stated expectations followed through distinct and consistent academic standards applied 'unfailingly and fairly', as well as, the advocacy of honest and impartial research (ICAI, 2021), can supplement trust, exceeding all expectations. Higher up, trustful institutions can be valued by social communities (i.e., local communities, social media communities, business communities) to rely on scholarly research, teaching, quality education and a value-based climate with fair approaches to turn to.

Fairness is entrenched in the notion of personal integrity and sets an ingrained quality of ethical judgement and behaviour, contributing to the social stability, *per se*. Adjectives like just, impartial, unbiased, objective, unprejudiced, equitable are all embedded within the value of fairness. Fairness, in general parlance, bears a normative stance as something good, which is at once an intuitive and instinctive notion beyond any definition (Perkins, 2013). The aptitude to navigate fairness craves for wisdom, prudential judgement and a steadfast engagement to accountability, justice (see also, Rawls, 1999, p.3) and impartial treatment of others, disregarding issues of race, gender, age, nationality, disability, religious beliefs and sexual orientations. Rawls, (1999) emphasises that the stability of a society – or any group – banks on the extent to which the members of that society sense that they are treated in a just way; people's social unity is contingent on their institution's fairness. This is

concomitant with *social justice* that holds the fact that humans have the commitment to one another and the more a person has, the more he should contribute to the common good. In this vein, fairness postulates equality of outcome where everything is provided equally assuming that no one should have more than others. However, this excludes the possibility that a certain group of people (i.e., the disabled) needs more provisions than others.

Within this argumentative context, Aristotle's, theory (see Johnston, 2011) advocates that "*equals should be treated equally and unequals unequally*", meaning that nothing can be more unequal than the equal treatment of those who are unequal. This doctrine of equality affirms a shifting focus onto equity of outcome which promotes fairness by making arrangements for everybody so as to have equal access to the same opportunities. In a way, this may resonate *distributive justice* according to which, society's institutions secure benefits to be distributed among society's members in fair and just ways. For example, most people consider it as fair for the government to provide people in need with social benefits without providing benefits to all. This, however, echoes to be in contrast to the principle of equality which treats all in the same way, without considering that not everyone starts from the same position, or that there are individual differences/weaknesses that matter. In contrast to equality, it is "equity" that does not promote fairness by treating categorically everybody the same, but by giving everybody equal access to the same opportunities.

Such complexities and differences embedded within fairness are demonstrated in school systems, as well. For example, if the students X and Z both got the same grades

from their exams, and there are not any differences between them or the exams they take, then they should be given the same grade. And if X would get a better grade than Z, simply on the grounds that X has a higher socio-economic status, then it would not be fair; socio-economic status should not be taken into account when grades are given. This assumes structural inequity resulting in low expectations and limited educational opportunities (King, 2018). Hence, an equity mindset is required where all students—regardless of race or background—are granted the right of educational chances and sources to enable them to succeed in life. As is the case, in education contexts, fairness should set the duty and, at the same time, the expectation of every member of the academic community, including educators, students, administration, and staff, for a fair treatment (ICAI, 2021, p.7). At student level, fairness concerns, *inter alia*, the originality of students' work and their respect to their institution's integrity policies, remaining away from academic misconducts like, for instance, plagiarism, cheating and falsification. At faculty level, faculty members should share fair relationships with students, with each other, and with their institutions, leading by example (as role models), and upholding academic integrity principles according to institution policy (ibid). At institution level, administrators and staff should demonstrate their fairness by providing '*clear, useful, and just policies that help establish and nurture communities of integrity, and that treat students, faculty, staff, alumni, and institutions with respect*' (ibid). Predominantly, key elements of educational fairness should include impartial evaluation processes, equitable engagement, consistent policies, and just responses to integrity breaches. These factors are crucial in shaping young people's societal attitudes, fostering trust, and garnering respect within the academic community. Thus, fairness is essential for every academic participant to effectively

contribute their knowledge, skills, talents, motivations, and ideas for the benefit of humanity. Further to this, within an inclusive, fair culture, young people are taught that personal success is a value-based process and the result of hard work. In that respect, higher education operates as the mechanism by which society manifests its value system, disseminates its culture and distributes its future roles.

Respect, in generic terms, is about 'high or special regard, esteem; the quality or state of being esteemed' (Merriam-Webster Dictionary). As Darwall, (1977) underscores, there is a distinction between two intrinsically different types of respect: *recognition respect* and *appraisal (or evaluative) respect*. *Recognition* respect is a disposition to take something properly into consideration in deliberative actions; a great variety of things, like laws, rules, rights, stances, social institutions and positions, nature, and people can constitute objects of different structures of *recognition* respect (i.e., respect for an institution's rules, respect for the environment). *Recognition* respect acquires a moral nuance if the object is approached from a moral standpoint (i.e., to respect democracy values, to respect my interlocutor's right to express his opinion). Considering the *appraisal* (or *evaluative*) respect, as Darwall maintains, it exclusively refers to people, either as persons or in some role or activity, or for their qualities or achievements; its ground is on a positive assessment (esteem) of a person's merits as well as the moral quality of his character (i.e., Nelson Mandela as the role model for leaders in the future).

Within the prism of moral philosophy, Weber (2017, p.85) sheds light on the Aristotelian approach of respect using the Greek word of *"timaô"* (honor) that may be

closest to the notion of "respect" and its corresponding noun *"timê"* (honor). However, in Aristotle, *"timaô"* and *"timê"* refer–according to Darwall's distinction – either to a type of moral *appraisal* respect, i.e., the esteem for a person's exceptional moral qualities, or to a type of *appraisal* respect such as honor which assumes the attitude and conduct owed to a good statesman and other virtuous officeholders. But, *timaô/timê* do not definitely concern *recognition* respect for persons, i.e., the recognition of the equal, inherent and absolute moral value of humans qua persons, independently of their individual merit (Weber, 2017, p.101). Instead, Kant, in a more concrete way, in his *Groundwork of the Metaphysics of Moral*s (1785), considers respect as the supreme principle of morality, expressing the idea to "*Act so that you treat humanity, whether in your own person or the person of any other, never simply as a means but always at the same time as an end.*" Kant, (1797) also, emphasizes on the ethical duties of respect for others and self-respect. Notably*, self-respect*, as another form of respect, invaluable *suo jure*, assumes dire appreciation of an individual's morally important worth: worth an agent either as a person or in some post or activity (*recognition self-respect*), or worth acquired through the agent's quality of his character and conduct (*evaluative self-respect*). For Rawls *self-respect* is 'perhaps the most important primary good' and he points out that *self-respect* and respect for others are intertwined since 'those who respect themselves are more likely to respect each other and conversely' (Rawls, 1971, p. 179). However, all these philosophical accounts could prompt numerous inquiries, disputes and arguments, as they conflict among various personal beliefs, exposing the complexities of this value. This framework of controversies may include theoretical approaches against Aristotle's controversial attitude for respect and slave treatment; inquiries related to

attitudes and conduct needed to demonstrate respect or disrespect for individuals; also, a tantalizing question if all humans are owed respect, or even, whether non-Kantian ethical attitudes (i.e., utilitarianism) can maintain the approach that persons are unconditionally owed respect. As is the case, answers to these inquiries accommodate a lot of *antignomies* and contradictions and require further elaboration and analysis which fall beyond the scope of this study.

Within academic communities, respect constitutes a foundational educational value. This value, as ICAI, (2021, p.8) demonstrates, presupposes respect for community members and for the diverse and sometimes contradictory voices expressed. In way of explanation, students, in the framework of *recognition* respect, should demonstrate their esteem and obedience to university philosophy and attitudes concerning rules, rights, policies and conducts, and acknowledge the intellectual work of other scholars 'through proper identification and citation of sources' (ibid). Thus, they safeguard the culture of academic integrity. Students should also show their *appraisal* respect and honour towards other students and teachers who stand as role models for them. Pertaining to their *self -respect* and dignity, students do not make allowances for any academic misconducts; instead, they develop, for example, a recognition respect in digital ethics where respect is a core value and conceptual tool (see Chapter three for digital ethics). They also value opportunities to gain new knowledge by taking an active role in their own education by discussing, listening to different aspects, developing critical thinking and reflecting on and acknowledging their achievements. Faculty demonstrate their *recognition* respect by performing their academic tasks according to their institution's rules and attitudes, and taking students'

ideas into consideration, and guiding them to develop their ideas, as well as providing them with full and honest feedback. They also show their *appraisal* respect to their students when they deserve it (i.e., during a successful scientific experiment), staying away from any racial, social, cultural, or other bias. At an institutional level, academic community members could show *recognition* respect, *inter alia*, by acknowledging the equalization of rights and entitlements among all academic participants and so rejecting any discrimination and differential conduct (Dillon, 2022). It is argued that respecting persons assumes respecting the traditions and cultures that imbue and frame their individual identities (ibid; Addis, 1997). Honneth, (2007, 1995) expresses a wider, critical approach of recognition that proposes for a *harmonious* relationship among universal (recognition) respect and esteem, highlighting their significance for the establishment of positive relations towards ourselves (in Dillon, 2022) and others.

However, as academic communities and societies, at large, become increasingly diversified and consider their identities or very existence as threatened by a homogenizing equality, they may arise certain concerns. Indicatively, higher education institutions may be problematized whether they should or could respond to demands to respect the unique identity of individuals or groups by applying differential treatment to them (i.e., scholarship opportunities to some cultural groups of developing countries) and not to others (McBride, 2013; Dillon, 2022). In general terms, it is the responsibility of all the education community to foster an environment of respect at a student, faculty and institutional level.

Responsibility is the quality or state of reliability, trustworthiness; moral, legal, or mental accountability (Merriam-Webster Dictionary). According to Niebuhr's (1963, p.64) consideration, responsibility 'lies in the agent who stays with his action, who accepts the consequences in the form of reactions and looks forward in a present deed to the continued interaction' (in Ruyter, 2002 p. 26). Responsibility could be also seen as a synonym for *duty,* defined as *prospective responsibility* (Internet Encyclopaedia of Philosophy). Many times, this term is applied to outline duties that individuals have. Another dimension of this quality concerns the *retrospective responsibility*, which comprises an eagerness and aptness to admit and handle any failings and shortcomings, and to increase self-awareness through them. A further facet pertains to *collective responsibility* shared among a group or groups of individuals. It includes a broad variety of tasks, skills and competences to ensure efficiency, effectiveness, and high standards. Within an institution, for instance, different agents are involved in its operation; the financial department, the promotion office, the marketing personnel, each one is responsible for the allocation of their duties. Collectively, they are responsible for the effective operation of the institution and they are also accountable for the consequences of their actions. Hence, accountability is closely intertwined with responsibility but it concerns the consequences of a person's actions, possibly his character and a potential, subsequent remedy.

However, to assume ownership of adverse consequences can raise disagreement regarding *prospective responsibilities*, passing over into disputes about *retrospective responsibility*, holding one another accountable. From this perspective, responsibility and the concept of accountability conjugate sharing an interdependence that calls

for “the capacity of an agent to be the cause and ground of its acts” accounting for these actions prospectively or retrospectively (Kuhlmann, 2022, p.69). Niebuhr, (1963) argues that a responsible individual has to acknowledge and take into consideration the response of the others on her action. Illustratively, this is like inviting someone to be like a chess player, whose movements are on anticipation of the possible response of the other; considering the possible reply of the partner in deciding whether and how to act requires a high level of rationality (ibid; Ruyter, 2002, p.28). In other words, the responsible agent allows for the reasons, her available resources, the person(s) for or with whom she could take responsibility and the time at which she prefers to act so. These resonate the primary attributes of Aristotle’s conception of a virtue (ibid, p.26). According to the Aristotelian theory, responsibility constitutes a moral quality, a virtue that people and institutions may demonstrate in one sector of their conduct, or perhaps exemplify throughout their lives (Internet Encyclopaedia of Philosophy). However, another way of putting this issue could be open to much of controversy related, for instance, to whether the responsibility as a moral quality bears a matter of degree. Notably, as Ruyter, (2002, p.31) denotes, excessive responsibility could accommodate improper behaviours with paternalism to set a characteristic example applied for instance on young children or demented persons, but it must be limited by one’s respect for them.

In higher education, responsibility, as ICAI, (2021, p. 9) highlights, assumes that academic participants should stand up against any dishonest behaviour and serve as a positive example, while being accountable for their actions and discouraging any misconduct by others. Responsible students within a *prospective and retrospective*

framework of their responsibilities should be interested in and obey to classroom and institutional policies and rules related to their academic duties, behaviours, conducts and manners. Responsible educators keep their words, develop and enforce classroom conditions on a par with institutional policy. Their responsibility can also entail the "transformation of pedagogical or moral knowledge into practical action (Friesen, 2023, p.5) which resonates Herbartian pedagogical tact embedded by teachers in attuned ways of their being, acting, and speaking that are most appropriate for the student (ibid, p.1). It is also the pedagogical ability to navigate and negotiate tensions and extremes that reflect the teacher's responsible and accountable behavior (see also Schleiermacher in Friesen, 2023, p.5). On an institutional basis, *prospective and retrospective responsibilities* call for administrators to ensure that any educational process, policy, and even any 'funding sources and extracurricular activities align with the institution's mission and long-range vision' (ibid). Within the frames of a collective responsibility, the academic society should create an equitable, diverse, inclusive and just environment, made up of students, faculty, administrators and further academic and para-academic staff, operating on a well-orchestrating and co-ordinating way to meet high standard of academic expectations. In this community, all its higher education participants can feel welcomed, supported and empowered, enjoying opportunities for equal access to sources, services and materials that ensure high learning and teaching outcomes. To articulate a path to this direction, academia should foster, *inter alia*, a framework of responsibility and accountability and a courageous aspect when adversities call for it.

Courage is 'the mental or moral strength to venture, persevere, and withstand danger, fear, or difficulty' (Merriam-Webster Dictionary). As a matter of fact, courage can be considered under multiple dimensions. Walton, (2017, p.1) perceives courage as 'a virtue associated with actions taken to carry out a goal where the agent is persistent in the pursuit of that goal despite facing extreme fear and danger'. As a virtue, courage encompasses those motivating attributes that guide such a persistent pursuit and are grounded on a deep commitment to personal and ethical values (ibid), no matter the difficulties. Courage can be also regarded as the capacity to overcome fear, but it can also be approached in an ethical way, too.

Walton, (2017, p.1) highlights four components being embedded within the virtue of courage: *emotional, ethical, altruistic, and cognitive*. Courage has an *emotional* component because it is about overcoming fear. But there is also an *ethical* aspect carried out in order to try to achieve an ethically worthy. Thirdly, this significant goal holds an *altruistic* perspective. It is about sacrificing one's personal interests to help others. Fourth, there is a *cognitive* component because it is based on goal-directed reasoning (ibid). From a philosophical perspective, Aristotle, (2002) in the *Nicomachean Ethics* (1113b3) perceives courage as a virtue (*arete, excellence*) related to 'the actions and character of a rational human being, an agent that uses its practical reasoning power in accord with trying to achieve worthy goals'.

For academic societies courage could stand, *inter alia*, as 'a quality or capacity of character' (ICAI, 2021, p.10). From a student perspective courage means that they must be courageous and advocate integrity even if it involves risk of adversities (i.e.,

bad grade, reprisal from peer). Considering educators, courage can take the form of the willingness to keep themselves, students, and administrators accountable for ensuring a culture of integrity. This assumes that academic community should act in line with their institution's vision and mission context (ICAI, 2021, p.10), considering these visions and missions among their *noble* goals. As it is pointed out, '*only by exercising courage is it possible to create communities that are responsible, respectful, trustworthy, fair, and honest and strong enough to endure regardless of the circumstances they face*'(ibid).

This ethical framework of the six fundamental values should define academic institutions, their codes, policies, and principles, ensuring the safeguarding of academic integrity. Nonetheless, these values cannot apply to the full, to every situation and person, since many times they conflict. Under a positive view De Graaf, (2021) argues that value conflicts can bring forth changes for the better by inducing alertness and innovation. And, after all, value clashes are inevitable (ibid; Lipsky, 1980). Interesting dilemmas may arise after this clash since they project which values are important in a given context. That being said, an ethical/philosophical approach (i.e., Aristotle's *phronesis*) could effectively address these dilemmas and help academic communities to navigate complex decision makings. Hence, the way that academic integrity is perceived at personal, professional and organisational/institutional level could be a point in case, assuming the effective implementation of this value system among academic communities.

2.4 Academic Communities, Academic Integrity and Contextual Dynamics

Decoding the underlying relationship between values and academic identity can be perceived by many academics as a meaningless activity, although values define every aspect of academic and university life (Winter, et. al., 2012, p.565). In a moral perspective, values frame the rights and wrongs of behaviours by acknowledging moral meanings to certain actions (i.e., 'integrity education can eliminate dishonest cases') and by legitimating specific codes of academic conduct (i.e., 'academics must make external income in case of government funding constraints') (ibid). *En masse*, acknowledging the significance of values within higher education is of utmost importance as they frame the behaviours and identities of academics and higher institutions*, per se*.

Pertaining to students, Bearman, et. al., (2020) underscore that academic integrity focuses on preparing students with the capacities and morals, fundamental to address ethical scholarship (Ayoub/Al-Salim, et. al., 2021). There are several good reasons to focus on student integrity, mainly at the upper secondary and early (undergraduate) tertiary education level. A significant point to consider is that those behaviours a student 'learns at an earlier stage of the educational trajectory may be transferred to later stages or even to the student's professional life' (Johansen, et. al., 2022, p.2; Baldwin Jr, et. al., 1996; Harding, et. al., 2004; Ip, et. al., 2016; Guerrero-Dib, et. al., 2020). Brown, et. al.'s (2019) studies add to this, denoting that there is a connection of academic dishonesty among students and their future dishonest behaviour in the

workplace (Ayoub/Al-Salim, et. al., 2021). Bergman, (2002) concentrates mainly on the moral identity that revolves around the moral attitudes of one's self (Bergman, 2002; in Scott J. Reynolds, 2007, p.1611). In a way of elucidation, 'a moral identity acts as a self-regulatory mechanism that sets parameters for individual behaviour and motivates specific action that is moral' (ibid; e.g., Blasi, 1984; Damon & Hart, 1992).

However, moral identity as well as moral issues embed profound subjectivity, signifying differences concerning value-based contexts and situations. It may assume that students with stronger moral identities are more committed to integrity rather than to what others may say about them. Studies have also demonstrated that moral identity is acknowledged as a protective factor against student integrity violations (O'Rourke, et. al., 2010; Olafson, et. al., 2013; Stephens, 2004; Wowra, 2007). That is to say, although the development of policies and best teaching practices can contribute to academic integrity, it is the generation of moral identity that has profoundly, the most potential to assist student choices to act with integrity (Wangaard, 2016, p.432). But Scott, et. al., (2007) highlight that a student's moral identity may assume a lack of personal responsibility for academic cheating, allowing him to cheat without including the unethical act into his theory of self. Also, students may cheat because of their concerns to make a good impression, disregarding integrity. But there are also those students who avoid cheating since they are more concerned with upholding their integrity values than pleasing others (ibid). Within this context, how students perceive academic integrity is barely known; mainly, whether and how they understand core concepts and basic requirements as well as if they can determine and address grey-zone situations. In the absence of this conceptualisation

and contextualisation framework, it may be complicated to design education tools (policies and mechanisms) and materials responsive to students' needs (Johansen, et. al., 2022, p.2).

Against this backdrop, studies on higher education have indicated that there is a 'discrepancy between the way students and their teachers rate the seriousness of various transgressions of the rules' (ibid; Franklyn-Stokes and Newstead 1995; McCabe, et. al., 2012, p. 31). Even further, undergraduate students' understanding of core concepts of academic integrity has been found to be lagging. Illustratively, in a test conducted by Roig, (1997), students encountered great difficulties 'distinguishing between acceptable and unacceptable paraphrases of a given text' (in Johansen, et. al., 2022, p.2). In a way of explanation, Roig, (2003, p.31) stresses on the fact that students from some Asian countries accommodate 'ancient traditions of memorizing and copying texts from original sources' in a state of 'respect for the authority those individuals represent' (see Pecorari, 2013, p. 110) and they act so without attribution, assuming that 'the reader will already be familiar with the provenance of the material' (Bloch, 2012, p. 14). These approaches can be perceived as manifestations regarding the cultural practices of specific ethnic or other cultural groups. It is worth consideration, though, that in an experiment in which undergraduate students were provided with a tutorial on plagiarism, it was shown that 'the tutorial significantly reduced their likelihood of plagiarizing, apparently by improving their understanding of plagiarism rather than by raising their fear of getting caught' (ibid. p.3; Dee and Jacob, 2010; see also, Power, 2009; Gullifer and Tyson, 2010). This experiment may also assume that international students, bearing a culture not in line with that of the

university's (as analysed below), they should be provided with more rigorous and iterative tutorials on plagiarism. On the other hand, it could be also claimed that this training might have, potentially, enable students to use detection tools (i.e., Turnitin) more effectively (see also, Chapter three). As the case may be, these findings demonstrate that certain academic integrity misconducts 'may be resulting from inadequate understanding of the rules and norms of academic integrity more generally, rather than being deliberate transgressions of known rules' (Johansen, et. al., 2022, p.3). However, the following contextual incidents could be seen as deliberate transgressions of academic integrity codes.

By way of clarification, Roig, (2003, p.32) indicates incidents of plagiarism by non-native writers of English as they face difficulties 'managing the production of mechanically sound, appropriate grade-level prose in their acquired second language'. There is also another key issue, concerning students' high expectations for high performance level and top-notched grades with the prospect to secure their scholarship or/and build an outstanding resume and ensure a well-promised career. In this sense, high -stakes assessment, assuming important consequences for the test taker, being especially significant and popular currently, may set incentive for misconduct, too, since their outcomes may fulfil certain expectations for university admission, for the acquisition of diplomas and certificates, and even, for an academic career, to say the least. These factors may push these students towards dishonest behaviours. Among those high-expectation learners, are also, those high-achieving students who mind their status maintaining. They desire 'to get the best grades, get into the best colleges and universities, and live up to parental, teacher, and peer

expectations' (Miller, et. al., 2017, p.124). For this reason, the prospect of getting low grades may set such a serious threat to those students being considered as 'smart or gifted' that cheating may be regarded as 'relatively less threatening to their self-concept, especially if it is the norm within their academic culture' (ibid, p.123).

Nonetheless, Biagioli, (2019, p.401) brings another issue into consider. It concerns increasing pressures academic participants undergo, for improved performance and a mindset that performance can and should be measured by means of easily applied metrics (Edwards and Roy, 2017). On top of that, Bedeian, et. al., (2010) pose an issue, wondering if this performance metrics creates incentives so as 'to push the boundaries of what is acceptable behavior in order to secure grants, publish in leading journals and secure more citations' (in Biagioli, 2019, p.401). Merton, (1973, p.323) had well in advance, warned of the so- called aacademic *misconduct, misrepresentation* and *gaming* (MMG), which was intending to appear around metrics indicators. That being said, technological advances, metrics of evaluation, and resource environment of science could be seen among those variables to add up to the increase of 'opportunistic if not devious' conducts among researchers (Biagioli, 2019, p.401). Being tallied of such dishonest behaviors 'extends far beyond fabrication and falsification (i.e., clearly false research findings) to include behaviors designed to exaggerate or even mislead readers as to the significance of research findings'(ibid). For instance, manipulating figures, selectively mining data and copying other author's texts are all highly facilitated by software tools (ibid). However, this context is contradictory to those liberal academic values of truth, honesty, trust, critical inquiry, the nobleness of scholarship and the passion for academic freedom which hold a long

history of outlining academic identities, thus, determining public universities, the 'most value-laden institutions in modern society' (Scott, 2004, p.439; Winter, et. al., 2012, p.565; see also Hussey & Smith, 2010).

However, as governments have assigned an economic role to higher education, values, practices and goals of academics resonate business principles. Economic-consumer conceptions of higher education institutions and associated systems of corporate management play a central role, sensitizing determinants to frame and ordain academic work and identity (Billot, 2010; Churchman & King, 2009; Furedi, 2011; Hussey & Smith, 2010; Winter, 2009; in Winter, et. al., 2012, p.566). AI technological advancements have facilitated these trends. Within this context, academics are called upon to be aligned to this new academic identity and its value system which assumes that many academics may incur academic identity tensions that in turn, affects their academic motivation, commitment, self-efficacy and job-satisfaction(ibid). Constant restructuring tendencies make identity tensions inevitable as academics, in their effort to harmonize with economic and social conceptions of their institutions, try to perform a diversity of tasks into one single entity; for example, to educate and satisfy students-customers, to engage in scholarly research and publications, to generate or increase external income, to contribute to a civilized society (Winter, et. al., 2012, p.566). Within this market-based rationality framework, a (business) value-based system has been framed by many universities, regarding students as 'customers and courses as products' (ibid; Sharrock, 2000). Also, academic identity tensions accompanied by economic insecurity may raise concerns of academic dishonesty behavior. Notably, some academics may feel forced to add to their income

in the 'gig academy', and they can participate in ghost-writing papers (Sivasubramaniam, et. al., 2016; Eaton, et. al., 2020). Accusations of bribery in exchange for grades (Leo, 2017), and bought lectures and assignments (Eaton, et. al., 2020), are among those transgressions that jeopardize the academic integrity of an institution. As is the case, recurring academic identity tensions could depreciate academic values pertaining to 'discipline inquiry, intellectual truth, scholarship, and knowledge that contributes to the social welfare of all members of society' (Winter, et. al., 2012, p.567; Coady, 2000; McArthur, 2011) Also, these tensions may generate a clash between academics' personal commitment (professional identity) and their responsibility to act within an institution's corporate enterprise value framework (managerial identity). But this incongruence between a teacher's inner life and self and his external role potentially, could obstruct the integrity that defines teaching process (Byrnes, 2009, p.46; Santoro, 2013, p.569).

Within this frame of reference, Macfarlane, (2011, p.73) calls to mind pedagogical *phronesis* (practical wisdom), the most significant moral value of a 'good' teacher 'central to acting in a professionally responsible manner' (McLaughlin, 1999). Kemmis, (2012) also, highlights that the virtue of phronesis operationalises as a capacity to think critically about a specific situation and in turn to think practically about what must be done. In an effort to eliminate dishonest behaviours, higher education institutions apply certain measures suggested in the literature, which, *inter alia*, entail more efficient and adequate policing (e.g., applying plagiarism detection software, see Villano, 2006), including efforts to reduce the incidences of misconducts related to MMG. Another measure could include the development of academic participants'

ethical awareness (e.g., by the establishment of honour codes, see McCabe, et. al., 2012), and ethical character building (Johansen, et. al., 2022, p.3; Stephens and Wangaard, 2013) through a *phronesis* approach to academic misconduct. This framework of measures against any kind of integrity misconduct is of utmost importance since integrity in education matters.

2.5 Significance of Integrity in Education

No matter how many contextual and situational interferences and transformations recur through the course of higher education history, values will always govern every aspect of academic and university life. As Huberts, (2018) puts it, although many different instruments and mechanisms are on play and multiple institutions can be established, a primary concern should address integrity as of intrinsic importance an issue, placed high on the agenda. For the reason that integrity connotes the implementation of well accepted values and norms in accordance with institutional culture and goals, it calls for constant adherence to clear cut ethical codes (Kilicoglu, 2017, p.120). Academic integrity can be traced to those administrators and staff remaining close to their promises, adhered to their statements, internalising espoused values, and demonstrating them, genially, in a realistic sense (ibid; Young, 2011). In like manner, academic integrity within educational institutions addresses a wide range of education stakeholders: administrators, public agencies, assistant staff, faculty, departments, at the very least. This illustrates the important duty and mission of education to safeguard consistency concerning all these agents, by being mindful of

its stipulated ethical codes, principles and values while fulfilling its promises (ibid). Heyneman, (2004, p.638) adds another perspective to the significance of academic integrity, pointing out that in a democracy, the public shows a very keen interest in the 'fairness of its education system'. If the public does not build upon the education system to be fair, then more may be sacrificed than just economic growth. Even further, 'if the school system cannot be trusted, it may detract from a nation's sense of social cohesion, the principal ingredient of all successful modern societies' (ibid; Heyneman, 2000a, 2002).

As for the integrity misconducts, either they are more or less serious, The Council of Europe, (2020, p.7) and Eckstein, (2003) underline that if this context in the education community is not brought up for consideration and its proliferation chances are disregarded, then education members, are taught that: personal effort and merit do not count; and that success comes rather from favouritism, manipulation and bribery. It thus contributes to the development of a 'culture of corruption' and of cynicism. It undermines any incentives that would motivate young people to work hard. In this sense, it contradicts one of the major aims of education, which is 'to transmit civic culture together with values of integrity, equity, fairness, and social justice' (Council of Europe, 2020, p.7; Eckstein, 2003). To make matters worse, when integrity misconduct affects primary and secondary school children and youth, and citizens who are not adults or who are young adults, the consequences are more serious as *'the whole system is rendered meaningless when the school system fails to instruct the young to fulfil society's requirements, exams fail to select the best according to stated criteria,*

and certificates and diplomas fail to record the true quality and accomplishments of students' (ibid).

Hence, integrity matters. Even the slightest integrity dishonesty, left unaddressed, can degrade an institution as 'the ease of misconduct without consequence is too tempting to ignore and too easy to become a habit' (Council of Europe, 2020, p.8). Considering that misconduct is generated by multiple drives at personal, professional, and organisational levels (Bertram Gallant, 2011), creating a culture of integrity is the best option for making its misconduct the exception and integrity the rule.

2.6 Ensuring a Culture of Academic Integrity amidst Doctrines, Dictates and Transgressions

Modern trends, defined by cutting edge (AI) technologies and global market regimes that induce institutional isomorphic tensions, call for higher education to forge its own path. Through a trajectory of (re)structural pressures, policy regulations, performance metrics, funding schemes, corporative values and managerial strategies, universities strive to ensure their short- term benefits (revenues) alongside their long-term deliverables (scholarship, fame, quality, integrity). Besides new dictates, higher education has been assigned the moral duty to make even a step ahead from the rest of social institutions, and safeguard its academic identity and integrity as well as those normative civic values (i.e., honesty, social justice, self- discipline and equality) that underpin democratic societies. Towards this direction, higher education institutions

have left behind any outdated traditional approaches and strategies and are harmonised with the current rules and doctrines they are embedded in. However, this modern (business like) *modus operandi* framework, espoused by academic societies, should not discount, rule out or substitute those academic integrity fundamental values that have laid the foundations and define higher education. Instead, these values can co-exist with the new ones and if they conflict or cause complexities with decision makings, a phronesis approach (see Chapter four) can apply to any situation, indicating how to be navigated by any stakeholder. As is the case, a culture of academic integrity with students, faculty, and administration, having their share of responsibilities, stands as critical.

In a way of clarification, students should uphold to their institution's policies and codes. This responsibility may presuppose for students a culture shift, so as to align their ethics and learning to their institution's academic principles and integrity values. However, as issues of culture and ethics lack universalism, students should be taught on the significance of integrity not only for academic communities but also, for the society, at large. Likewise, students should be provided with the reasons for adopting academic policy and the appropriate clarifications concerning any vagueness in the institution's integrity policy so as to grow a common comprehension. For instance, conversation between students and faculty on issues related to the root causes of academic misconducts, the arrangements of reasons why such behaviours undermine integrity and ways to avoid their recurrence, may be quite effective to reduce dishonesty incidences and establish behavioural and developmental impacts on students (Eaton, et. al., (eds), p.212; Kurz, et. al., 2021; Griffith, 2013). As a matter of

fact, a fundamental issue related to academic integrity and a culture of integrity should be guided by students effectively. This assumes that students should build a thorough understanding of 'the reasons why academic integrity is a moral imperative for all academics' (Eaton, et. al., (eds), p.260; Hunter, et. al., 2022), recognise any challenges they come along with, as well as how they can address and navigate these challenges in a prudent way.

Concerning faculty members, these are the key players and the frontline 'artisans' to edify a culture of academic integrity, as they interact with students and administration on a regular basis. Their role is catalytic to push students to get better results, boosting their self -confidence and believing that students can meet their learning expectation and drive their self -fulfilling prophecy. Beyond their teaching tasks to engage students in the learning process, educators, are also, assumed to uphold built-in values which enable them to positively transform their students' moral integrity and how they address integrity misconducts. Faculty have also the advantage to 'clearly communicate institutional expectations and policy information, including potential penalties' (Eaton, et. al., (eds), p.476; Hamilton, et. al., 2022; Bristor & Burke, 2016; Gottardello & Karabag, 2020). Fair assessments, course materials, student-centred teaching, class constructive discussions and activities, could encourage principles of academic integrity. In this process the support provided to faculty by senior administrators could facilitate and sustain a culture of academic integrity (Bristor & Burke, 2016). Institutions, supporting faculty with initiatives related to their 'professional development' and their 'role modelling behaviour', could generate essential enablers for a culture of academic integrity (ibid; Eaton, et. al., (eds), p.476;

Hamilton, et. al., 2022; Gottardello & Karabag, 2020). Regarding 'professional development' this primarily, relates to educators' knowledge and their role concerning academic policies. Even further, faculty's professional development can enable educators to manage certain discrepancies ensuing between "the rhetoric of policy documents and the actual practice of integrating academic integrity in the classroom" (Eaton, et.al., (eds), p.480; Gottardello & Karabag, 2020, p. 1; Hamilton, et. al., 2022). This resonates Herbart's 'pedagogical tact', another, fundamental quality educators should bear, perceived as "a ready and delicate sense of what is fitting and proper in dealing with others" (1802/2022; in Friesen, 2023, p.1), with academic community, especially students, to be the 'others'.

Nonetheless, while faculty members as academics and role models can inspire students, guiding them towards academic integrity, certain concerns may be raised, related to academics' managerial identity. This, expanding even further, signifies states of academic identity tension arising from pressures to align the institution and its academic workforce around a corporate management ethos (Hussey & Smith, 2010; Teelken, 2012; Winter, 2009). Winter and O'Donohue, (2012, p. 565; De Graaf, 2021) shed light on certain pressure in a number of public universities, exerted on faculty members to combine and bolster a framework of competing and contradictory managerial (economic) and academic (professional) values. Potentially, such a value system may raise a clash between teachers' personal commitment and their responsibility to act within an institution's value framework where students for instance, are seen as customers. Under this situation a teacher may reflect a poor role modelling (Morris & Carroll, 2016) that might distort students' understanding on

integrity, bringing about negative outcomes for the whole educational environment (i.e., increase in integrity violation rates, decrease in quality standards).

In such cases the institution *per se,* should stand as a model, manifesting its commitment to academic integrity. (Whitley & Keith-Spiegel, 2001). The institution should be perceived by faculty, students and other stakeholders it interacts with, as upholding its integrity policy. Administrators' commitment to institution's integrity policy primarily, is to accord their words to action. A framework of policies and procedures, staff professional development, teaching practices, orientation programs, technology use, faculty training, and various informative initiatives (such as website postings, online conferences, and events like the 'International Day against Contract Cheating') illustrates the institution's efforts and strategies against academic misconduct and globalization trends (Eaton, et. al., p.472; Bretag and Harper, 2017, pp. 2-3; Hamilton, et. al., 2022). For Eaton, et. al., (2020) academic integrity policies should, also, encompass clarity and comprehension, disciplinary approaches and commitment to academic integrity. It is also critical for administration to be able to enhance the enthusiasm of the staff, and secure a safe context for them to face the recuring competition forces effectively and efficiently.

Yet, Martin Brian, (2007) points out that a certain degree of competition does improve efficiency, responsiveness and, conceivably, innovation; Market competition forces can also provide institutions with more provisions (i.e., outstanding professors) and luring incentives (i.e., more interesting courses) which improve quality. As is the case, marketisation may have turned higher education into an economic good, but it may

be perceived as not conducive to the broader liberal duty of higher education related to the intellectual and moral development of the individual (ibid). Hence, marketisation may sound as an obstacle against holistic efforts for academic integrity and this can be the reality. Then, what academic societies need is critical analysis of this reality and a coordinated, methodical and goal-oriented strategy to help higher education to proceed from its current reality to a sought-after future, allowing for resources (i.e., finance, networks, allies, skills) and obstacles (i.e., opponents, stereotypes, behaviours) (ibid). Strategies to promote integrity can encompass policies and multi-level stakeholders and they sound as salient ends, though not without obstacles; But to some extent, acknowledging and facing obstacles is learning how to overcome or circumvent them(ibid). This should be perceived as a part of a perpetual process, because principles and values are not static. For Martin, (2007) as we approach our goals and achieve a higher level of integrity, we can envision new standards, and possibly new obstacles, as well; *Ob eam causam,* strategy matters: a key part of academic integrity is its constant quest.

2.7 Final Notes

By now, in this introductory part issues concerning academic integrity as a value-based concept, have been approached and analysed. In particular, this analysis has included the six fundamental values of ICAI, (2021), approached in a critical way and embellished with philosophical nuances, primarily emanating from the Aristotelian

theory of phronesis. Then, lights were turned on academic communities, in an effort for this study, to explore how contextual dynamics (i.e., culture, market, technology) can interact and potentially conflict with academic integrity values, and what consequences it may have for academic agents (students, faculty, institutions) and higher education, *per se*. In turn, the critical analysis on the significance of integrity in education that followed was considered essential. The last section of this part, concerns the culture of academic integrity and the ways to frame and ensure it amidst globalisation tensions and innovative technological trends. The next Chapter of this study delves into digital technology and its impacts on higher education and its integrity.

CHAPTER THREE

DIGITAL EPOCH IN HIGHER EDUCATION

This chapter pertains to the digital epoch in education and is focused on the impacts of digital and AI technology on academic integrity. There is also the integration of facilitators and barriers/challenges stemming from progressively emerging technologies impacting academic integrity which signify crucial issues of this Chapter. Digital ethics in education as well as technical and ethical considerations included in this Chapter frame its conclusive, yet its most thought- provoking section.

3.1 Introduction

The role of this chapter in the present study is fundamental due to its function as an informative ground on rapidly evolving digital and AI technologies for the *digital phronesis practicum* model to draw on (analysed in Chapter five). In a way of explanation, the following sections of this part arrange the spectrum of emerging technologies (i.e., digital, AI, human augmented) and insightful sources related to digital transformations of higher education, the challenges and the ethical dilemmas these advanced technologies may raise and which should be addressed to safeguard academic integrity. These issues constitute the reasons the *digital phronesis practicum* model is constructed for, with the purpose of helping education agents to use digital tools with practical wisdom since these tools can operate either as facilitators or as barriers in the hands of academic participants. That being said, in this part, both these roles (facilitator-barrier) of emerging technology are approached, with main focus on the barriers/challenges for academic communities and integrity. In turn, an overview of the digital ethics in higher education is highlighted, encompassed with a critical approach of technical and ethical considerations concerning digital issues in higher education. This part concludes with the philosophical approach of *phronesis* recommended as an all- important approach to help the higher education users of cutting- edge technological tools, to be navigated with prudent judgment, aiming to uphold academic integrity, foster the flourishing of the academic community, and ultimately benefit humanity.

3.2 Digital Education: An Overview

Digitalisation and advanced intelligent systems are met with an exponential growth, exerting transformative powers across all societal domains on a global scale. Online reports have demonstrated that in 2019 the internet users worldwide reached 4.13 billion, translated into more than half of the global population to have been connected to the cyberspace (Johnson, 2021, Leal Filho, et. al, 2023). On a conceptual basis, digitalisation, according to the Oxford Learner's Dictionary (2021b) is described as '*the process of changing data into a digital form that can be easily read and processed by a computer'*. Artificial Intelligence (AI) is, the ability of a computer or computer-controlled robot to perform tasks commonly associated with intelligent beings (Brittanica Encyclopaedia).

The advances in AI technologies with algorithms and new AI techniques such as machine learning, have accorded to AI outstanding momentum (Leal Filho, et. al, 2023, p.4959). Currently, digital advances have engendered cardinal transformations to organisations no matter their type or size (Gkrimpizi, et.al., 2023; Scholkmann, 2021). Artificial Intelligence, advanced robotics, the Internet of Things (IoT) are some paradigms that signify the revolution of modern technological advances, driving digital progress ahead. Their growing affordability and the computing device availability have speeded up their impacts on public and private sectors of any society (Meenakshi, et.al., 2022; Gkrimpizi, et.al., 2023) and with unprecedented rhythms. The desideratum for organisations is not any more if but how organisations will accommodate and address the required digital and AI technologies (ibid). Indicatively,

such key technologies, defined as *general purpose technologies* (GPTs) tend to affect individuals and reframe grounding systems like those of engineering, health, economy, communications, leading to innovation and fundamental social structures.

Education is among those areas underlined by digital transformations. On economic terms, in 2019 the global e-learning market mounted up almost USD 200 billion (Gkrimpizi, et. al., 2023). Within the same year the Learning Management System (LMS) market accrued about USD 18 billion (ibid). The Covid-19 pandemic precipitated the shift to online and blended learning styles. During that period and then on, the inclusion of digital technology to education has progressively been the new norm and yardstick. Digital learning MOOC platforms like Canvas Network, Coursera, Udemy, edX, have helped learners, from all walks of life and different locations of the world, to attend online courses, on synchronous or asynchronous learning methods. The simple way for learners to sign up for online courses, the instant access to information via high-speed internet connection, the readily accessible digital sources and the *frenetic* increase in the amount of digitized information, constitute the newly traced paths to education which have facilitated lesson delivery process. This context has sparked a monumental growth in the number of students signing up for online learning. Current statistics indicate that global e-learning market is about to amount USD 848.12 billion by the year 2030, which assumes a galloping growth in online educational platforms and digital learning resources (Gkrimpizi, et. al., 2023).

Regarding higher education, current, cutting-edge digital and AI technology has transformed the traditional styles of learning, the way teaching is delivered and the

way academic participants are engaged in education. Universities are forced to modify the way they operate, shifting to new technologies, which call for deep organisational changes so as to live up to the new digital practices and competences. In the new digital arena, an immense range of learning sources and materials are readily available and easily accessible on the net, signifying the democratisation of knowledge; massively delivered educational services contribute to the massification of education changing the traditional settings and modes of it (ibid; Matthews, et.al., 2018); hugely global competitive rhythms have turned universities into business, making academia, researchers, administrators, incur constant pressures to meet satisfactory numbers of publications in well-known journals, high performance metrics, high ranking criteria and quality assurance indices. The new models, universities have to transform into, push them for new strategies to address students-consumers' demands for new skills according to the new era's scopes and dictates. Hence, it could be alleged that fascinating transformations have provided higher education with aspirational, unexploited educational opportunities concerning research, curriculum, student support services, learning delivery modes, as well as optimal administrative processes of improved quality, and key organisational capabilities (Gkrimpizi, et. al., 2023, p.3; Aditya, et. al., 2020; Parker, 2020).

From a divergent perspective, Cuban, (1986) since 1980s had set himself against the belief system that technology in teaching classrooms would assume improved educational outcomes; instead, he highlighted a complicated interaction concerning technology, pedagogy and the wider socio-cultural structure, education could be engaged in (Gkrimpizi, et. al., 2023, p.3). Cuban also, maintained that *'effective*

integration of technology requires careful consideration of many factors, including teaching practices, teacher training, curriculum design and the overall educational environment'(ibid). Consequently, Cuban's criticism against *techno-centrism* prompted policymakers and educators to espouse a balanced attitude towards educational technology, on that would acknowledge the 'importance of pedagogy, human factors, and social context alongside technological tools' (ibid).

Being that as it may, the accomplishment of digital transformation as a nuovo, nonpareil advancement, is dependent on a framework of contingencies related, for instance, to the degree of digital literacy academic stakeholders have acquired, higher education digital infrastructure, policies and resources (i.e., funding), people's (students, academic staff) behaviours and reasoning towards the use of emerging digital and AI tools as well as cultural issues related to the implementation and navigation of these tools. In this regard, knowing these tools, their purpose and how they should be addressed, is of utmost importance for academic integrity and the flourishing of the society.

3.3 Digital Tools in Higher Education

Academic actors have used digital tools to help them in their assessments since 1980s (Palmquist, 2003), when the style and grammar analysis software embodied into word processor technology. Although digital writing has been widely embraced by higher education (Kozma, 1991), new technologies attest a persistent demand for assessing

which tools are available to students and offer proper guidance on the way these should be applied (Perkins, 2023).

Amid this rapidly advancing technological landscape, innovative tools have enhanced teaching and learning processes. Indicatively, Digital Writing Assistants (DWAs), like Grammarly and WordTune, use AI and are considered as quite effective in improving students' work (Perkins, 2023; O'Neill & Russell, 2019). Automated Paraphrasing Tools (APTs) set another category of AI software tools employed by students to assist them with their paraphrasing. APTs are tools using machine translation to transform a text into another one (Rogerson & McCarthy, 2017; in Perkins, 2023). Although those developers behind those tools profess that paraphrasing achieved through these tools may not be considered plagiarism (QuillBot, n.d.-b), and warn students not using them without correct citation (QuillBot, n.d.-a), these assertions are possibly deceitful taking into account the wide range of policies in play by different higher education institutions concerning what constitutes academic dishonesty and plagiarism (Sun, 2013, Perkins, 2023). Roe, et. al., (2022) highlight that assigning the paraphrasing task to a digital tool and customising the output to improve readability and decrease the possibility that any original text will be detected by text-matching software, it is regarded as an act of academic misconduct and a paradigm of paraphrasing plagiarism (Perkins, 2023, p. 3). Reports have demonstrated that students do apply these APTs tools for academically dishonest scope (Dinneen, 2021), even if this happens unintentionally (Prentice, et. al., 2018). Detecting whether students have used these tools can be achievable technologically, (Zhang, et. al., 2014), but this stands as 'an

emerging challenge, especially as we consider the next evolution of digital and AI writing tools available to students pertaining to those of LLMs' (Perkins, 2023, p.3).

AI tools, especially those in the form of Large Language Models (LLMs) can establish outstanding bulks of newly produced texts grounded on short input request. There is a striking difference between LLMs and APT and DWA since the latter are focused, mainly, on the paraphrasing of the existing text, proposing text alterations or indicate sentence completion (ibid). But LLM tools have sparked immense interest especially after the release of ChatGPT (November, 2022) and its further processed models like GPT 3.5 by OpenAI, considering its potentials to create a new text within few seconds, after receiving a short prompt. Also, other AI chatbots like Google's Bard, Baidu's Ernie, Microsoft's Bing alongside with a plethora of others such as Jasper, QuillBot, Perplexity, and those of Myessaywriter.ai, Perfectessay-writer.ai and Essaybot have transformed the field of higher education at an unprecedented pace (Peters, et.al., 2024). Even further, within the framework of LLMs tools the highly recent VALL-E 2 (despite not yet being integrated into a product) is also included to highlight its role in the broader ecosystem of language technologies that enhance human-computer interaction and educational outcomes. VALL-E 2 is specifically a text-to-speech (TTS) model, it operates within the broader framework of LLMs and natural language processing (NLP) technologies. In the context of education, LLMs and TTS models can work together to provide a seamless learning experience, from generating written content to delivering spoken lectures and interactive dialogue (OpenAI, 2024; see also, microsoft.com/en-us/research/project/vall-e-x/vall-e-2/).

To a greater extent, high-velocity technological advancements and transhumanist technologies (enhanced technologies designed to enhance human capabilities), providing human augmented innovative affordances, have enhanced learning experiences and outcomes in higher education. Adaptive learning platforms, intelligent tutoring systems, neurofeedback devices (i.e., Muse Headband), Natural Language Processing (NLP) tools, big data analytics, educational robotics, cloud computing and gamification are among those sophisticated tools, instrumental in enhancing the pedagogical and didactic aspects of teaching and learning process. Particularly at this juncture cutting edge affordances like wearable devices (i.e., smartwatches), brain -computer interfaces (BCIs) (i.e., Emotiv Insight) and interactive robotics (i.e., NAO and Elias) revolutionize the education ecosystem rendering it a part of the digital universe.

On an operational basis, For Hwang, et. al., (2020) all these intelligent tools in education can serve a three-dimension role operating as tutors, as learning tools/partners, and/or as, policy making advisors (Dakakni, et.al., 2023, p.2). Intelligent adoptive tutoring systems are programmed to provide for students' learning needs, improving their performance and their learning achievements (ibid; Sharadagh & Sa'adi, 2022). Explicably, Auto Tutor, a dialogue-based tool provides support in physics, computer literacy and critical thinking (Graessner, et. al., 2004; Hwang, et. al., 2020; Dakakni, et. al., 2023, p.2). As an intelligent learning tool/partner, it helps students analyze data and focus on skills embedding critical thinking and problem solving. Mindtools set illustrative examples to help students form concepts in groups, organize knowledge and knowledge graphs that enable tutors to develop

causal relationships between concepts and variables (Dakakni, et. al., 2023, p.2; Hwang, et. al., 2020). Also, undertaking the role of policy-making advisors, LLMs intelligent tools are headed towards helping students from a policy-maker point of view, for the effective acknowledgement of their problems at a micro and macro level, hence, evaluating the most germane policies to offer support (Hwang, et. al., 2022; Font de la Valle & Araya, 2023; Dakakni, et. al., 2023, p.2). To add to this context, intelligent tools can be customized to students' cognitive abilities, track their learning progress, generate assessments, tests and evaluations grounded on the fields and instructions given (Dakakni, et. al., 2023). Sharadagh & Sa'adi, (2022) highlight that AI tools facilitate students' studying process, in a convenient way, offering them personalized feedback, assistance and guidance, throughout their learning without any intervention of their teachers. They also add that certain tools like teacher bots are able to gather student information, analyze it, and diagnose any problems students may face, displaying them to educators and providing recommendations (ibid; in Dakakni, et. al., 2023, p.2). Furthermore, AI Chatbots, are alleged to operate as very beneficial teaching tools since they can improve student autonomous learning and at the same time to alleviate anxiety- related assignments (ibid). But research conducted by Wogu, et.al., (2018) showed that students preferred traditional context for learning with human teachers, since there was integrated learning and engagement, as opposed to those AI affordances and tools. Nevertheless, the development of those state-of-the-art technologies are closely scrutinised by researchers (Zhang, et. al., 2022; Perkins, 2023) for their ethical implications.

As the case may be, universities currently, have to face the complexities of the 'second generation' (Malesky, et. al., 2016; Perkins, 2023, p.8) academic misconduct which calls for more complex detection systems than the former ones (i.e., Turnitin). Bidermann and Raff (2022), have shown that advanced AI models can deceive machine detection programmes like MOSS. In the same vein, studies have demonstrated the limitations of these tools as well as the ethical challenges they assume. For illustrative purposes, Intelligent tools like for instance, the recent AI chatbots, though trained to generate their output, they may provide text with the absence of semantic coherence (Dale, 2021, Perkins, 2023) or lexical diversity (Gehrmann, et. al., 2019; Perkins, 2023) through reiteration of expressions (Perkins, 2023, p.7; Dehouche, 2021). Also, TTS models like that of VALL-E 2 could be used in a manner that is abusive or illegal, infringing on people's rights or the rights of other people. With that being noted, the launching of such advanced tools has raised concerns related to the ways they can impact academic integrity, with numerous works been written on this issue (i.e., Marche, 2022; Hern, 2022).

Overall, it is quite demanding to unscramble the complexities concerning student use of digital and AI rapidly progressing technology tools either they are embedded in LLMs, NLP or even human augmented (transhumanist) framework. Also, it poses a challenge to ethically evaluate whether their utilization should be deemed acceptable; but critical questions are in play, concerning how this cutting- edge technology should be encouraged or discouraged at a policy level by higher education institutions (Perkins, 2023, p.14). Considering the research of Perkins, (2023, p. 14) and Bidermann et.al., (2022), it is argued that prohibiting the use of these intelligent tools is

impractical in terms of addressing academic integrity violations. In other words, forbidding strategies, considering the variables of the lack of enforceability and the benefits provided by emerging technologies, may stand as not feasible or advisable (ibid). Instead, the implementation of these and other AI future tools in the higher education environment is highly likely, provided that higher education institutions acknowledge potential challenges towards this direction, for academic integrity. As Reid, (2014) underscores, if academic communities do not grow a detailed understanding of certain contingencies (barriers/challenges), they will be met with difficulties when they are to select effective strategies and goals to apply digital tools efficaciously. In the same line, Matt's, (2015) studies have demonstrated that the absence of barrier awareness may set a major reason for digital transformation failure (Gkrimpizi, et. al., 2023, p.3), and potentially, an academic integrity failure.

3.4 Digital Technology and Academic Integrity: Barriers/Challenges

Since the digital transformation of higher education is a rather fledgling research area, issues related to barriers/challenges are inadequately studied. Beyond doubt, emerging technologies have overflown academic communities introducing new chances and opportunities, though followed by certain challenges concerning their effective integration in education, due to the lack of understanding and managing issues (Gkrimpizi, et. al., 2023). Around two decades ago, systematic studies demonstrated internal and external challenges/barriers concerning the technology

integration in education (ibid; Park, et. al., 2005). Two generic types of barriers were acknowledged: first-and second-order, ones (Gkrimpizi, et. al., 2023, p.5; Ertmer, 1999). First-order barriers were related to external variables that hinder the effective implementation of technology and concern the lack of infrastructure, inadequate access to devices and internet as well as limited technical knowledge and support. Second-order barriers pertained to internal or behavioural challenges in the form of lack of educators' technological expertise and confidence, resistance to change and inadequate understanding of the potential benefits of technology in education (Gkrimpizi, et. al., 2023).

With literature lenses, this section of the present study, gains insight into those, first-order (external) and second-order (internal) barriers/challenges, concerning academic integrity and the use of digital and AI technologies for higher education student teaching and learning process. Issues concerning technology disparity, digital literacy, cultural parameters, inadequate ethical reasoning related to student learning environments and digital/AI technologies, normalisation and rationalisation determinants of academic misconducts, socio-economic displacements and institution inadequate governance and policies, stand as substantial contingencies to be addressed in this section as they provide, key factors for the *digital phronesis practicum* model to address and refer to.

Primarily, a first-order, external barrier, concerns an inadequate access to internet, as reflected in online reports in 2019, with a bit more than half of the global population to be connected to the cyberspace (Johnson, 2021; Leal Filho, et. al., 2023),

henceforth, the rest of the population to lack the technological opportunities. Noteworthily, Van Dijk, (2006) sheds lights on technology disparity and inequality issues brought about by AI tools, elucidating that 'digital divide is defined as the disparity between students who do and don't have access to new forms of information technology' (also Lutz, 2019; Dakakni, et. al., 2023, p.4). Into the bargain, Font de la Valle, et. al., (2023) as well as Choi, et. al., (2023) point out that advanced technology tools create disparities and inequalities referred to learning outcomes, objectives and opportunities among those students with access to AI enhanced technologies and those who have no access to such tools and resources, thereby causing unfair chances in the overall learning process (Dakakni, et. al., 2023, p.4). To further elaborate on this, an 'AI augmented inequity' could arise as students who have accessibility to new emerging technologies gain more skills and this may cause an 'ever-increasing gap' for their counterparts who have limited or no access to new technologies (ibid; Lutz, 2019). Lutz, (2019) further emphasizes that such technologies favor the students of an economic advantageous background 'exposing users to high-end technologies and the necessary skillsets required to operate them'; this can bring about 'rifts and inequalities' referred to competencies needed in the operationalization of Intelligent technologies, as well as along socio-economic groups (Dakakni, et. al., 2023, p.4).

In the same vein, digital literacy issues are at play, featuring as second-order, internal barrier/challenge. Notably, Gkrimpizi, et. al., (2023, p.8) focus on digital literacy issues concerning the knowledge and skills to use digital technology in proper ways with the human parameter to be perceived as the agent of success and failure of digital technology and transformation (Alhubaishy, et. al., 2021; Gkrimpizi, et.al., 2022;

Gkrimpizi, et.al., 2023, p.8). Emerging, disruptive technologies have changed learning styles, activities, processes and the tools employed to endorse them. However, studies have shown that students as well as academic and administrative staff may have insufficient knowledge to use this available progressive technology (Gkrimpizi, et. al., 2023, p.8; Parker, 2020; Packmohr, 2021). Literature also maintains that there is 'a generation gap between students, who are considered indigenous to digital technologies, and the faculty of the institutions, who need to adapt and learn how to use technologies' (Gkrimpizi, et. al., 2023, p.8; Alenazi, 2021).

That being said, insufficiently taught knowledge on digital technology and less awareness of digital citizenship among learners can challenge academic integrity, too (Miller, 2019). In recent studies it is demonstrated that many students share a deep confusion about what constitutes plagiarism in a digital and AI quickly progressing environment, either because, they have not consulted institutional policies or that younger students-as reported- have not been clearly instructed (Chang, et. al., 2015; Blau, 2017; Yeung, et.al., 2018; Miller, 2019). Also, Blau, et. al., (2021) indicate that the use of technological tools may arise ethical challenges that learners find difficult to cope with. Lathrop and Foss (2000) demonstrated that '*the more advanced the technology is in terms of the facility to copy, edit and disseminate material, the lower the ethical standards of students*' (Blau, et. al., 2021, p.161). On top of this, inadequate practice, concerning digital integrity tools and capacities, involved in research and scholarly writing, can, also, put a stumbling block to students' integrity, mainly to those international, non-Western learners, rendering them more susceptible to

engaging in dishonest behaviours, while under pressure (Thompson, et.al., 2017; Miller, 2019), which may raise subsequent cultural concerns.

Unearthing cultural, second-order barriers/challenges, certain scholars like Peled, (2019) and Miller, (2019) accentuate the influx of culturally diverse students accessing higher education. *Id est*, within the last twenty years, the higher education gross enrolment rate globally has almost doubled, increasing from 19% to 38% between the years 2000 and 2018 (iesalc.unesco.org). Cultural concerns, then, as Miller, (2019) specifies, raise a lot of controversial discussions around what constitutes academic misconduct for Eastern and Western students. Notably, there are certain moral differences between Eastern and Western learners that may arise conflicts when Eastern learners find themselves being assessed according to cultural norms (i.e., some Asian student may not cite properly a source as a matter of honour to the writer, as mentioned in Chapter two) that they had not previously come in contact with (ibid). As Kayouglu, et. al., (2016; Miller, 2019) highlight, if native students are inadequately informed about integrity misconducts within a digitised context and feel confused about what constitutes it, then international students could feel much worse within this context.

Ipso facto, along with cultural concerns, another issue at stake related to the distortion of student perception on academic misconduct, has also arisen, standing as an internal, second-order challenge. This assumes that the continual use of digital and AI tools could induce students' ineptitude to study on their own, as they have gotten used to AI generated homework and essays (ibid; Dakakni, et. al., 2023, p.3). In actual

fact, the amplitude of intelligent devices and information, students have access to, on a 24/7 basis, via Google, Facebook, YouTube, Twitter, as scholars denote, has blurred students' perceptions on academic misconducts. Further than misconducts, increasing in this way, is not only student's vulnerability to commit dishonest behaviours but also to be victimised, i.e., by plagiarism (Yashu Kauffman, et. al., 2015; Moormand & Horton, 2007; Chang, et. al., 2015). On the face of it, Sweeney, (2023) contends that academic dishonesty in exams and assignments in order for a more desirable outcome, has often been the result of students reverting to AI technologies in the higher education context to complete graded assignments and work. Choi, et. al., (2023), highlight those Intelligent tools (i.e., Assistant Poe), that can induce plagiarism and cheating where students conduct them to produce mass-generated content from Big Data companies (Dakakni, et. al., 2023, p.3). To wit, a current Study.com (2023) survey, demonstrated that more than 89% of students polled had used ChatGPT to assist them with a homework assignment, and 53% of them having used it to write an essay (Perkins, et.al., 2024). As Aiken & Epstein, (2000) argue, students do realize that they cheat and that they get away with their theft of information without, probably, being caught, which means that they do not write their essays and term papers in good faith; if attribution is not demanded then a generation of students will be bred thinking that plagiarism is normal (ibid, p.164).

Further to this, for Blau, (2017) determinants like normalisation and rationalisation of academic misconduct worth consideration, too, as students normalise and rationalise certain dishonest behaviours at a digital context. For example, students may make excuses of the type 'I thought this online source was free to use' (Chang, et. al., 2015;

Miller, 2019). That being said, the normalisation and rationalisation of cheating facilitated and precipitated through digital and AI technology, is an equally alarming issue and a further internal, second-order challenge to academic integrity. Diekhoff, et. al., (1996) have found the prediction of academic dishonesty not only being focused on individuals' attitudes, but also on the perceived opportunities resulting from interactions with the environment (Yashu Kauffman, et. al., 2015). According to Selwyn's, (2008) study, students have reported that if they encountered a technology-based process, such as digital reading or research, they had more possibilities to rationalise dishonest behaviours (Miller, 2019). Presumably, the expansion of digital technology has '*evolved'* academic dishonesty into *'digital cheating'* in educational contexts (Yashu Kauffman, et. al., 2015, p.44). King, et. al., (2009) demonstrated that online cheating is 'much easier than in traditional courses in college students' perceptions' (Chiang, et. al., 2022, p.909). Aggrevating the situation, the normalisation attitude towards contract cheating emanates, in tandem with the idea that others can do it in successful way, especially when students undergo time pressures to meet task deadlines, and have no motivation. Against this backdrop, students, potentially, resort to outsourcing service providers (Malesky, et. al., 2016; Alin, 2020) known as *'essay mills'* or '*cheating companies'* (Clarke and Lancaster, 2007, 2006). Even worse, faculty may also face difficulty in proving that a student has practiced this misconduct, hence, 'accusing students without proof can be a legal liability for universities' (Ison, 2020; Alen, 2020, p.3). All the more challenging, another case is highlighted by Alin, (2020, p.5) concerning certain scholars who '*have even argued that because tools like Turnitin are so effective in detecting direct copying and pasting from the internet, they have pushed students who want to cheat to the cheating companies'* (Alin, 2020, p.5; Rigby,

et. al., 2015) which may solidify a normalisation context strongly opposed to faculty ethics, to say the least.

Amounting to faculty issues, Cabitza, et. al., (2021) comment on the socio-economic displacement variable, as an accumulating second-order challenge, perceiving a human-to-machine displacement as impending, particularly related to those 'repetitive, tedious or even dangerous and error-prone tasks' (Dakakni, et. al., 2023, p.5). Specifically, certain literature prophesies that teachers will be superseded by AI assistants, cyborgs and teacher bots, within the frame of a decade (ibid; Cabitza, et. al., 2021; Hwang, et. al., 2020; Popenici & Kerr, 2017; Shu & Xu, 2022). Indicatively, in Australian universities, cyborgs and teacher bots are already in place, in pursuit of cutting down on costs by reducing high priced academic teaching staff (Dakakni, et. al., 2023, p.5). As matters stand, Kezar, et. al., (2019), annotate that insecurity of academic teaching staff employment condition, may also set a motive for a number of them to act in dishonest ways. Within this backdrop, academic teaching staff may add to their income in the 'gig academy' (Kezar, et. al., 2019), and they can participate in ghost-writing papers (Sivasubramaniam, et. al., 2016; Eaton, et. al., 2020). Accusations of bribery in exchange for grades (Leo, 2017), and bought lectures and assignments (Eaton, et. al., 2020), are among those academic, dishonest behaviours that jeopardise the academic integrity of an institution. Be that as it may, studies have shown that inadequacy of awareness concerning academic policies and institutional guidelines to support faculty in dealing with transgressions can render faculty helpless, disillusioned and unsupported (Eaton, et. al., (eds), p.476; Crossman, 2019; Hamilton, et. al., 2022).

Within the framework of further second-order challenges/barriers related to academic policies and governance stemming from technology, Evering, et. al., (2012, p.37) give prominence to those voices echoing that academic integrity policy is simply added to the syllabus 'yet never discuss unless an incident arises'. Gkrimpizi, et. al., (2023) add another parameter, maintaining that universities should have strong governance to ensure that policies and initiatives should be in line with the institution's overall strategic goals. Perkins, et. al., (2023) highlight the fact that in the post-Covid-19 era, digital tools and their role in education constitute a pivotal issue across many policy levels (Gašević, et. al., 2022). Nevertheless, only few institutions have established formal policies related to the use of digital and AI systems (Perkins, et. al., 2023). According to Perkins, et. al.'s (2023, p.10) studies from an exploration of 142 academic integrity policies and the wide range of approaches to academic misconducts, it is obvious that *'one approach or recommendation towards an AI academic integrity policy that would suit all HEIs is not feasible'*. It is also argued that effective initiatives that would educate and guide students on issues of academic integrity are seldom implemented (Evering, et. al., 2012, p.37; Hulsart & McCarthy, 2008; McCabe, 2005b; McCabe & Pavela, 2004).

In like manner, Lewin, (2013) brings into forth challenging technological issues, which call upon higher education institutions to separate their ends from their means while aspiring for optimal results. The following distinctive example illustrates Lewin's claims on this separation: higher education administrative staff work towards the goal of quality assurance and high rankings; student experience is considered as a separate issue within the operation of the university, '*as though the experience of the students*

could be managed without addressing the deeper structural issues that form the culture of an institution' (ibid, p.3). However, although this separation may increase institution's efficiency while providing the user with optimal experience which sounds good in itself, this separation aligns with Clarke and Newman's *'the logic of managerialism'* according to which *"managers are accountable for what they deliver, but not for how they deliver it. It is results, not methods that count"* (Clarke and Newman, 1997, p. 64; in Lewin, 2013, p.5). This is about a technical reasoning, pushing institutions for structural changes, related, *inter alia*, to focused patterns of work as well as to linear curricula with predefined objectives and outcomes. For Lewin, these standpoints of technical reason are the means by which 'a certain vision of education' is portrayed. But the separation of ends from means may cause further challenges as it prompts agents to separate the practical from ethical which is not on a par with the Aristotelian *phronesis* pursuing *'not just the right goal, but the right way to bring about the right goal, to the right extent'* (Lewin, 2013, p.6).

Last in order but not in importance of second-order challenges, Aiken and Epstein, (2000) shine a light on 'intellectual laziness' issues, assuming that Intelligent systems, as educational means, may induce 'intellectual laziness' among students impeding their rational decisions about matters because of students' inability to develop higher order thinking. Evidently, a study carried out by Victorivna, et. al., (2022), demonstrated that students' creativity is stunted and hindered by some AI language learning tools, while the ongoing use of AI tools like AI Generators does not provide students with higher order thinking skills, since the work is done for the students without demanding any effort or creativity on their part (Viktorivna, et. al., 2022;

Aiken & Epstein, 2000; in Dakakni, et. al., 2023, p.3). This may also disrupt their judgement related to the proper and ethical use of those tools (means). In this respect, inadequate ethical reasoning concerning student learning environments and digital technologies could result in ethical breaches. Nonetheless, politico-economic dynamics, potentially, do call for a dismiss of ethical concerns; *au contraire*, what matters for education is to be the unhindered means towards social transformation, serving as a Heideggerian *enframing,* (a way of thinking and perceiving the world that reduces everything, including nature and human beings, to resources or 'standing-reserve' to be exploited and controlled. Heidegger, 1982). Thus, education is compromised to mainly, serve, at least, a duality of roles (political and economic): to provide workforce with human capital and to lead economic growth ahead, instead of creating free thinking and critical individuals. But this context can raise certain technical and ethical concerns related to academic integrity.

3.5 Digital Ethics in Higher Education-Technical and Ethical Considerations

Within a technological thinking framework, technology is perceived as a powerful drive, inducing social and cultural changes. It is assumed to carry values and power dynamics, that may bolster social inequalities and influence human behaviour. This technological perception echoes a technological *determinism* approach that challenges the assumption of technology as a '*neutral force'*, maintaining that technological development can engender far-reaching and transformative outcomes

on society. However, opposite to this, lies the technological *instrumentalism*, perceiving technology as inherently neutral, as it is solely subject to the intentions and actions of its users. Hence, social and moral responsibility is attributed to people rather than to technology, *per se*. While both technological strands provide valuable awareness of the purpose of technology in society, they reduce the complex relationship between technology and human behaviour. Feenberg, (1999), points out that technology is not inherently *neutral or deterministic* but rather encompasses those values, interests, and power relations of the society in which it is developed. Bijker, et. al., (1987) advocate an alternative theory, that of *social constructivism*, in an effort to narrow the differences between these technological approaches by highlighting the *reciprocity* between technology and society, as well as the significance of social and cultural drives in forming technological development and use. But as technology progresses transforming every facet of human life, questions concerning the ethical aspects of technology have grown in prominence.

Within a digital universe, 'digital ethics' is a current issue in discussion among researchers, applying concepts of cyber, computer, network, net ethics and information ethics (ibid, p.4; Habr, 2020). As Baeva, (2019) denotes, the field of information ethics studies moral and ethical issues concerning the development of information technology, regulation of ethical stances of social life and the relationships among "human-human," "human-computer," and "human-artificial intelligence" in social intercourse (Zverera, 2023, p.4; Baeva, 2019, p. 37). Parra, et. al., (2020, p.48) maintain that *"digital ethics is an essential 21st-century skill, along with metacognition, adaptability, creative observation, and the ability to multitask."*

As the human agent is in the epicentre of the new dimensions of a digital ecosystem, society acknowledges the need to apply the existing classical foundations for moral and ethical stances, in the new virtual environment. However, this foundation is proving *archaic* vis-à-vis the powerfulness of digital transformation.

In the sphere of higher education, although there is a growing acknowledgement of the benefits of digital and AI technologies, the escalation of these benefits calls for an ethical framework to circumvent the shortcomings of the digital space. This can assume that as the digital sphere expands, traditional moral values are to be reconstructed. That being said, the rapid advancement of intelligent tools calls for universal regulatory approaches. At the present juncture of the expansion of the digital education space, the point at issue is the establishment of ethical regulatory tools, the reconsideration of traditional ethical behaviours to evaluate the present situation and form new digital education ethics (Zvereva, 2023). For Malkova, (2001, p.113) *"the need to create virtual ethics is obvious - as a field of applied ethics whose tasks should include moral and philosophical reflection and moral evaluation of the processes of virtual communication, theoretical substantiation of ethical norms and principles, regulating behaviour in this sphere, and, finally, the creation of mechanisms to ensure compliance with these norms and principles*".

Digital ethics in education includes an array of issues comprising, *inter alia*, of data privacy, online behaviour, cyber harassment, and, even, the responsible use of emerging technologies. This very latter issue is principally conducive to this study, as

it is focused on the way education participants employ current intelligent tools while upholding academic integrity.

Concomitantly, researchers denote that higher education institutions are in charge of forming critical thinking and ethical behaviour in students for educational interplay (Zverera, 2023). But, by contrast, Cruickshank, (2019, p.6) argues that universities are being subject to technocratic, re-engineering tensions, producing more 'useful' knowledge and graduates to the national corporate economy; and graduates should address knowledge in an instrumental, marketized way to be adaptive to market forces. From an alternative perspective Hortal, (2000) underscores that the educational system must edify students to be conscious of the culture of society in which they live; this culture (of society), is the supremacy of the moral fibre, defining it as the 'bioethical principle of charity', with *charity* understood as the commitment to act on the side of others and respect their rights (in Zverera, 2023, p.4). Nevertheless, certain researchers perceive the establishment of digital ethics directions as incompatible while regarding this approach as unrewarding, 'since every human being is *a priori* bearer of morality' (Sanromán, et. al., 2015; Shaidullina, 2018, in Zverera, 2023, p.4). Yet, Cifuentes-Muñoz, (2019) considers digital ethics in education as "the hope from the field of philosophy" (in Zverera, 2023, p.4).

In a broader sense, Steen, et. al., (2021, p.251) illustrate a cluster of virtues for those stakeholders (i.e., users, citizens, customers) involved in responsible innovations and which are in line with Shannon Vallor's, (2016) 'techno moral' virtues-virtues that people, need to develop with the intention of flourishing in the twenty-first century.

These are the virtues related to: honesty, self-control, humility, justice, courage, empathy, care, flexibility, and wisdom. These virtues are, also, relevant to ICAI's (2021) six fundamental values embedded in academic integrity (honesty, fairness, trust, respect, responsibility, and courage) analysed in Chapter two of this study. Steen, et. al., (2021, p.253) further elaborate on virtues in an illustrative way, highlighting those virtues of: courage and commitment to address the ways of using new tools, especially when these new tools aim to break new ground and shatter established ways of working (Sand, 2018b) or studying; self-control or prudence to regulate and discipline oneself (Crawford-Brown, 1997) on digital contexts; curiosity (Whitcomb, 2010) or inquisitiveness (Watson, 2014; Harris, 2011) to encourage people be open on collaborative innovations and receptive to others' experiences and towards one's own experiences and learning; creativity to jointly spawn ideas and be imaginative (Steen, 2013, 2021, p.253). Deficiency of these values may head to inactivity and resignation whereas an excess may direct someone to recklessness, abuse or obstinance. *Exempli gratia*, deficiency or excess of curiosity concerning the users of digital and AI tools in education (and in other sectors) may direct them, as Steen, (2013) points out, to 'imperviousness or apathy, disconnectedness or passivity, obsession or self-absorption or even self-centredness' (Steen, 2021, p.254). This, in turn, may be conducive to academic misconduct in higher education digital contexts, an issue in place, raising certain technical and ethical considerations.

Rogerson, (2021, p.1) makes an issue of ethical importance, bringing to the fore that it is people who make digital technology and change things, who use and even abuse technology. The underlying tension between use and abuse is 'where ethics hotspots

lie' (ibid). Digital technologies can upgrade and degrade human life. In academic communities, for neophytes and new entrants *'in digitised contexts, their responsibilities and obligations to society are onerous'* (Rogerson, 2021, p.2). However, it is uncertain if they are adequately armed with education, knowledge and ethics to recognise that *'they are the custodians of the most powerful and flexible technology humankind has invented'* (ibid; Rogerson, 2018). Aiken and Epstein, (2000, p. 174) raise awareness against the glorification of the use of computer systems thereby diminishing the human role and the human potential for learning and growth. On the basis thereof, success in a digital world of connected and constructed knowledge, depends on education participants developing both strong ethical bedrock and the competences to apply and share knowledge (Miller, 2019).

Hence, besides digital knowledge, digital ethics is also a prerequisite, developed, as Rogerson, (2021, p.2) advocates, from an early age and thus, *'the foundations are laid for responsible adulthood in the digital age'*. But this challenging process of the development of a moral character, takes time (ibid; Churchland, 1996). The role of home, school and social settings is important in these early steps towards 'moral maturity' (ibid). Towards this ethics direction, learners' interdisciplinary educational experiences must be developed in multiple educational ways to establish *'digital ethics as a pillar of their conduct and their participation in the digital age'* (ibid, p.3). At the present phase of the development of a digital educational environment, the issue of establishing ethical mechanisms, revising traditional approaches, and forming new digital educational culture is particularly relevant (see also, Zvereva, 2023, p.3). Initiatives like 'a global digital technology charter, aligned, for example, to The

Universal Declaration of Human Rights' (ibid) including issues of integrity, could frame an ethics context for learners and institutions.

Dakakni, et. al., (2023, p.5) have given prominence to issues concerning intellectual laziness, as analysed in the previous section (3.4), which, as they argue, are likely to become paramount, resulting in a continuously dissipating reading generation. In turn, this can launch forth of an age group of graduates ill-equipped and unable to integrate technology in a prudent way as well as they may not be capable of handling their working requirements of the real world, let alone a generation of graduates who hardly hold any mastery of the most basic of literacy skills (ibid). As students revert to intelligent tools and writing mills to complete their assignments, this way of acting contradicts dramatically, with both credibility and the standards of higher educational, as it compromises its fundamental values such as 'honesty, trust in institutional fairness *vis a vis* assessment, along with responsibility and courage' (Dakakni, et. al., 2023, p.3; Eke, 2023).

Eaton, (2023, p.2) on her part, provides valuable insights on academic misconduct to be perceived as a complex aspect, primarily, of higher education, which cannot be tackled completely by technology, despite certain intelligent tools like those stated in earlier sections; but 'humans are always part of the solution' she accentuates. She penetrates even further into the problem, pointing out that for years, many scholars have demonstrated against those approaches focused on 'catching student cheaters' (ibid). Instead, they are proponents of prioritizing 'student learning above catching cheaters (Eaton, 2023, p.2; Bertram Gallant, 2008; Howard, 2001; Morris, 2016). It

means that there is no 'golden rule' or as Eaton, (2023, p.2) underscores 'silver bullet' for technology to prevent, investigate, or solve academic misconduct and that educators' *'ethical obligations for learning, teaching, and assessment must include a human focus to promote student success'*.

On a purely technical basis, Eaton underlines that three technological advances of academic integrity will need further consideration in the near future. They encompass the *Text-Matching Software* (TMS) which includes Turnitin and *iThenticate*, the 'plagiarism-detection software'. But there are claims that they are 'erroneously referred' as such viewing that they 'cannot detect plagiarism *per se'* (ibid; Bretag & Mahmud, 2009; Hayden, et. al., 2021; Weber-Wulff, 2016). Instead TMS only identify '*exact textual matches between documents and produces a report that highlights textual matches or similarities for further analysis'* (Eaton, 2023, p.2). If such a match sets plagiarism, it can be determined by humans, especially those well-trained using the software. An analogy is employed by Eaton to elucidate the subtle, though significant difference, compared to that of radiology: Although an X-ray can show anomalies, but it is the radiologist, a well-trained doctor who interprets X-ray, detects and diagnoses the problem. It means that '*it is the human who analyses the report, not the report itself, that diagnoses whether there is an issue that requires further investigation or treatment of a problem'* (Eaton, 2023, p.2). Subject to the same conditions is the *Online Exam Proctoring* system which had an exponential growth during COVID-19. These online proctoring tools include exam invigilation, or monitoring, lockdown browsers, and identity authenticator (ibid; Dawson, 2020). Invigilation can take place by humans or AI, with humans to set a more expensive

option (ibid). During C-19, higher education institutions saw these technologies of proctoring as the solution to academic misconduct problem, though without any concerns about their limitations and risks. Notwithstanding, when schools were overflowed with online lessons during the pandemic, there were protests by educators and students concerning privacy, data security, and accessibility as key issues (Eaton, 2023; Chrysanthos, 2020). Equity issues were, also, raised (Parnther & Eaton, 2021; McKenzie, 2021; Eaton, 2023).

However, the effectiveness of online investigation to detect cheating is still dubious (Dawson, 2020; Eaton, 2020; Eaton, 2023). The fact is that online exam proctoring technologies need 'more work to be done to ensure they can be used appropriately, equitably, and fairly' (Eaton, 2023). In the same manner, the proliferation of AI Aps is clearly evident, with positive effects on learning and teaching. But scholars notify changes to be done in assessment practices since AI becomes more prevalent (Eaton, 2023; Sharples, 2022). Scholars predict that contract cheating and the outsourcing of academic work will be evolved into students themselves, having an AI perform their work (Eaton, et. al., 2021; Lancaster, 2022; Eaton, 2023). Currently there is limited guidance on how to address the misuse of these AI tools. In this regard, and within this precariously technological and ethical context, Eaton, (2023, p.4) raises certain questions: '*Is it ethical to use AI for teaching, learning, and assessment? If so, how do we ensure the use of AI in educational context is, in fact, ethical? Who gets to decide what counts as ethical use of AI in education? Who decides what may or may not constitute academic misconduct when artificial intelligence is involved*'? For sure digital and AI cutting edge technologies will arise polarised views and dilemmas as to

whether they are good and should be universally adopted or that they should be banned at once. Beyond any 'caustic and entrenched opinions' Eaton, (2023, p.5) claims that AI sets 'the next big thing', not only for academic integrity issues, but also 'for education in general, and it merits our attention, as well as further inquiry'.

Eaton's, (2013) following pinnacles operate as the punchline of these technical and ethical considerations analysed earlier: All these outstanding AI advances do not provide any *'panacea'* or miraculous solution to academic misconducts and nor is the engagement of student learning in such technologies (im)moral (ibid). As she wisely adds, *'technology comes, goes, and evolves' but the way it can be used 'effectively and ethically'* for teaching and learning purposes still persists (Eaton, 2023, p.5). Subsequently, the present study denotes that technology needs to be *in sync* with phronesis so that higher education participants can understand how to manage the potentials, impacts, and limitations of these technologies while maintaining academic integrity. In particular, the model of *digital phronesis practicum,* inspired by the Aristotelian philosophy and developed in the last Chapter of this study can help academic communities to navigate intelligent tools in a responsible way related to whether, when and how to use these technologies (ibid), instead of banning them. This can enhance not only academic integrity but also the overall advancement of higher education and the broader human community.

3.6 Final Notes

By now, this Chapter of the present study has introduced and illustrated the digital and AI infrastructure of higher education and in due course it has been engaged with the arrangement, application and the (ab)use of digital and AI tools by education agents. At a later time, lights have been shed on those barriers/challenges higher education and academic integrity are confronted with, generated by the implementation and navigation of recent intelligent tools. This challenging context reflects the need for a framework of digital ethics as unfolded in the last section of this Chapter. The concluding lines, including technical and ethical considerations regarding the navigation of digital tools in academic contexts, bring to light the need for philosophical agency-principally *phronesis*- as analysed in the next Chapter.

CHAPTER FOUR

ARISTOTELIAN PHRONESIS

This Chapter is principally dedicated to the exploration of Aristotelian phronesis, operating as the philosophical groundwork for the *digital phronesis practicum* model to develop upon. As such, certain core philosophical literature is incorporated, evolving around issues of virtue ethics, the Aristotelian fundamental virtue theory, as well as phronesis and its significance in digital higher education settings. Additionally, this chapter incorporates a section related to the defence of phronesis amidst certain

complexities, followed by a succinct examination of five seminal models which serve as the foundational underpinning for the present construct, culminating with concluding observations on these models to signify the Chapter's closure.

4.1 Introduction

Academic agents are encouraged to acquire scholarship in higher education institutions with digital technologies to play a catalytic role in the teaching and learning process, while serving numerous educational purposes, throughout all disciplines. Yet, amidst the myriad forces shaping academic societies in the digitally intensive era, prioritizing academic integrity stands as paramount. While there can be no doubt that digital technologies provide a multitude of opportunities in education communities, nevertheless, these tools- as analysed in Chapter three- encompass certain challenges, and moral dilemmas concerning their responsible use, too. Within this context, the agential side (humane prevalence over technological innovations), constitutes a critical component of the digital governance framework, which requires individuals' wisdom, standing as dominant in the domain of higher education while being in synergy with a virtue ethics approach. In this vein, the current study, through this chapter, introduces the philosophical concept of phronesis as practical wisdom, advocating for its inclusion as a cornerstone in cultivating a comprehensive culture of academic integrity in a digital ecosystem. In this paradigm, the *digital phronesis practicum* construct, grounded on the Aristotelian phronesis virtue, can facilitate and cultivate the philosophical methodology of phronesis (see Chapter five). This Chapter

inaugurates its wisdom philosophical exploration with literature lenses on virtue ethics as the basic part of the *digital phronesis practicum* model. The section that proceeds accommodates literature on the fundamentals of the Aristotelian virtue theory, reflecting its significance in the digital education. What follows is the analysis of phronesis, serving as the foundational bedrock of this model and incorporating a framework of supplementary Aristotelian intellectual virtues. Subsequent to this is the section that emphasises on *phronesis as the raison d'être* in higher education during the digital epoch, reflecting the imperative for academic communities to adopt approaches akin to those embedded in the *digital phronesis* model. This Chapter has also, integrated a section referred to phronesis amidst certain complexities arisen as an approach in higher education. Lastly, the presentation of five illuminating models offers valuable components for the current project to leverage. Through the lenses of the aforementioned literature, this study endeavours to utilize fundamental Aristotelian concepts of phronesis, eschewing extensive arguments or exegetical debates as they exceed the scope of this research.

4.2 A Virtue Ethics Approach: An Overview

Virtue ethics sets one of the oldest ethical theories among the western and non-western traditions of thought, originating from the ancient Greek philosophy (Socrates, Plato, Aristotle), especially the Aristotelian insight of a virtuous person and the Chinese philosophy (Confucious), (Russell, 2013; Papouli, 2018). It consists of

agent-focused and relationship-based ethical theories (Bisman, 2014, in Papouli, 2018, p.2). Contrasting the rule-based and principle-based ethical stances, known as *consequentialism* and *deontology* ethics, which address the question on *'How should I act?'*, virtue ethics addresses three cardinal questions: '*Who am I?'*, '*Who ought I to become?'* and *'How ought I to get there?'* (MacIntyre, 2007, in Papouli, 2018, p.3).

The rationale behind incorporating a virtue ethics approach to structure the *digital phronesis* model will be elucidated in the subsequent paragraphs of this section. That being said, although moral theory envisages to guide persons to attain valuable outcomes, nonetheless, the complicated field of recent, advanced technology and innovation renders people unaware of developing a prudent way that innovative tools should be used (Steen, et. al., 2021). Von Schomberg, (2013, p.56) stands against consequentialism approaches, as incapable of ensuring meaningful guidance (in Steen, et. al., 2021). Virtue ethics is frequently indicated as a more pragmatic and realistic accomplice to address the demands that limited human agents can fulfill (ibid; Knights, 2019). As the case may be, the field of digital and AI technology with the emergence of innovative tools, implies huge normative ambiguity; innovating, intelligent tools (as analyzed in Chapter three) are 'inherently difficult to consider and understand before their emergence and diffusion, and which challenge existing moral norms and regulatory frameworks' (Sand, 2018b; Steen, et. al., 2021, p.248). From Vallor's, (2016) point of view, it sounds quite challenging to prophesy the detailed consequences of future technological tools or to envisage moral obligations required for future innovations. On that account, Vallor denotes virtue ethics as an infrastructure for the development of technologies, principally, for emerging

technologies-those technologies which are being highly developed- and allow new structures of conduct and which will affect human values and society, at large (Steen, et. al., 2021).

Rachels, (1993) highlighting virtues, perceives them as dispositions fostered by individuals via exercise (in Steen, et. al., 2021). A person can cultivate, for instance, the virtue of courage by 'training and exercising courage in practice and learning from that'; it may require effort to gain experience, but in the course of time, the person 'will learn how to align one's thinking, one's feeling and one's actions' towards this situation (Steen, et. al., p.248). This process leads to the cultivation of a virtue. Then, the agent who has cultivated certain virtues will practice this virtue inherently, out of habit and through repetition, 'as it were, at the right moment, in an optimal form, for the right reasons and with appropriate feelings' (ibid).

By the same token, the ultimate end-point (*telos*) of fostering virtues is to live a good life (*eudaimonia*) assuming one's flourishing while contributing to the society's flourishing, too (ibid). Virtue ethics is also, concerned with exemplary characters and lives (Nussbaum, 1999; Steen, et. al., 2021). For Rip, (2012) virtue ethics is like a map to help an individual to find his destination during his digital journey while challenging his curiosity to discover other places and spaces, and even, exercising his moral fiber. Headed that way, virtue ethics can easily be attached to the field of technology, intelligence and innovation 'as it acknowledges the complexities and specificities of each individual, their capacities and background'; whereby, it addresses professionals and professional settings (Steen, et. al., 2021, p. 250) like those of higher education.

Consequently, there is a strong point in embracing virtue ethics for the construction of the *digital phronesis practicum* model.

4.3 The Fundamentals of Aristotle's Virtue Theory

Aristotle, Plato's student and the teacher of Alexander the Great, was the mastermind of the virtue approach of ethics. Even today, his approach to virtue ethics-positive character traits- exerts dire impacts on modern virtue ethicists and scholars across the globe (Papouli, 2018, p.4). As Murphy, (1999, p.109) demonstrates, Aristotle's virtue ethics differentiates itself from other virtue ethics theories for the following reasons: *'The focus in virtue ethics is on the person and his/her character traits, not on a particular decision or principle; Virtues are good habits and are learned by practicing; Appropriate virtues are discovered by witnessing and imitating behavior; To become virtuous, one must see others practicing good habits; Virtues should be examined within a 'community' setting; Aspirations are key motivators in virtue ethics'* (Papouli, 2018, p.4).

Aristotle was the first to consider virtues 'as part of human nature and take a scientific approach to explore and better understand their role in the people's personal and social well-being' (ibid). He also, developed his theory in the *Nicomachean* and the *Eudemian Ethics* (ibid; Stedman, 2011). Virtues, according to Aristotle, (2004) are good habits of the heart and mind, fundamental for the establishing and maintaining ethical character and behaviour (Papouli, 2018, p.4). They are also, tantamount to excellence

and are socially situated and fostered; they even set, the most essential habits for people who vie for *eudaimonia*.

Eudaimonia, as central to Aristotelian theory, is translated as 'happiness' or even better, 'human flourishing' or 'well-being', (though it is difficult to capture the exact meaning) (ibid). In a generic way, *eudaimonia*, concerns '*ευ-ζειν'*, the well-lived life, on an individual (personal) and social (professional) life, and is regarded as a holistic construct. Even further, Aristotle perceives it as 'a rational activity of the human soul, as it is related to the use of *reason* (*logos*, ratio); *reason* is the human ability to think rationally about what to do and make the right decisions' (ibid; Mastin, 2008). By applying *eudaimonia* to higher education space, it can be stated that the *telos* (purpose) of education (as a value-based sector) within a digital and AI context, is to sustain the welfare of the institution, of its participants and communities while ensuring academic integrity.

Regarding *reasoning*, Aristotle, as the founder of logic and rationality, provides insights distinguishing between theoretical and practical reasoning, though acknowledging that both forms of reason are equally significant for the cultivation and implementation of ethical reasoning in everyday challenges. As he highlights, the combination of the 'right desire' and 'right reason' (*orthos logos*) constitute the prerequisite for ethical choices (Papouli, 2018). In today's complex and fast-changing AI era, Aristotle's stances on ethical reasoning standing as virtuous *praxes* (activities), are essential in the field of higher education. They intend to help technology agents to use intelligent tools in a wise way for their own flourishing (*eudaimonia*) as well as

for the institution and the society's flourishing, at large. Ultimately, it is paramount for education participants and users of intelligent tools, to be able to strike the proper balance between the demands of their learning tasks and the institution's policy and aspects relevant to the delivery of services to academic agents and the society. In this respect, *eudaimonia*, encapsulates not only the pursuit of personal but also the professional well-being which assumes that virtuous persons ought to vie for good purposes not only for themselves but also for their communities. Following Aristotle's concept of the virtuous individual, it is reasonable to perceive that higher education agents to become virtuous they must desire and act virtuously, in line with logic or reason. But someone may naturally wonder how a higher education student in a digital context can perform virtuous acts throughout the process of his learning. The answer to this question, can reflect the application of virtues in education (ibid) and the right way these virtues should be applied.

As Aristotle indicates, acting in a virtuous way assumes acting between two extremes. In this sense, good habits (virtues) lie between an excess (having or doing too much of something) and deficiency (having or doing too little of something). As an instance, the virtue of modesty applied to the use of intelligent tools in higher education learning process, is the mean between shameless or abuse/misuse of innovation (excess) no matter the cost for academic integrity and humanity at large, and resistance or/and strong opposition to new technologies (deficiency). According to Aristotle, the guiding principle to strike the balance between two extremes lies in the concept of the *golden mea*n, reflected in the wise and famous Greek expression *'μηδέν άγαν*' (*miden agan*) translated as *'nothing in excess'* (ibid, p.8,9). It is

noteworthy that the *golden mean* is not about an arithmetic mean found between two extreme points, nor is it about moderation (*ibid*). The *golden mean* constitutes the archetype for ethical decision making which is context specific, hence, catalytic for any given settings, circumstances and predicaments that are morally complex and raise dilemmas. Such a paradigm of *golden mean* can be effective for higher education agents since it helps them to reflect in a critical way on moral dilemmas they face while in their everyday process of teaching and learning within a digital space; via the *golden mean* persons can ensure an ethical harmony between their professional and personal life (ibid).

However, in modern times, the world has been transformed in a very complicated way, hence, professional stakeholders like those in higher education, especially within a digital context, come up against, *inter alia*, complex ethical and cultural challenges and dilemmas at a personal and professional level (as already mentioned), that potentially stand as impediment towards a balanced implementation of virtues. As Kraut, (2014) indicates, it may sound hard to realise how the *golden mean* can assist persons to define certain boundaries of right and wrong behaviours in navigating moral dilemmas and ethical decision makings; considering that Aristotle's *golden mean* is not underpinned by a compilation of rules and conducts, it provides a virtuous way to critically consider about a real- life situation (in Papouli, 2018). Aristotle, who was well conscious of the complexities underpinning ethical judgements, contended that the right choice of action should be subject to specific circumstances encompassed in a person's action and the case, *per se* (ibid). Namely, he writes:

'We can experience fear, confidence, desire, anger, pity, and generally any kind of pleasure and pain either too much or too little, and in either case not properly. But to experience all this at the right time, toward the right objects, toward the right people, for the right reason, and in the right manner-that is the median and the best course, the course that is a mark of virtue' (in Papouli, 2018, p.8).

As Papouli, (2018) indicates, Aristotle's writing above, sets a paradigm to realize the *golden mean* of any virtue, having in mind the diverse aspects of human actions and the socio-cultural space in which an agents' behavior occurs. With refence to education contexts, Carr, (2007) shines a light on the Aristotelian theoretical approach on the cultivation of virtues to be considered as parallel to lifelong learning. Benner, et. al., (2008) indicate that Aristotle was the first to associate experiential learning with the development of character and the ethical awareness of an individual's learning process (in Papouli, 2018). According to the Aristotelian position on virtue education, teachers and parents play an integral role in the cultivation of children's or students' character as they operate as role models for them. This implies that academic teachers, supervisors, mentors and instructors may constitute ethically positive or negative role models for their students (Papouli, 2014, 2016, 2018, p.10) while advocating the development of their reasoning and reflexivity which can help students cultivate the virtue of phronesis.

In *Nicomachean Ethics*, Aristotle, (2004) distinguishes two principal sets of virtues, each one bearing a number of specific virtues: Moral as well as intellectual virtues. Moral virtues relate to character qualities (virtues of character) and include 'courage, temperance, self-discipline, moderation, modesty, humility, generosity, friendliness, truthfulness, honesty, justice'(ibid). For Aristotle, moral virtues are cultivated by habit, while maintaining them requires constant effort throughout life. Intellectual virtues

relate to the qualities of mind and are acquired through teaching, experience, and time (ibid, p.5). They encompass *episteme* (scientific knowledge), *techne* (technical knowledge), *phronesis* (practical wisdom) and *sophia* (philosophical wisdom). Although, Aristotle acknowledges both types of virtues (intellectual and moral) as necessary for human *eudaimonia*, he perceives intellectual virtues as superior to moral values, with *phronesis* to excel over the rest ones.

4.4 *Phronesis*: The Highest of Intellectual Virtues

A great many scholars have called for restated focus on phronesis through various prisms, disciplines and contexts such as the reviving of the concept within education (Kristjánsson, 2021), philosophy (Annas, 2011; Russell, 2009) psychology (Darnell, et. al., 2019; Fowers, et. al., 2021; Grossmann, et. al., 2020; Schwartz & Sharpe, 2010), including also the reconceptualising of professional knowledge and social science, *per se* (Kinsella, et. al., 2012; Flaming, 2001; Montgomery, 2006; Nussbaum, 2001). Studies on phronesis as practical wisdom and research on wisdom are necessary because wisdom 'has a significant impact on success and impact at individual, organisational and community levels' (Rowley, 2006, p. 1247; Massingham, 2019).

In the *Nicomachean Ethics* (see Aristotle, 1985) and his theory of *epistemology* (see Table. 1), Aristotle argues for three types of knowledge: "*episteme*" or theoretical knowledge, "*techne*" or craftsmanship, and "*phronesis*", that is, practical wisdom or prudential judgement (McDermott, et. al., 2022, p.3). These types of knowledge are

defined as *intellectual virtues* with the term *virtue* to be perceived as a positive moral propriety and as a disposition that enables people to think and act in ways that measure up the situations in which they find themselves (ibid). In distinct terms, concerning these dispositions, Aristotle has distinguished those types of knowledge that set the ground of his epistemological theory: *Episteme*, a context-based knowledge, that derives from fundamental, universal considerations and principles. It stands as 'the precursor of modern scientific knowledge' and 'conveys the idea of knowledge sought for its own sake'(ibid); *Techne*, is perceived as craftmanship and is translated as technical expertise or artistry. In simple terms, it is the knowing- how to perform a task, hence it is context-dependent (ibid). For Kemmis, et. al., (2008) it is the capacity to act in a reasoned way aligned to the rules of the discipline or profession (in McDermott, et. al., 2022, p.3); *Phronesis*, which Aristotle defines as '*a true and reasoned state or capacity to act with regard to the human good',* is translated into 'practical wisdom' (Dune, 1997). It involves the capacity for moral judgement and cognitive understanding resulting in wise and just actions. Although Aristotle has not attributed any moral principle in phronesis, *per se*, the capacity to evaluate the right end in a specific event so as to make a prudential judgement, is on a par with the moral sense and is led towards this direction (ibid).

Many scholars have added further valuable insights concerning phronesis, its conceptualisation and constituents, providing a robust theoretical ground for the present study. For Kemmis, (2012) this virtue is the eagerness to stand behind our praxes (actions). Within his nuanced framework, he defines phronesis as '*the quality of mind, and character and action- the quality that consists in being open to*

experiences and being committed to acting with wisdom and prudence for the good' (Kemmis, 2012; in Boney, 2014, p.47). For Kinsella, et. al., (2012, p.2), phronesis is an intellectual virtue that implies ethics and entails deliberation grounded on values concerning 'practical judgement and informed by reflection'. Sellman, (2012; in Kinsella, et. al., (eds), p.7) highlights that '*phronesis is Aristotle's special virtue, one that straddles cognition and emotion, as well as intellect and character'*; and as interconnected to wisdom*,* phronesis is the virtue that empowers us 'to judge what it is we should do in any given situation'. Phronesis, in other words, is the course of reasoning which gives rise to actions 'made as a result of wise judgement by a practically wise agent as he or she engages in practice' (Boney, 2014, p.44). According to Kristjánsson (2022, p.42), *phronesis* or practical wisdom*,* is placed between *sophia* (theoretical wisdom) which keeps secure distance from practical issues, and *techne* (the excellence or refined practical skill in making things). The virtue of practical wisdom, as more closely to *techne,* 'operates in the sphere of *praxis* which is about action, about *doing* as distinct from *making'* (ibid).

In the same vein, emphasis on *phronetic actions* is provided by Hibbert (2012; in Kinsella, et. al., (eds), p. 5) arguing that '*phronetic action involves a whole-hearted and open-minded willingness to assume responsibility for one's actions*.' Her claims are aligned to those of Dune's, (1993, p.264) who supports that *'phronetic action can't exist without both intellectual and moral conditions of the mind'*. Similarly, Kemmis, et. al., (2008, p.4) underscore that '*praxis* is a particular kind of action. It is action that is morally committed, and oriented and informed by traditions in a field'. As Van Manen, (1997) highlights, *praxis* steered by *phronesis* is 'emancipatory' for the person

who has engaged in it (Boney, 2014, p.44). Even further, *praxis* springs up in 'sayings', 'doings', and 'relatings' and 'it is through experience and action—through praxis—that we develop phronesis' (Kemmis, 2012, p. 150; in Kinsella, et. al., (eds), p. 9). For Higgs, (2012, p.77) *practice* is perceived as the amount of the knowledges, including *propositional* as well as *experiential knowledge* with '*episteme, techne,* and *phronesis* dance together*'* (in Kinsella, et. al., (eds), p. 5). That practice, Higgs, (2012, p.81) adds, is the forerunner of knowledge; a person's *observation, reflection and experience* connect actions and ideas initiated in wise practice, and wisdom is perceived as 'the ineluctable nexus between practice, judgement, and knowledge'.

Eudaimonia (as mentioned also, earlier), is conducive to intellectual excellence, i.e., reason and rational activity (Bredillet, et. al., 2014, p. 21). This reasoning has cognitive and affective dimensions. Its cognitive dimension is about knowing how to achieve *eudaimonia* (Massingham, 2019, p.3). It is possible for a person to know the right values but ignoring how to achieve them in practice (Van de Ven, et. al., 2006). Its affective dimension is about knowing the reason for achieving *eudaimonia.* However, it is possible for someone to know how to achieve eudaimonia but choose not to (Van de Ven and Johnson, 2006; Massingham, 2019, p.3). This decision involves more than motivation to act accordingly. Phronesis does not bears any motivational hedonism or any rational egoism (Ellett, 2012). Phronesis is not about personal gain, but it is a higher goal loosely defined as 'the profession's ends, or society's well-being' (Ellett, 2012; Massingham, 2019, p.3).

Kinsella, et. al., (2012, p.4) put in place the issue of *reflection*, highlighting that phronesis or the quest for practical wisdom, implies a continuum of *reflection* from *receptive, cognitive, embodied reflection*, to *critical reflexivity*. They also perceive certain criteria useful to orientate practitioners towards a *phronetic* or wise judgement in practices like: *ethical considerations, transformative potentials, and dialogue intersubjectivity*.

In line with phronesis, '*phronimos',* is the person defined by wisdom as the moral agent; hence, phronesis underpins not only what people do but also who they are, which means that 'one cannot be "good" without practical wisdom, not practically wise without moral virtue' (Kemmis, 2012; in Boney, 2014, p.47). For Spence, (2007) applied it to educators, means that phronesis is entwined to teacher's selfhood and is 'revealed through observable practice' (Boney, 2014, p.44). It may, also, be in the form of pedagogical tact which for Herbart, (1802/2022, in Friesen, 2023) can transcend the breach in the educational field, between theory and practice and even further 'as the way that theoretical oppositions and extremes are dialectically resolved, specifically by dint of the primacy and superiority of practice' (Schleiermacher, 1826/2023, in Friesen, 2023, p.5). As a 'special virtue', phronesis, enables a person 'to know when to do the right thing to the right person at the right time and for the right reason' (ibid, p.45; Sellman, 2009). This means that phronesis empowers a person to hold prudent judgement in any situation, grounded on his personal treats which become responses over time via practical experiences (ibid). This assumes the fact that wisdom continues to develop whenever the person has the chance to edify a repository of *phronetic* qualities rather than a repository of dishonest behaviours (ibid). To the above

theoretical breadth of literature, Kemmis, (2012) adds another dimension, that of *collective phronesis* which is regarded as 'the collective good that a professional community commits itself to through its practice as a profession' (Kemmis, 2012, p. 150; Kinsella, et. al., (eds), p. 9).

4.5 Digital Phronesis: Raison d'Être in Higher Education

Given the 'explosive growth of knowledge and technology', Maxwell, (2019, p.5) highlights that 'global wisdom has become, not a luxury, but a necessity' (in Peters, et.al., 2024). To articulate in another manner, in the era of rapidly evolving technologies the incorporation of a wisdom-oriented approach is essential for ensuring that emerging technologies align with the diverse and intricate fabric of human values and ethics (Peters, et.al., 2024). This alignment is crucial, as it supports the successful and harmonious integration of digital and AI innovations into all aspects of human life, from personal decision-making to the broader operation of societal institutions (ibid). In a general sense, the paramount goal is a future where advanced technologies, guided by wisdom can collaborate with humanity enhancing people's lives while upholding their core values and principles.

Throughout different philosophical eras and cultures (i.e., Confucianism, Taoism, Stoicism, Buddhism, Aristotelian philosophy), wisdom has been interpreted in various ways. Generally, wisdom encompasses an understanding of life's complexities and the capacity to make sound practical judgments, often grounded in humility, ethical

reasoning, self-awareness, and critical thinking (ibid). As the latest innovative technologies can extend their influence across the globe creating a digital universe, the critical inquiry that arises is whether there is a digital counterpart to wisdom that could serve as a moral guide in the digital realm, offering both direction and essential avenues for moral introspection to aid humanity towards its flourishing. The answer comes from the Greek philosophy and Aristotle's phronesis translated as practical wisdom, leading to eudaimonia attained by embodying virtue and maximizing one's potential as an individual. In contemporary terms, *digital phronesis* proposed by this thesis, is the application of practical wisdom in digital contexts, combining technological literacy, ethical reasoning, and reflection to navigate complex environments responsibly. It emphasizes aligning digital practices with human values, fostering integrity, and promoting eudaimonia in the digital age.

Considering higher education, *digital phronesis* holds profound importance as it cultivates a nuanced understanding of ethical praxis in digital contexts. By integrating practical wisdom with technological literacy, it empowers students to adeptly navigate intricate ethical dilemmas, thereby reinforcing a culture of integrity and fostering responsible stewardship of digital resources within academic and professional spheres. From a student, faculty, and administration perspective, the proper way of navigating recent advanced intelligent affordances and progressive technological tools requires academic community to develop a digital phronesis by edifying digital literacy, and a virtue-based framework so as to know why, when, how and where to use these tools, which calls for a wise and responsible modus operandi (see also Polizzi, et.al., 2022). This urges for the cultivation of a *'phronetic'* character trait,

translated into a ‘wisdom’ character, essential for the digital flourishing of a culture of academic integrity. Grossmann, et.al., (2020; Polizzi, et.al., 2022, p.8) specify that wisdom is imperative ‘in our increasingly polarised world’, which is why meta-cognition (or Ardelt’s, 2004 *reflection*) is essential to navigating multiple perspectives and absolve moral dilemmas. For Kristjánsson, (2022, p.42) phronesis ‘operates as the glue which holds the whole system together’.

Digital phronesis involves cultivating resilience and adaptability, recognizing the need for lifelong learning, and finding new ways to participate in new educational settings (Peters, et.al., 2024) thus, contributing to a digital culture of academic integrity. A practical wisdom - oriented approach, in this context, is about embracing change and guiding the ethical integration of technology into all fields even upon coming up adverse, context-dependent circumstances. For instance, during emergency situations like that of Covid-19, students were called upon to regulate and manage their own learning, following digital procedures, in fast pace (Panadero, 2017; McDermott, et. al., 2022). This context-dependent situation allows for a prudent judgement, to keep students away from any misconduct, even if they encounter certain digital challenges. In other words, this is about a harmonious synergy between technology, which excels in rapid information processing, and humans who bring intuition, empathy, and a comprehensive grasp of intricate situations (Peters, et. al., 2024).

In the digital epoch, *digital phronesis* prompts a reconsideration and rearrangement of learning, shifting emphasis from tasks driven by data analysis to nurturing human skills like critical thinking, creativity, and emotional intelligence (see also, Chapter

five). This approach underscores the importance of critical pedagogical methodologies in developing theoretical and practical wise individuals who possess both the intellectual capability to comprehend and navigate complex global challenges, as well as the wisdom to pursue and implement cooperative solutions rooted in moral responsibility towards others (Peters, et. al., 2024).

In the domain of decision-making, the interaction between human intuition and AI algorithms prompts inquiries regarding trust (Jandrić, 2018). *Digital phronesis* entails fostering trust in digital and AI systems applied by academic community through addressing transparency and accountability issues. Users must feel assured that AI decisions are on a par with their values, necessitating a nuanced understanding of AI's capabilities and limitations. Beyond any challenges advanced technology may pose, it also offers opportunities to enhance wisdom. AI's ability to process vast data, detect patterns, and offer insights, can augment human decision-making for more informed and effective choices (Peters, et.al., 2024). Achieving *digital phronesis* in the digital epoch involves leveraging intelligent tools while maintaining a critical awareness of their broader implications on academic integrity and the *eudaimonia* of academic participants and humanity, at large.

Despite the complexities and potential paradoxes inherent in applying Aristotelian phronesis in the digital era, as discussed in the following section, revitalizing this philosophical wisdom can revitalize global education, too. This entails charting a progressive path that reshapes how academic stakeholders engage with higher education through technology. It advocates for transparent, accountable, equitable,

respectful, and sustainable mechanisms, aiming to foster a holistic digital culture centred on academic integrity and ethical principles that enhance the well-being of the global community. The establishment of the *digital phronesis practicum* model (see Chapter five) is designed to advance this undertaking.

4.6 Phronesis Amidst Complexities and Paradoxes

Phronesis, commonly perceived as practical wisdom or situational awareness, is rooted in Aristotelian virtue ethics. It encompasses the capacity to make well-founded decisions and execute suitable actions in specific circumstances, taking into account the intricacies and peculiarities present. The development of a general theory for phronesis applied to digital education, entails several complexities, primarily due to the tension between the situational nature of phronesis and the generalizing nature of theoretical frameworks. That being said, two strands of core complexities are approached in the following lines related to phronesis as a '*situational awareness versus general theory'* as well as a theory '*framework versus phronesis potential paradox' (OpenAI, 2024).*

Situational Awareness versus General Theory. Phronesis as inherently context-dependent, requires an understanding of the specifics of a situation, including the individuals involved, the environment, and the unique challenges and opportunities entailed. This practical wisdom approach cannot be easily codified into a set of universal rules or principles as it is fundamentally about navigating the particularities

of each situation. Instead, *a general theory* operates on the basis of common principles or frameworks applied across diverse contexts. Through its generalisation capacity, *general theory* provides a cohesive ground to be used widely.

Framework versus Phronesis Potential Paradox. Establishing a general framework for phronesis in a digital education ecosystem may be perceived as paradoxical. A framework entails standardisation and predictability which appears at odds with the adaptable and situational character of phronesis. This complexity may raise certain inquiries related to whether it is possible for phronesis to encapsulate its fluidity and responsiveness within a well-defined theoretical framework.

Endeavouring to defend and address these complexities and paradoxes arranged above, this thesis juxtaposes and puts forward a harmonious blending between practice and theory. It emphasises the *flexible guidelines based on theory* instead of a rigid theoretical frame. It also highlights the interaction of *reflective practices with theoretical insights*, and accentuates the significance of *ethical and practical decision-making*, deployed in the next lines, in order to develop a guiding framework that respects and nurtures the essence of phronesis in higher education.

Flexible guidelines based on theory instead of *a rigid theory,* can outline and define principles for the cultivation of phronesis in digital education contexts. These guidelines would need to emphasize digital literacy and its flexible management, ethical reasoning, ongoing adaptation as well as the application of theoretical understanding. The application of theory as an iterative process where practical

experience informs and enhances theoretical comprehension can lead to ongoing refinement and improvement. Theory can operate as a guiding principle to form and shape without dictating every action. In particular, the creation of broad strategies based on theoretical knowledge such as constructivist techniques from Piaget and Vygotsky, critical pedagogy from Freire and pedagogical tact from Herbart, can promote a dynamic interaction between theory and practice where theory is refined and informed by practical experience. This synergy can encourage collaborative learning communities where educators and students can share insights bridging the gap between theory and practice.

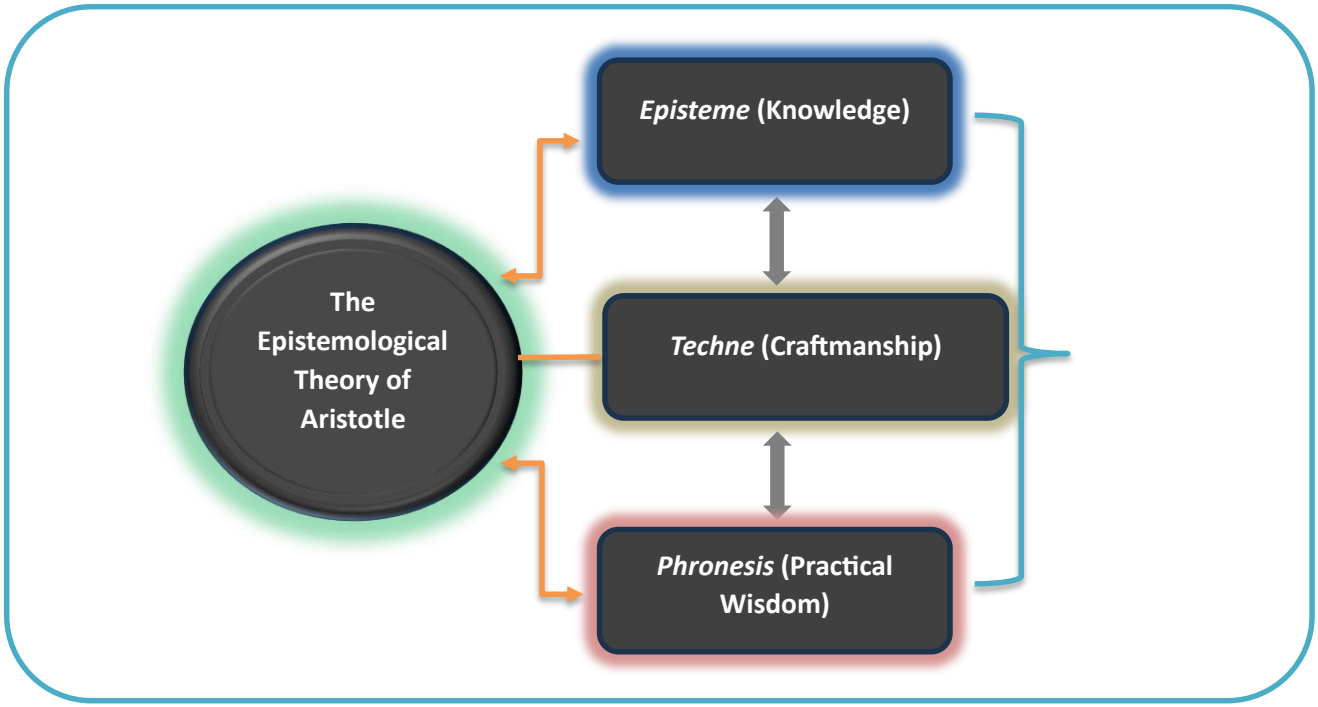
Reflective practice with theoretical insights can operate as key component for academic actors helping them to make situational adjustments to teaching and learning practices ensuring they are responsive to relevant theories and the immediate demands of digital academic contexts. A framework that encourages constant professional development and knowledge sharing can help academic community to stay responsive to new technological challenges and opportunities. Phronesis encourages ongoing reflection and learning from experience, which is essential in the ever-evolving landscape of the digital education. Illustratively, an educator has noticed student inadequate engagement in online learning style. By reflecting on student feedback data, he adjusts his strategy to involve more interactive activities and real problem-solving tasks, resulting in student improved participation and progress. In contrast, theoretical frameworks have a static character which could not encourage the same degree of continuous critical reflection and adaptation with phronesis. A static approach can fail to adapt to students' emerging technology needs

and paces, whereas a phronesis-based approach could refine learning strategies based on ongoing reflection and feedback.

Ethical and practical decision-making involved in phronesis takes into consideration the well-being and flourishing of students, academic community and humanity, on a broader scale. The following example can serve as a case study: An instructor has decided to provide one of his students who struggles with online learning, with an alternative, constructive and dialectic way tailored to the student's needs. This portrays a decision guided by phronesis, ensuring fairness while maintaining the integrity of the educational process. On the contrary, theoretical frameworks might overlook the nuanced ethical basis of phronesis, potentially leading to technical sound but ethically questionable solutions.

While there is an inherent tension between the situational character of phronesis and the generalising scope of a theoretical framework, it is not necessarily paradoxical to aspire to establish a general theory that supports phronesis in digital academic contexts. By focusing on flexibility, reflection, adaptability, life-long learning and ethical decision making, it is feasible to develop a guiding framework that promotes phronesis, enabling academic actors to exercise practical wisdom in various and dynamic digital and AI learning contexts. The five models deployed in the next section have developed certain guiding frameworks to promote practical wisdom and have provided insightful source for the construction of the *digital phronesis practicum* model.

Table. 1 *Phronesis*: Aristotle's Theory



4.7 The Arrangement of Five Models

Taking into consideration an inarticulate ambivalence on the conceptualisation of 'wisdom' (Darnell, et. al., 2019; Polizzi and Harrison, 2022), the first three of the following models (Polizzi and Harrison, 2022; Darnell, et. al., 2019; Ardelt, 2004) define and frame wisdom embedded within certain constructs, components and dimensions. Illustratively, amidst a diversity of theoretical approaches on wisdom, Polizzi and Harrison, (2022) are focused on *cyber-wisdom* and propose that *cyber-wisdom* is the framework of four components: cyber-wisdom literacy, cyber-wisdom reasoning, cyber-wisdom self-reflection and cyber-wisdom motivation. Darnell, et. al., (2019), define wisdom as being comprised by moral reasoning, affect, aims and actions. Similarly, Ardelt's, (2003, 2004) framing of wisdom sets a complex construct of

cognitive, reflective, and affective dimensions. Venera-Mihaela, et. al.'s (2021) matrix model, resonating ICAI's, (2021) fundamental values, provides value-based elements that the *digital phronesis practicum* delves into. Caldwell's, (2010) a Ten-Step model, has encapsulated integrated insights of prominent scholars that facilitate the process against academic, dishonest behaviours, contributing to a culture of academic integrity. With the exception of Polizzi, et. al.'s model, none of the models demonstrated in this study, refer to digital age, nevertheless they provide useful materials for this study to build on. Also, none of these five models is referred purely to academic integrity in a digital era through a *phronetic* approach, that the *digital phronesis practicum* model has included; this heuristic pattern renders this model as prototype for education communities to apply. The salient features of all these models mentioned above are unfolded in the following lines, though in a rather concise way.

Regarding Polizzi, et. al.'s (2022) model, featured as *cyber-wisdom* and promoted by the Jubilee Centre, in the UK, is a multi-component construct, inspired primarily by the Aristotelian quality of *phronesis* as well as by three interdisciplinary models of wisdom: Ardelt's, (2003), Darnell, et. al.'s (2019) (analysed below) and Grossmann, et. al.'s (2020). Although these inspirational models offer valuable cognizance concerning wisdom with implications on moral education, none of them provides any perspective related to wisdom in digital era and how this wisdom should be applied in education settings. However, Polizzi, et. al.'s (2022) model is mindful of digital environment, its opportunities and risks, and consists of conceptual and a few practical approaches of cultivating wisdom in classroom concerning learners' ability to handle in a wise way online risks and opportunities. Polizzi, et. al.'s idea is that they can promote cyber-

wisdom education as long as it is first understood 'what *cyber- wisdom* refers to as a concept' (ibid, p.16). For learners, a character-based approach is central to *cyber wisdom* education, grounded on virtue ethics. In alignment with Jubilee Centre's *cyber-wisdom* education programme, Polizzi, et. al.'s framework embeds the following components: *Cyber-wisdom literacy*, related to cognition and specifically focused on the digital age. The component of *Cyber-wisdom reasoning* relates to the function concerning meta-cognition and considers the capacity to evaluate and order various virtues online. It recognizes that moral dilemmas online could be exacerbated because of the affordances and the political economy of the internet. Acquiring *cyber-wisdom reasoning* depends on the capacity to cope with ethical consequences of online contexts, deciding on various virtues online, and consider if moral dilemmas online could involve scenarios related to the use of internet. Polizzi, et. al.'s a further component, *Cyber-wisdom self-reflection,* stands in the interim of metacognition and affect. It concerns the reflection on the moral dimensions of an agents' experience online, in ways that are based: a) on a person's awareness of his biases and their potential clash with other persons' perspectives, and b) the capacity to handle his emotions and navigate other persons' emotions (depending on the context) (ibid). *Cyber-wisdom motivation* is the last component in Polizzi, et. al.'s model which relates to the desire to act online on various virtues in alignment with ideals of the digital environment which are underlined by concepts of the commonweal. In brief, *cyber-wisdom motivation* is essential to the moral identity of users since it offers them significant aspirations to their sense of self alongside with the other functions of this model. These aspirations can guide users' moral behaviours on the internet and how it should be used and managed collectively for the common good.

The succeeding lines encompass, succinctly, the model of Darnell, et. al.'s (2019). That being said, this model is mainly rooted on moral philosophy and neo- Aristotelian virtue ethics (Polizzi, et. al., 2022, p.16). This construct defines wisdom as being comprised by moral reasoning, affect, aims and actions. Particularly, Darnell, et. al., (2019) have advanced four distinctive and interrelated functions of phronesis: *The constitutive function* (moral sensitivity) which is viewed as 'the ability to perceive the ethically salient elements of a situation and recognize the best response' (Darnell, et. al., 2022, p.3); *The integrative function*, which is the key to moral reasoning and is about the aptitude to evaluate situations and incidents and decide on the right set of tactics and practices, especially when one is faced with moral conundrums (Polizzi, et. al., 2022); *The blueprint function* of good life which constitutes a motivation to bring into action a range of virtues and regulate one's own identity in alignment with 'ideals of the common good' (Polizzi, et. al., 2022, p.7); and *the emotional regulative function*, framed as the ability to imbue a person's emotional encounters with reason to 'appropriately shape those emotional responses'(ibid). These functions for Darnell, et. al., (2019) offer a wide understanding of what *phronesis* signifies, as a practical wisdom.

In the same vein, Ardelt, (2004) defines wisdom as a personality trait of cognitive, reflective and affective functions. It is considered to be ingrained in a person and is based not only on cognitive but on meta-cognitive and affective stages, too. Namely, the cognitive dimension reflects the agent's ability for a comprehensive understanding of life (Stanislawa Steuden, et. al., 2016, p.770). In other words, cognitive dimension (embedding descriptive knowledge of human life and events),

does not suffice, in itself, for a person to be considered as wise. This dimension is required for identifying the ethical elements of a situation, viewed as the ability of moral sensitivity (Rest, 1986; Polizzi, et. al., 2022, p.16). However, according to Ardelt, (2004), a wise agent should have the capacity to examine his motivations and behaviours and reflect on situations and events from different perspectives (Polizzi, et. al., 2022, p.16). For Ardelt, it is about the reflective dimension which is considered as a meta-cognition stage, based on interpretative knowledge, and which enables a person to establish 'a deeper understanding of salient phenomena and events' (ibid; Ardelt, 2004, p. 262). As she points out, 'reflective thought processes are essential to realize wisdom' (ibid; Ardelt, 2004, p. 268).

Venera-Mihaela, et. al., (2021) propose another model, the present study draws on to construct the *digital phronesis practicum* model. This model of Venera-Mihaela, et. al.'s, in a short interpretation, is restricted in the framework of the fundamental values of academic integrity (honesty, trust, fairness, respect, responsibility, courage), (ICAI, 2021), correlated with the three stages of academic community, concerning *teaching-learning-assessment*; *research*; and *services*. Within this model, there is an interaction between values and stages on the one hand, with each value to be found and demonstrated in each of the three stages of academic community. On the other hand, in each stage, all six values are demonstrated and interwoven in a way. In the absence of these values, all actions of faculty, learners and researchers lose their uprightness and "become suspicious" (Keohane, 1999, p. 16).

The last model, that of Caldwell's, (2010) has developed an integrative framework towards academic integrity, operating on practical basis, addressing academicians and administrators, while supporting a systemic and holistic approach to this end. This ten-step model integrates the most prominent insights of scholars and practitioners. Dufresne, (2004) has highlighted that developing an integrated culture requires the dynamic participation of all members in an action-learning effort (in Caldwell, 2010). Caldwell's integrative model, arranged in the next lines, echoes Dufresne's, (2004) approach and indicates significant roles for students, educators and administration, unfolding as follows: The articulation of a clear purpose and mission, which can bring about a successful change in organisational culture (Shein, 2003, Caldwell, 2010, p.5); The orientation and training of faculty against cheating that may set important factors against student cheating behaviours (Simon, et. al., 2003; Caldwell, 2010); An explanation and clarification of current policies that can navigate students to act accordingly; Also, the implementation of a realistic process for addressing violations (see also, Morrow, 2008), the attainment of student ownership and empowerment in education can be perceived as essential elements, too; The maintenance of dialogue with stakeholders, the refinement of the ethics curriculum, as well as practices of monitored enforcement and the documentation of results, can be crucial steps, too; Additionally, evaluating outcomes and communicating the progress of the effort to improve integrity, can be perceived as significant components towards a sustainable culture (Caldwell, 2010).

4.8 Final Notes

By now, this chapter has explored phronesis, as practical wisdom, through the lens of Aristotelian virtue ethics philosophy and its application to digitalised academic contexts. Aristotle's focus on integrating ethical and intellectual qualities creates a framework that views moral behaviour as being grounded in the character and judgement of individuals, rather than simply following rules. Also, the significance of *digital phronesis* in the realm of digital education has been highlighted, showcasing its potential to navigate the ethical complexities posed by advanced intelligent tools. Digital phronesis, an evolution of traditional phronesis, is essential for educators and learners to engage responsibly and effectively within digital and AI environments. This adaptation is crucial for fostering critical thinking, ethical reasoning, and informed decision-making in an increasingly connected world. Included in this Chapter is also, the defence of phronesis amidst the complexities and paradoxes entailed in the digital contexts of higher education, reiterating its timeless value. The intersection of theoretical frameworks and practical strategies presents unique challenges, yet phronesis, understood as situational awareness, bridges this gap effectively. Despite the rapid technological advancements and shifting moral landscapes, phronesis can remain a guiding principle. It offers a robust defence against ethical relativism and provides a grounded approach to navigate moral dilemmas and uphold integrity. This Chapter has also, identified five insightful models that lay the foundation for developing the digital phronesis practicum, offering a blend of philosophical, psychological, value-based, theoretical, and practical insights. In synthesizing all these components, the present study advocates for a renewed appreciation of phronesis as

an educative approach in higher education digital contexts. In the next Chapter, this thesis presents the theoretical and practical ways towards digital phronesis and a holistic culture of academic integrity through the *digital phronesis practicum,* a heuristic and comprehensive model that integrates these insights, aiming to align theoretical frameworks with practical strategies thus, fostering prudent academic actors in the epoch of digital education.

CHAPTER FIVE

THE MODEL OF DIGITAL PHRONESIS PRACTICUM

The comprehensive literature review on academic integrity, digital technology in higher education, and Aristotelian phronesis has culminated in the development of a heuristic digital model, defined as '*digital phronesis practicum'* (for short, *digital phronesis*). This model embodies the integration of these interdisciplinary insights, offering a robust framework for application. Hence, this final Chapter provides an in-depth analysis of the *digital phronesis practicum* model, summarizes its key aspects, evaluates its strengths and limitations, and ultimately concludes the study, thus sealing the findings and insights of this thesis.

5.1 Introduction

This study has been grappling with a sense that an issue of critical importance has attracted inadequate attention from education communities, appertaining to phronesis and its moral significance concerning academic integrity challenges and moral decision-making, arising in a digitised education ecosystem. For example, academic community is plagued with contract cheating issues or faces dilemmas referred to whether and how progressive digital and AI technologies should be used by students. Against this backdrop, empirical research concerning academic integrity in a digital age has almost left unnoticed the concept of *phronesis* (Goddiksen, et. al., 2022). Phronesis, can operate as the beacon of education, in view of digital and AI technological challenges and moral dilemmas arising and pertaining to whether, why and how current cutting -edge intelligent tools should be addressed and navigated, so as to ensure academic integrity and the flourishing of education communities and society, at large.

The present model, the '*digital phronesis practicum'* (see Table. 2), conceptually is grounded on the Greek Aristotelian philosophy. In fact, the Aristotelian *phronesis* has spurred this study on to set up this construct. The word '*digital*', unearths Greek roots with the ancient Greek verb *deíknumi*, (*δείκνυμι*) to mean 'to show' (en.wiktionary.org/wiki/digitus). The Aristotelian '*phronesis'* is translated as *practical wisdom*. The word of *'practicum'* which etymologically has ancient Greek roots, too, derives from the ancient Greek *praktikós* (*πρακτικός*) which pertains to action or concerned with action (en.wiktionary.org/wiki/practicum). The didactic meaning

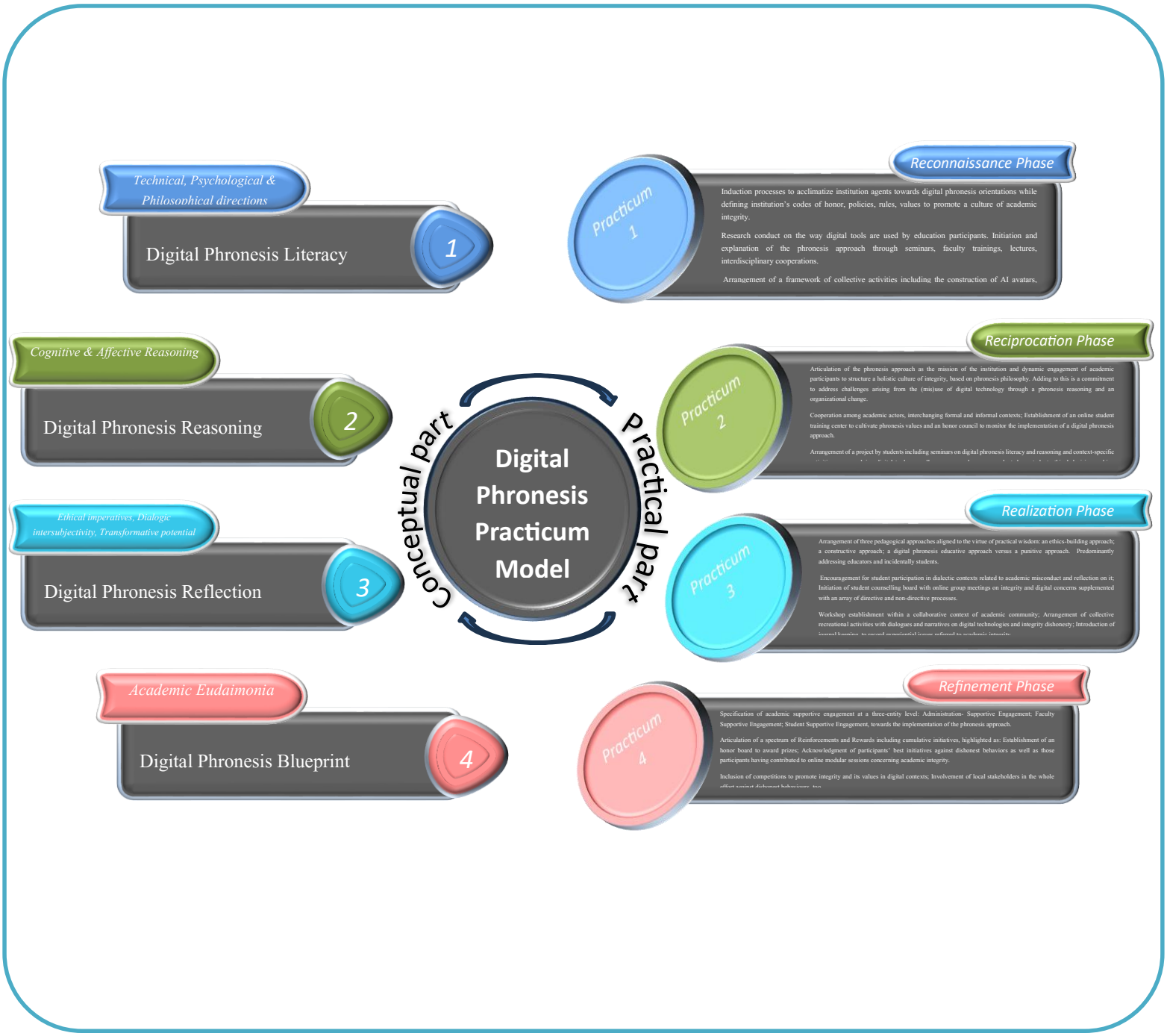
encompassed in the *digital phronesis practicum* is that our 'actions (praxes) should show wisdom'. Applied in the domain of education, it imparts the following idea: it is critical for the education community, inundated with digital technology advances and affordances, to cultivate the virtues and competences leading to *phronetic* (wise) decision-making concerning digital and AI tools, so as for academic integrity to be safeguarded and promoted. In other words, this heuristic educative model of *digital phronesis,* proposes that it is phronesis, this 'special virtue', *that* enables a person 'to know when to do the right thing to the right person at the right time and for the right reason' (Boney, 2014, pp.44-45; Sellman, 2009). Translated in a digital epoch, this means that phronesis could empower an education participant experiencing any digital, moral dilemmas and situations during the teaching and learning process, to hold prudent judgement grounded on his personal phronesis treats which become responses over time via practical experiences. (ibid).

In the next lines this study demonstrates how phronesis as a virtue can be understood and cultivated in practice in education communities. This part of the present work, introduces the scaffolding of an innovative, multi-phased project, framed by the conceptualisation of phronesis and practical courses of actions, to be applied in upper secondary and higher education. Four conceptual components of this construct, resonating, to a certain point, Polizzi, et. al.'s (2022) model, set the pillars of the present model: *digital phronesis literacy; digital phronesis reasoning; digital phronesis reflection;* and *digital phronesis blueprint.* Each one of these four components draws on the five models arranged earlier in this study (Chapter four), and is cognizant of the digital epoch it refers to. Simultaneously, the *digital phronesis practicum*, builds on

certain pedagogical approaches (i.e., constructivism) aspiring to demonstrate the practical operation of each component. In a succinct way, each section arranged in the next lines encompasses the conceptual dimension of each component as stated above, as well as a prototype *practicum*, underpinned by the practical methods to be delivered to education communities across certain key phases. The overarching purpose, via these components, is the cultivation of phronesis, the practical wisdom*,* proposed as *the sine qua non,* to guide the mind, the character, and praxes of education agents *vis-à-vis* academic integrity and its barriers/ challenges in a digital epoch, leading these agents to their personal, educational and social flourishing.

It is important to note that, recently, an emphasis on promoting wisdom in formal education settings is perceived to gain momentum (e.g., Huynh & Grossmann, 2020; in Polizzi, et. al., 2022, p.9). Indicatively, in the U.K, the Jubilee Centre, (2021) represents one of the very first attempts to cultivate various components of *cyber-wisdom* among 13–16-year-old students (Polizzi, et. al., 2022). However, the lack of a cohesive method to wisdom as a multi-phased component stands as a challenge to identify the ways to teach it in practice (ibid). Research and practices to promote digital wisdom (*phronesis*) education are at an infancy level (ibid). Against this backdrop, the *digital phronesis practicum,* outlined below stands poised to significantly fortify a culture of academic integrity within the digital higher education realm.

Table. 2 The Model of *Digital Phronesis Practicum*



5.2 Digital Phronesis Literacy

This first component, consists of two parts. Its first part, has a bilateral direction. The first direction is on a theoretically technological basis (away from any mechanical terms), concerning a conceptual framework of digital literacy and the second direction is on a moral psychology and philosophy basis, as a concept of virtue literacy, concerning the way that digital literacy can be used in alignment with phronesis standards. In the second part, this component includes the *practicum* with its first phase of *Reconnaissance* to play a *'diagnostic',* functional role for this model and is translated as the process of *''checking out a situation before taking action'* (vocabulary.com/dictionary/reconnaissance). This phase is defined by the planning and orchestration of initial actions to be taken and oriented in alignment with practical wisdom within educational contexts.

5.2.1 Technological Direction

Approaching the component of *digital phronesis literacy* on a purely digital technology basis, it could be argued that digital literacy is about 'mastering ideas, not keystrokes' in Gilster's, (1997) words. Conceptualising it, Gilster, (1997) defines digital literacy as '*the ability to understand and use information in multiple formats from a wide range of sources when it is presented via a computer*'. Nicholson, (2017**,** p.127) adds that digital literacy encompasses general literacy and reading skills enabling people to understand how digital technologies function and how these can be used effectively.

Gilster, (1997, p.13) underscores that while '*acquiring digital literacy for Internet use'* the most *'essential'* competency *'is the ability to make informed judgments about what you find on-line'* (in Mckeown, 2016, p.133). This is in alignment with Wiggins', (1980) 'situational appreciation' as well as with McDermott, et. al.'s (2022) claims on phronesis which is reflected in exercising prudential judgements about contextual information. The revolutionary power of new digital and AI technologies, providing persons with the literacies to interact in present-day society, has always been regarded as a core task for formal education settings (Leena Rantala, et. al., 2010, p.137).

Notably, in professional contexts like those of education, digital technologies and digital literacy skills are essential, since, for example, they can afford students the chance to enhance learning styles and knowledge as well as to explore and attend online learning environments beyond their local communities (Zhao, et.al., 2013; Reid Chassiakos, et. al., 2020). This calls upon practical wisdom related to the way technologies are used for, as well as critical thinking and assessment of information, familiarity with diverse digital devices, the ability to navigate the internet, and a comprehension of issues related to digital technology, like data privacy (Nicholson, 2017, p.128). This also calls for a willingness for open-mindedness, in the words of Dewey's, (1932,1933, p.69), from educators' perspective to act *phronetically*, in ways that enhance education quality for the entire society. This, in turn, leads to psychological and philosophical directions.

5.2.2 Psychological and Philosophical Direction

Central to its core, this bidirectional component emphasizes cognition and virtue literacy, encompassing an understanding of virtues such as honesty, fairness, and responsibility (see also, ICAI, 2021). It also involves comprehending the context and methods through which these virtues are applied and navigated within a digital environment (Polizzi, et. al., 2022). It reflects Darnell, et. al.'s (2019) constitutive function of phronesis which calls for an agent's cognition to help him understand what virtues should apply to different situations and contexts; It also echoes Ardelt's, (2004) function of cognition which involves knowledge of human life (ibid) and Kristjánsson's, (2022, p.42) conception on practical wisdom as it is more closely to *techne*, the knowing-how and *praxis* (practice and reflection) which is about *doing* as it is distinct from *making.*

The present *digital phronesis literacy* component, also, encompasses the Aristotelian epistemological triptych which bears interdependent and interactive relationship: *Episteme,* (knowledge), *Techne,* (technical expertise or artistry) *and Phronesis* (practical wisdom) which, for Aristotle, is the highest of intellectual values*,* as the capacity for moral judgement and cognitive understanding, resulting in wise and just actions (McDermott, et. al., 2022, p.3). In academic communities, especially in the age of advanced intelligent technology, the Aristotelian *episteme,* as the knowledge provided by each discipline, and *techne*, as the artistry of a discipline conducive to the rules of the institution, should be harmonised with prudential judgement, the practical wisdom, especially when moral dilemmas emerge *vis-à-vis* digital and AI challenges.

As a matter of fact, innovative, intelligent technologies provide education with numerous opportunities (see Chapter three). As a result, the *digital phronesis literac*y requires a comprehension of the virtues related to the use of various intelligent affordances. This may include, for instance, appreciating the significance of any AI generative tools that facilitate students' online studies while working, and use them with respect and responsibility. Into the bargain, education community should be mindful of the ways that different values can be applied so as to maximise digital opportunities while minimising digital challenges (Polizzi, et. al., 2022). In essence, holding *digital phronesis literacy*, assumes understanding not only the nature of multiple values that frame a digital and AI context, but also the moral dimensions of digital opportunities and the underlying challenges. Above and beyond all, it is the way that multiple values can 'be acted upon in ways that preserve a balance between taking advantage of online opportunities and avoiding or coping with online risks' (ibid, p.11). Illustratively, this could involve the understanding of the proper way to access a wide range of digital materials and online sources and information while minimising, for example, the chance to appropriate others' intellectual work for one's own purposes. Instead, possessing a prudent judgement (*phronesis*), a student can perform his task (i.e., an assignment) in an honest way, conducive to academic integrity principles and his institution's code of honour.

5.2.3 Practicum - The Reconnaissance Phase

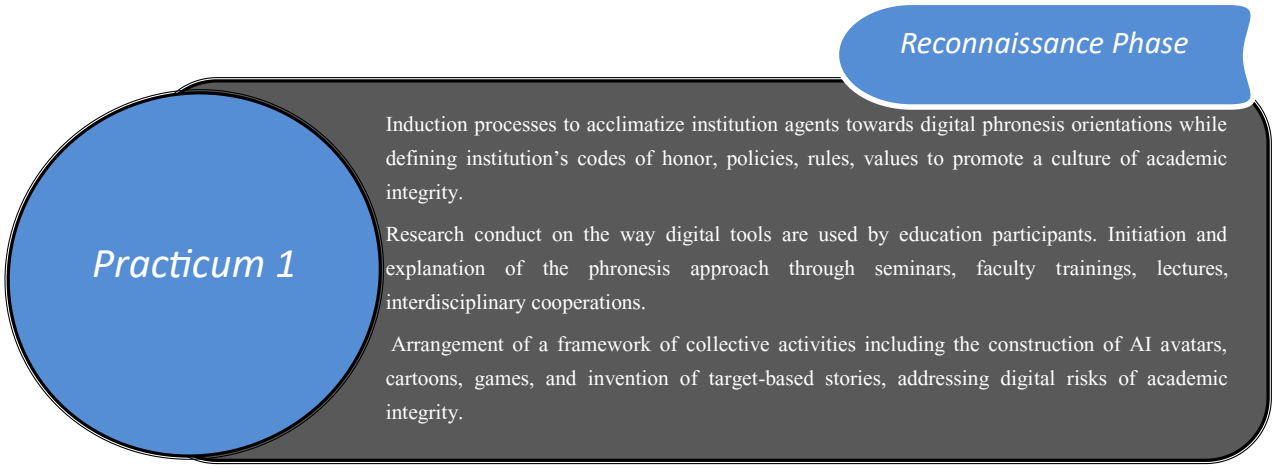


Figure. 1 The *Reconnaissance Phase*

The digital phronesis literacy- *practicum*, as central to the concept of virtue, provides benefits for teaching moral character (ibid; Arthur, et. al., 2014a; Carr & Harrison, 2015). Bearing in mind that digital technologies should not be perceived as neutral means of simply delivering information and they should not be used in a merely instrumental way, then educators and institutions are encouraged to teach digital literacy grounded on practical wisdom, which enables students to understand, use, appreciate and critique these technologies (Buckingham, 2008; in Leena Rantala, 2010, p.122). *Reconnaissance* sets the first phase of *practicum*, which encompasses and unfolds key points, presented in the next lines:

Initial meetings with members of education community sound essential, in order to explore primarily, the culture of the institution having in mind Wangaard and Stephens's, (2011, p.7) suggestion which assumes that 'to change individuals we must change culture and to change culture we must change individuals'. Moreover, this first

meeting could help to expose digital concerns, institutional navigation of these concerns as well as strategies and policies related to academic misconduct, including rules and values embedded in the institution's code of honour. It is also critical for the initial planning of a policy, with administrators, teachers and students to participate in it as well as to cooperate to construct a better environment for engaging with digital literacies, which can also contribute to the cultivation of a digital phronesis culture of academic integrity.

Preliminary research, addressing students and educators pertaining to the way they use advanced technologies to practice their educational tasks, could stand quite useful, too. Of the same importance could be the implementation of informal meetings with students and educators to expose their worries and concerns about digital literacy and its proper navigation. Students' potential experience on academic misconduct incidents because of their inadequate digital literacy could be quite helpful, too. Equally important is a thorough explanation of the phronesis approach, outlining its essence, significance, and the advantages it provides to both students and their institutions.

Organizing videos, seminars, and lectures could also enhance the institution's awareness of the role of practical wisdom in fostering not only digital literacy but also a digital culture of academic integrity. Likewise, the planning of a bilateral cooperation between upper-secondary and tertiary institutions, or interdisciplinary cooperation within the institution or between higher education institutions is strongly suggestive.

Concerning educators, trainings purporting to their professional development on digital literacy could maintain a proactive and educative digital culture of virtues, that may signify the preliminary steps for a *digital phronesis literacy*. Into the bargain, an initial planning of a framework of activities concentrated on a module or a course to support educators to focus on the core aspects of digital literacies could be quite useful. Leena Rantala, (2010) and Jenkins, et.al., (2006) suggest a frame for teaching digital literacies including appropriation (sampling and remixing media content), multitasking, collective intelligence (pooling knowledge and comparing notes with others') and judgement (evaluating the reliability of various information sources). Within such frameworks like Jenkins, et. al.'s (2006), *digital phronesis literacy* could be also taught and understood not only as a practical skill and critical ability to evaluate digital content, but also as a comprehension of the digital sphere, along with the opportunities and challenges students are provided with (Polizzi, et. al., 2022, p.11). Likewise, the planning of inventive, context-dependent, target-based story-telling (see Appendix 3) addressing digital risks such as contract-cheating, could facilitate educators to teach students the significance of possessing and demonstrating digital virtues, from fairness and empathy to respect and courage (ibid).

From an academic community perspective, encouraging students to think and plan digital and AI sources, for example to construct AI avatars (see Appendix 2) and cartoons (see Appendix 3) to communicate values of academic integrity and its risks using AI, can help students, in the words of Isto Huvila, (2012) to traverse the boundaries of their knowledge and cross their barriers themselves, empowering their digital and virtue literacy.

5.3. Digital Phronesis Reasoning

Reasoning sets the main element of this component of the *digital phronesis practicum* model. It encompasses dual dimensions, the cognitive and the affective reasoning. Its cognitive dimension is about knowing how to achieve the virtue of *intellectual excellence* (*eudaimonia*) while its affective (related to emotions) dimension is about knowing the reason for achieving this virtue (Van de Ven, et. al., 2006; in Massingham, 2019, p.3). The example that follows reflects both these dimensions of reasoning: a student has a highly-developed digital scholarship (*episteme)* that allows him to use effectively the latest technology digital tools (*techne*), which provide him with a high-speed access to any digital, scientific source (cognitive reasoning-*intellectual excellence*), as required by his teacher, but he also knows the reason he has acquired this scholarship (applying his digital scholarship to contribute to his local community welfare)(affective reasoning-*intellectual excellence*). He is *phronemos, too,* since he knows how he can, efficiently and wisely, navigate his scholarship on a digital context minimizing any risk (*phronetic* judgement or practical wisdom) to commit i.e., plagiarism, which makes him contribute to the flourishing of his institution, the scientific community and the common good, at large. This comprehensive paradigm encompasses the convergence of *episteme* (knowledge), *techne* (artistry, craftmanship) and *phronesis* (practical wisdom, prudent judgement), the intellectual virtues which frame the *epistemological theory* of Aristotle. Additionally, *digital phronesis reasoning*, is in line with Polizzi, et. al.'s (2022, p.11) and Harrison, et. al.'s (2023) *cyber-wisdom reasoning*, grounded on meta-cognition and related to the ability to prioritize virtues in the field of digital technologies, especially when they are

incompatible (i.e., compassion for a student who cheated and responsibility and respect to institutions rules). This component reflects Darnell, et. al.'s integrative function of phronesis and an evaluative perspective to navigate moral dilemmas like that above (ibid). *Phronetic reasoning* should also consider the ways that digital technologies may exacerbate such dilemmas (Polizzi, et. al.'s 2022). These moral dilemmas which concern technologically innovative contexts call for the virtue of a *phronetic judgement* to determine what is the right action and what a person ought to or ought not to do in particular circumstances and contexts. Within Kemmis, et. al.'s (2008) point of view, *'the capacity to act in a reasoned way aligned to the rules of the discipline or profession'* (in McDermott, et. al., 2022, p.3) can stand as *'techne'*.

Therefore, practitioners should leverage their experience with digital tools (*digital literacy*), and the values underpinning academic integrity as articulated in Venera-Mihaela, et. al.'s (2021; ICAI, 2021) model. Additionally, they should draw upon their practical wisdom, which is exemplified through the *digital phronesis practicum* model, inclusive of the five aforementioned models. This holistic approach empowers practitioners to navigate moral dilemmas with wisdom and efficiency. In line with this, the practical application of pedagogical thinking and reasoning (Ellett, 2012, p.12), as outlined below, is also proposed to be of paramount importance.

5.3.1 Practicum – The Reciprocation Phase

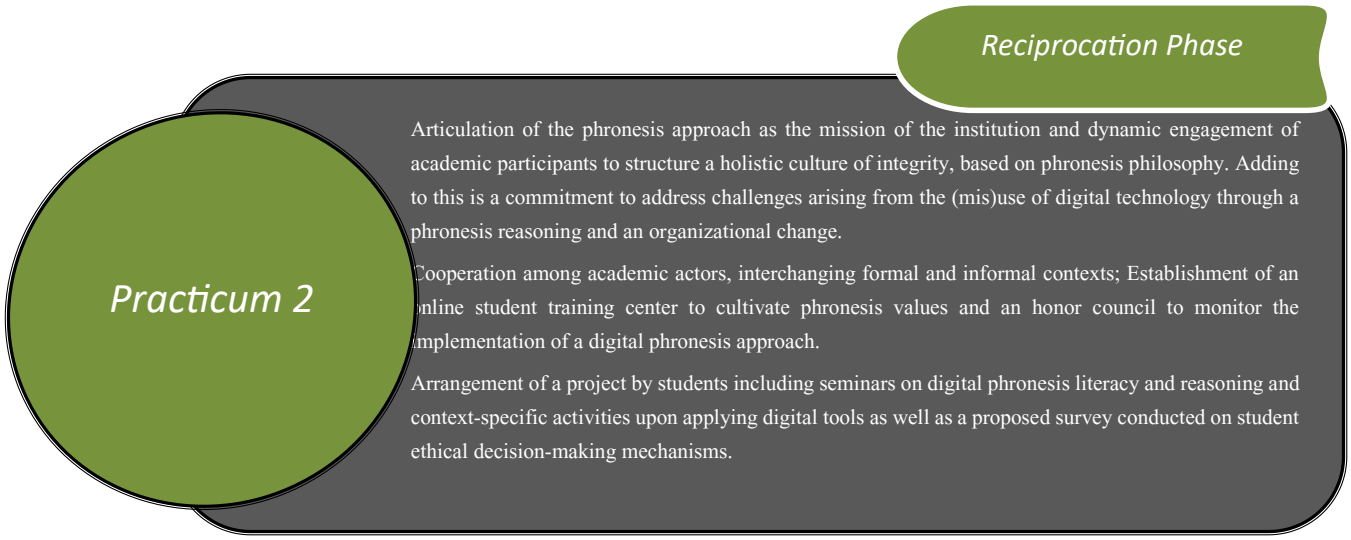


Figure. 2 *The Reciprocation Phase*

The *practicum,* this time is defined by the *phronetic reasoning* and the ways this reasoning (meta-cognition for Polizzi, et. al., 2022) can navigate a person's actions, moral dilemmas and decision making, related to emerging innovative digital and AI contexts and academic integrity. For Ellett, (2012, p.12), the combination of pedagogical thinking and reasoning results in the emergence of wisdom. Notably, practical wisdom arises as the meta-cognitive extract of *'experiences, learning, reflecting, critical dialogue, making theories, and creating and testing hypotheses'* (Higgs, 2012, p.75; in Massingham, 2019, p.3). Harrison, et. al., (2023) emphasise on discussions of hypothetical and real- life dilemmas to be included in classroom teaching, as it can set part of teaching virtue reasoning. According to research, discussions of ethical dilemmas can enable students to have the ability to make moral decisions (ibid; Harrison, et.al., 2018; Hedayati-Mehdiabadi, et.al., 2020). Referred to teachers, Ellett, (2012, p.25) drawing from Stout's, (1990, p.272), suggests that they

(should) have the ability to exercise sound educational judgements. In other words, they should possess practical wisdom and a sense of justice (the capacity and disposition to give others their due) as well as faith (trust in genuine educational and moral authorities).

Reciprocation, the second phase of the *practicum*, perceived as the 'interchange of acts' (en.wiktionary.org/wiki/reciprocation), encompasses the following centerpieces within a framework of interactive, interchanging ideas and approaches aspiring to facilitate the cultivation of a culture of academic integrity, viewing the multitude of digital tools, the use of which may raise certain challenges:

Articulation of clear purpose and mission (Caldwell, 2010) of the institution, pertaining to the establishment of a *phronesis* approach, while explaining its significance in education community and its role in the negotiation of moral dilemmas, stemming from emerging technologies in the sector, can be indispensable. Even further, the dynamic involvement of all academic community participants in an effort to draw a roadmap on creating a holistic culture of academic integrity (Caldwell, 2010; Çelik, et. al., 2023) co-existing with digital tools and grounded on *phronesis* values, can eliminate dishonest behaviours upon addressing digital contexts.

Recognition by the academic community of problematic situations, mainly arising from the way digital tools are (mis)used, in the event these tools are used to violate academic integrity as well as commitment to address such problems through organisational change (i.e., policy, teaching and learning style; see also, Bertram

Gallant, et. al., 2008) embracing a *phronesis reasoning*, is perceived as fundamental. Changes in policy towards this direction sound necessary; An *ad hoc* committee of faculty members, administration staff and student representatives can contribute vitally to the formation of a new policy with the inclusion of new approaches to academic misconduct, i.e., from a purely punitive to a *phronetic*, educative approach.

Within this context, encouragement for cooperation among faculty, administrators, and students, interchanging formal (policies, rules, teaching…) or informal contexts (story-telling, gamification…) based on an ethical community -building approach (see also, McCabe, et. al., 2012; in Çelik, et. al., 2023) conducive to a *digital phronesis* philosophy, can be considered quite effective. Also, setting up an honour council (Çelik, et. al., 2023) that consists of administrators, educators, student representatives, to monitor the digital phronesis approach, stands on a par with the *digital phronesis* model and a culture of academic integrity**.** More than that, faculty orientation training with explanation and clarification of changes in institution policy (Caldwell, 2010; Çelik, et. al., 2023), concerning a *digital phronesis* culture of academic integrity is a prerequisite. In the same line, the establishment of an online training centre, consisted of faculty, administration and student members to cultivate and disseminate principles of a culture of academic integrity (Drach and Slobodianiuk, 2020) grounded on *digital phronesis* approach can add to this framework of collective initiatives developing a *phronesis reasoning* against any digital challenge in academic communities.

Considering students, introductory (online or/and offline) seminars could highlight the positive aspect of academic integrity by demonstrating concepts over hypothetical problematic cases. Also, seminars on decision-making process with academic misconducts introduced and discussed using dilemmas (Çelik, et. al., 2023) pertaining to the use of intelligent tools could stand very important, too.

In like manner, constructing a multi-component project, pioneered by students, can provide the potentials to eliminate academic misconducts on digital contexts. Inclusive initiatives can have the form of seminars on the development of knowledge and skills related to *digital phronesis literacy, phronesis reasoning,* and how to make prudential judgement for the common good. Additionally, context-specific activities sound conducive to a culture of academic integrity (Çelik, et. al., 2023) and aligned with a phronesis approach while managing state of the art digital tools. For example, such activities could involve the organising of digital group work, to use tools like AI Generative. Notably, playing an AI game of questions and answers and comparing students' own answers with those of ChatGPT, students can explore the dynamics and the weaknesses of this tool. Students' reflections on such digital contexts can set a building block towards the development of their practical wisdom. Even further, the construction of Augmented Reality Avatars demonstrating dilemmas related to academic integrity and ways to navigate them, exerting practical wisdom, could be of vital importance, too, triggering student's digital and AI interests. Production of animation characters and story-telling videos uploaded on certain platforms (i.e., mobile devices) could also address students' moral dilemmas. Posters with slogans and brochures with eye-catching content on academic integrity (ibid), and the reasons

that academic integrity is important in a digital and AI epoch, its fundamental values, and how a *phronesis reasoning* can address academic misconducts and their elimination, could be helpful, too. These posters and brochures in a digital form, may be uploaded on institution's website and social media (ibid). Also, this project could contain online surveys on student ethical decision -making mechanisms (ibid) exploring whether and how these mechanisms are navigated by students' meta-cognitive, virtue reasoning abilities**.** It is noteworthy that student engagement in such projects is a crucial element in creating a digital culture of academic integrity (Bretag & Mahmud 2016; Çelik, et. al., 2023, p.17).

5.4 Digital Phronesis Reflection

Reflection is considered as the most distinguishable component of the *digital phronesis practicum* model. Aristotle accentuates that phronesis sets a form of reflective practical wisdom (Kinsella, 2012). According to Kinsella, (2012, p.35) phronesis emphasises *reflection* as a means to inform wise action, to assist one to navigate the variable contexts of practice, as directed toward the ends of practical wisdom. For Schön, (1983; in Kinsella, 2012, p.38) reflective practice is considered as a dialectic process with thought and action to be integrally connected. In other words, it is a 'dialogue of thinking and doing through which I become…more skilful' (ibid; Schön, 1987, p. 31). Kinsella, (2012, p.39) sheds further emphasis on reflective practices, highlighting a constructivist orientation (ibid; Kinsella, 2006; Schön,1987; Goodman, 1978). Constructivists generally accord that 'knowledge is constructed, at

least in part, through a process of reflection' (ibid). For Ardelt, (2004), reflection is regarded as 'the self-examination of events from many perspectives' (Polizzi, et.al., 2022, p.12). In terms of the criteria embedded within this reflective practice, the focus of the *digital phronesis practicum* has drawn on Kinsella's, (2012) three prominent criteria underpinning reflective practices:

Ethical Imperatives as an important area concerns the considerations of the way persons reflect in practice as well as the criteria by which they make decisions. Various decisions that fall within the grey zones of practice are infused with ethical concerns (ibid, p.48). For example, discussing issues of recent technological tools in education, ethical concerns can arise among members of academic communities, related to whether and how these intelligent tools should be used. In an increasingly complex digital ecosystem, reflection on ethical issues can easily become displaced (ibid, p.49). But if Aristotelian phronesis is to be taken as professional and institutional approach, then ethics is of core concern. To put it another way, when considering the criteria by which practitioners make *phronetic judgements* in practice, the 'consideration of ethical concerns appears to lie at the centre' (ibid). It is worth highlighting that phronesis, has 'both an intellectual virtue and an ethical virtue' (Eikeland, 2008, p. 53). To add to this that, for Aristotle, practical knowledge and moral virtues are together which means that it is not possible for someone to be practically wise without being good (Van de Ven and Johnson, 2006).

Dialogic Intersubjectivity criterion for Kinsella, (2012, p.49) proposes that reflection is perceived as individual and social process, viewed in light of both individual and

collective thought. Reflecting, merely, on one's own interpretations, without considering others (Kearney, 1988, p. 362) and without an awareness of the 'Others'' interpretation of meaning, then this raises ethical questions (Kinsella, 2005, 2012, p.49). This also, applies to digital and AI technologies and the way they can be used. For example, a clinical researcher who has used LLMs leaving unaddressed the fact that these digital machines are prone to misinterpreting complex medical literature, then this may have an impact on clinical trial data. Such a researcher, who stays impervious not only to academic integrity violation issues but also to the consequences his action may have to the academic community, and the society, at large, then, it raises ethical concerns. Thus, a dialogic intersubjectivity needs to be addressed, which concerns 'the extent to which the dialogic nature of interpretation is acknowledged and the extent to which 'Others'' versions of 'reality' are given a hearing'(ibid).

Transformative Potential is the criterion for Kinsella, (2012) to embody the idea of the person as a transformative intellectual (Giroux, 1988) and accommodates not only pragmatic or practical interests but also emancipatory interests and possibilities (Kinsella, 2012, p.49; Habermas, 1971) within a specific situation. Rather than accepting received views, the individual directed toward practical wisdom, critically reflects on the way things are as they are, explores the 'taken-for-granted', and engages with possibilities for transforming the given situation, in the interest of justice (ibid), related to the good of humanity. For example, a resourceful educator who wants to help students to navigate their moral dilemmas related to the use of progressive technologies, can adopt the following transformative and constructive

process: He has his students work on new technologies and share open dialogic discussions with them on plagiarism, explaining what plagiarism is and how it plagues the values of academic integrity. Then students are encouraged to leverage these technologies within a peer-to-peer learning style, by using these intelligent tools to prepare short presentations on academic misconducts and the reasons why misconducts should be avoided. The best presentation will be posted to the institution's website and social media. Hence, within an interactive and transformative context, this teacher has been the facilitator of a student-centric digital learning process, embracing technology in education in an innovative, emancipatory, informative and constructive way. In turn, this contributes to students' digital learning, strengthening their reflective abilities. Also, throughout this process, the teacher can protect the students' ability to act as free individuals when they use digital tools, as well as he directs students through a transformative way to develop a *phronetic judgement* concerning their dilemmas and act wisely on the use of these emerging technologies.

According to Kinsella, (2012, p.50) these criteria above, may not imply any normative architecture but they set a way to rethink philosophical ideas, such as the Aristotelian phronesis, within contemporary complex practices and innovative contexts, and act 'with as much practical wisdom as we can master'.

5.4.1 Practicum- The Realisation Phase

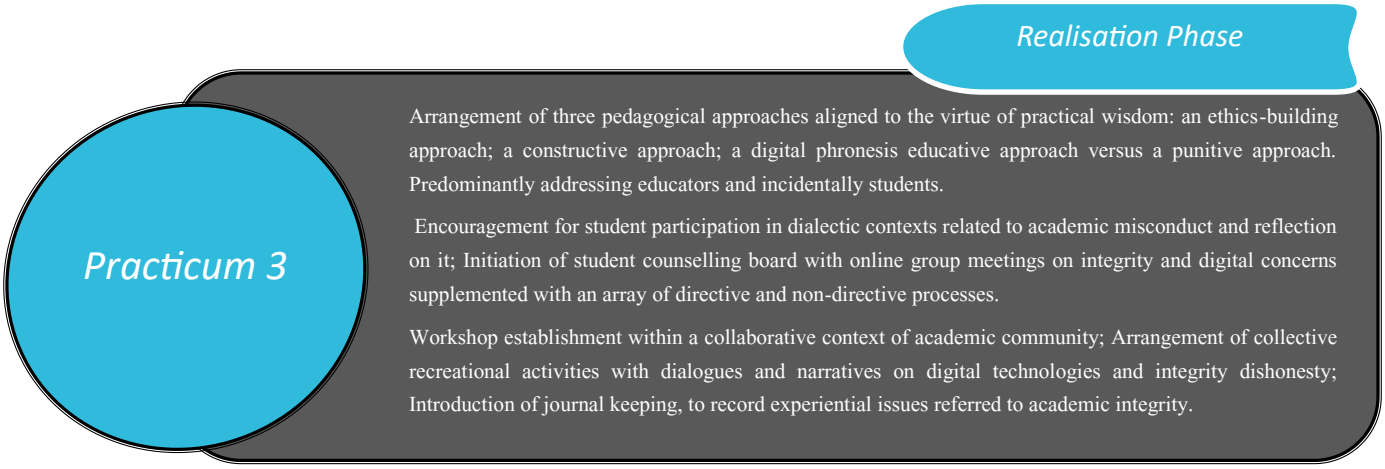


Figure. 3 *The Realisation Phase*

This *practicum* involves its third phase, that of *Realisation,* perceived as the '*actualisation'* or *'the state of being aware of or understanding a situation'* (Oxford Dictionary). More explicitly, this phase accommodates the inclusion of illustrative, practical initiatives embedded in three pedagogical approaches, as delineating below, with intent to help students to develop their reasoning and reflective powers and construct their own practical wisdom.

5.4.2 Pedagogies Towards Digital Phronesis Reflection

A pedagogical *reflection* which for Birmingham, (2023, p.2) is '*the classical virtue phronesis',* is underpinned by '*a moral, habitual way of being, concerned with practical situations, that weaves together thinking, feeling, wanting, deciding, and acting into a unified whole'*. For Darnell, et. al., (2019, p.24) moral values, such as honesty,

kindness, thoughtfulness, compassion and the like, espoused as one's own ends, set a prerequisite for phronesis. This moral framework is in utmost harmony with Aristotle's virtues like, *inter alia*, those of courage, generosity and truthfulness (Macfarlane, 2011, p.80). This framework of values is in stark consonance with ICAI's (2021) fundamental values, that the *digital phronesis* model has delved into, too. Tyson, (2015) also, adds that phronesis is a practical virtue embedded in situational and experiential settings. Eikeland, (2008, p. 53) has highlighted phronesis, arguing that it is not only an intellectual virtue but also an ethical one. On the top of that, '*phronesis*, this eye of the soul, cannot reach its fully developed state without virtues' (Aristotle, 2002, *Nicomachean Ethics*, 1144a; in Kristján Kristjánsson, et. al., 2020). To this direction, the following pedagogical framework includes three approaches that the *digital phronesis practicum* model is built on:

An ethics-building approach can enhance the moral sensitivity and ethical behaviour of students. *Phronesis reasoning and phronesis reflection*, practical wisdom, as well as the fundamental values of honesty, fairness, respect, responsibility, trust and courage (ICAI, 2021), set the framework of this value-based approach. Indicatively, in a brief way, concerning ICAI's values, *inter alia*, they may assume *honesty* and *trust* regarding institution policy and rules and acting *bona fide*. Also*, fairness* concerning the code of conduct can entail *respect* to academic community, to its rules and decision making on various issues (i.e., the use of certain digital technologies) as well as responsibility and accountability for one's own actions. To incorporate courage into the core values framework of ICAI (2021), it can be applied in various situations, such as upholding integrity in the face of adversities. Student participation in the creation of an ethical

context is perceived as quite empowering as it imparts students the sense of contribution to the development of ethical prospects in other contexts. Macfarlane, (2011) has recommended an educational curriculum that accommodates the aspect of practical wisdom and enhances learning towards the development of a pedagogical phronesis (Bjørn Ribers, et. al., 2021, p.4). Ethics can also contribute to the development of reflective competences through processes of interrelatedness, experimenting and iterative actions (ibid; see also, Balslev, 2012). Emphasis should also be placed on educators who ideally exhibit pedagogical tact (in Friesen, 2023), which involves a blend of perceptiveness, adaptability, and a profound understanding of each learner's context and needs, while also serving as exemplars of ethical behaviour. Considering issues of ethical decision -making and moral dilemmas applying to digital technologies, educators' role is catalytic. For example, a teacher can encourage students to produce short video clips on their mobile devices that demonstrate common ethical problems related to the use of advanced, intelligent tools; these can be uploaded on social media platforms. In this way, the inclusion of ethics in teaching, in innovative ways, can develop student reflective practices conducive to their practical wisdom, hence to the cultivation of a digital culture of academic integrity.

A *constructivist approach* can be also considered as conducive to the development of students' reflective practices since it perceives learning as an 'active mental work' and not a 'passive reception of teaching' (Woolfolk, 1993). According to this cognitive, revolutionary approach (introduced by Dewey, Piaget, Vygotsky, Gagne, and Bruner), learning becomes an active, student-centred process, revolving around students'

interests. Pedagogical tact (see, Herbart, 1802/2022; in Friesen, 2023) is also embodied in this constructivist framework as a strategy enhancing practical and situational awareness enabling educators to discern precisely how and when to act with their *'educands'* in digital contexts, thereby bridging the gap between theory and practice. *Educands* build meaningful concepts and construct their knowledge while engaged in activities and reflections. Thus, teachers are facilitators of interactive experiences in the process of learning, implementing dialectic methods in online or offline classrooms. In addition, the establishment of small student groups that engage in collaborative dialogue, negotiation, and motivation can significantly enhance the learning process. Indicatively, on a digital context, a two- student team can cooperate for their mutual comprehension of *digital phronesis literacy*, teaching each other (*reciprocal learning/teaching*). In Garwood, (2022; in Eaton, et. al., (eds), p.434) it is stated that, according to research, peer-to-peer learning can promote metacognition (Stigmar, 2016) and contribute to cognitive scaffolding (Mackiewicz & Thompson, 2013). In this case, cooperation and interdependence contribute to further students' knowledge and understanding (*co-operative learning*) helping them engage in reflective practices. This links to the newest digital methods associated, for instance, with the implementation of mobile Augmented Reality platforms, where students are asked to design learning experiences for other students (LDR, 2016), so that they are transformed into active creators of learning experiences for themselves and their peers, too. In the same direction, a *project-based learning*, can include activities demanding to bring students' ideas to real life, using AI tools, for example, designing an app or coding a program (Garwood, 2022, in Eaton, et. al., (eds), p.434). This is also considered as a situated-learning approach. According to Huang, et. al., (2016, p.265)

this learning approach ‘emphasizes the importance of the ‘person-plus-the-surroundings’ concept, where the ‘surroundings’ include ‘learning environments, activities, and peers’ (in Wong, et. al., 2018, p.3). Consequently, there is typically, a strong emphasis on collaborative learning and co-construction of knowledge (Dunleavy and Dede, 2014; Radu, 2014) engaging students in a reflection state on a par with *phronetic* judgements related to academic misconducts. Research has shown that constructivist learning environments reduce cheating (Gijbels, et. al., 2008).

A digital phronesis educative approach versus a punitive approach can foster a more constructive and supportive learning environment, demonstrating its effectiveness and relevance in digital contexts within higher education. In particular, the expansion and ubiquitous influence of digital technologies denotes a major paradigm shift in many contexts, (i.e., health, business). In education, new learning and communication technologies (NTLC) make students feel anonymous and can provide them with the chance to generate academic misconducts (Manly, et. al., p. 589). Hence, the support and safeguard of academic integrity is becoming one of the new requirements of the digital age (Venera-Mihaela, Cojocariu, 2021; Chankova, 2020). Referred to academic misconducts, Bertram Gallant, (2008) highlights that the focus should be on approaches which ensure student learning rather than how to stop student cheating. Nevertheless, most schools, adopt strategies that support theories of deontology (i.e., imposing rules) and utilitarianism (i.e., thinking of consequences), (Polizzi and Harrison, 2021). Academic integrity policy analysis studies (e.g., Glendinning, et. al., 2013; Glendinning, et. al., 2017) have shown that the majority of academic integrity policies follow a punitive perspective (Çelik, 2023, p.9). Richards, et. al., (2016, p.243;

Sbaffi, et. al., 2022, p.2) point out that punitive approach has the intention to 'deter students from committing breaches through the threat of penalties', as opposed to an educative approach that aspires to 'reduce the likelihood of students committing breaches by providing them with relevant skills and knowledge'. Into the bargain, anti-plagiarism digital tools, like Text-Matching Software (TMS) which include Turnitin and iThenticate, (plagiarism-detection software), are erroneously characterised as such, since they cannot detect plagiarism, *per se*, effectively (Bretag & Mahmud, 2009; Hayden, et. al., 2021; Weber-Wulff, 2016). Literature demonstrates an unparallel increase in academic, dishonest cases (Venera-Mihaela, et. al., 2021; Macfarlane, et. al., 2014; Dalal, 2015; Mcgee, 2013). As is the case, punitive processes alone are inadequate to reduce instances of academic misconduct (Eaton, Crossman, & Edino, 2018; Bertram Gallant, 2017; Miller, 2019) in a digital context. Against this backdrop, emerging technologies in education call not only for ways to deal with them to avoid academic misconducts, but also a prudential judgement how to guide these technologies for the good of academic integrity, of academic communities and the humanity, at large. Therefore, what is primarily required is the redefinition of a pedagogical framework that addresses the holistic development of the student, encompassing their entire sense of identity (Bloomer, 1997; Biesta, et. al., 2002, p.181). This framework should facilitate the integration of knowledge and action in a harmonious and *phronetic* manner, contributing to the flourishing of both academic communities and humanity as a whole. This calls for a transformative conception of education with students standing in its epicentre (see also, Bloomer, 1997; Biesta, et. al., 2002, p.181).

In particular, pedagogical models like the *digital phronesis practicum,* that optimally engage the components of *digital phronesis reasoning* and *digital phronesis reflection,* can develop student capabilities needed to make *phronetic* decisions and judgements. To this direction, Bruya and Ardelt, (2018) propose practices engaging students in empirical learning context. Stenberg, et. al., (2019), suggest approaches that 'encourage students not only to study "truth" but also to develop their own values, through reflective thinking' (Bracher, 2021, p.6). These pedagogies also, motivate students as to 'how to think dialogically, understanding interests and ideas from multiple points of view', so as 'to be role models of wisdom' (ibid; Sternberg, 2004). Also, Macfarlane, et. al.'s (2014) suggestions related to student-centred initiatives, informed by student feedback and adopted to student needs (Sbaffi, et. al., 2022, p.3) are in line with a *digital phronesis* approach, and also, set effective initiatives to contribute to academic integrity, too. Thus, it can be perceived that phronesis ideally becomes a lens through which young people learn to construct their understanding of the ethical world (Darnell, et. al., 2019). In this vein, additional specifics and actions are elucidated in the subsequent lines:

Learners' encouragement to participate in dialectic contexts discussing academic misconducts they were present at or experienced, can contribute to their 'deeper more thoughtful reflection and deeper more thoughtful learning' (Miron, 2016; in Eaton, et. al., 2020, p.243; see also, Appendix 4). Of similar significance would be a proposed workshop establishment in collaboration with student representatives, faculty and library staff to provide academic integrity education for the students who have committed academic misconducts. Engaging these students in collaborative

activities like sharing their experiences with other students can allow deeper and more thoughtful reflection and learning (ibid). Phronesis is developed through experiential engagement with specific situations (Darnell, et. al, 2019), after all. Also, online module development, centred on integrity in collaboration with students, faculty and administration, sounds as constructive as it can affect students' perceptions against academic misconducts (Ballard, 2013; Bealle, 2017; Sbaffi, et. al., 2022). Conceptual clarifications on academic integrity and examples of what sets integrity, included in these online modules could be very effective, too (Boehm, et. al., 2009). Of equal importance can also be a student counselling board establishment, to help students with inquiries related to academic misconduct as well as to organize frequent online group meetings, exposing issues and exchanging ideas on issues recently arising on integrity and digital technologies, in an empathetic and supportive way. The knowledge and positionality of these students-counsellors can render them 'important role models and ambassadors for a wider culture of integrity on campus' helping to protect students from academic misconduct and providing them with a 'range of directive and non-directive strategies' (Garwood, 2022; in Eaton, et. al., (eds), p.444). In the same vein, interactive and experiential context development, bringing students close to a digital context, for instance, by constructing an online platform or a mobile app on phronesis virtues, could guide student reasoning and reflection towards prudent judgements while using intelligent tools. Such digital constructs can also encompass a framework of collective engagement, involving students, faculty, administration, and service providers, thereby fostering a cohesive and integrated educational environment. Building such digital contexts can define constructively university student digital life, resulting in a sublime purpose, that is

academic *eudaimonia*. Even further, keeping journals to record experiences, feelings, situations, events, related to academic integrity, strengthens students' reflective abilities and make them become better-positioned in the institution's digital context (Fulton, et. al., 2016). On top of that, organising recreational activities based on dialogue and narration related to innovative digital and AI technologies vis-à-vis integrity dishonesty, could operate effectively to this direction. Higgs, (2012; in Kinsella, et. al., (eds)) also highlights the power of narrative and Socratic dialogue to reflect, on the nature of phronesis. Students develop collaborative and critical thinking skills by participating independently in these activities or working in small teams to create storytelling narratives, gamified experiences, videos, and posters for competitions. These endeavours can constitute an essential element of a digital phronesis strategy, upholding academic integrity in the contemporary digital age.

5.5 The Digital Phronesis Blueprint

This is the last component of the *digital phronesis practicum* model which resonates Darnell, et.al. 's (2019) blueprint function of phronesis, as it pertains to a person's awareness of a morally informed flourishing life (Kristjánsson, et. al., 2022, p.5). This encompasses the person's moral identity, for instance, his commitment to moral standards and aspirations (ibid). This *blueprint* component portrays comprehensive knowledge of living well that sets the motivation required to adjust a person's identity in alignment with the ideals of the common good (Polizzi, et. al., 2022). In other words, it is about '*the general understanding of living well that motivates and guides a*

person's actions overall, rather than acting as a grand- end view that anticipates and codifies all situations and choices in detail' (Kristjánsson, et. al., 2022, p.5). Lapsley, (2019) in a more succinct and concise way, points out that phronesis requires *eudaimonia*, a conception of good life to operate as the blueprint that allows a person to adjust or construct his moral character; it is this *eudaimonic blueprint* that attaches motivational forces to moral character.

Accordingly, the component of *digital phronesis blueprint* is perceived to praise and give prominence to a sheer awareness, and mindfulness of 'living a good academic life' (*academic eudaimonia*). Since 'good academic life' bears a subjective ambiguity, a further clarification is required. By way of explanation, in the present model, the 'good academic life' is portrayed at student, faculty and administrative level, having established a culture of academic integrity built on collective efforts, values, approaches, responsive to a *collective phronesis* in a digital epoch. Employing Kemmis words, *collective phronesis* is mirrored as '*the collective good that a professional community commits itself to through its practice as a profession'* (Kemmis, 2012, p. 150; in Kinsella, et. al., (eds), p. 9). Related to education participants (i.e., students, faculty members), their 'good academic life' is in tandem with the moral framework of ICAI's, (2021) fundamental values and the virtues of *digital phronesis literacy, digital phronesis reasoning and digital phronesis reflections,* embedded in the *digital phronesis practicum* construct. This moral framework can frequently operate as the motivation to define the agent's identity, actions and practices orienting them towards the common good for the institution and the society, at large.

In a further elaboration, a student could lead 'a good academic life', while being mindful of the exacerbated digital risks (i.e., contract cheating) embedded in the wrong use of digital tools (see also, Chapter three). Thus, he could be motivated in a prudent way against any misconduct, for his personal flourishing, for the good of his academic community and the good of humanity, as well. In accordance with the *digital phronesis blueprint*, education agents' moral aspirations could push them to engage in digital contexts adopting i.e., responsible, honest and fair ways when it is about their study responsibilities, even under adverse circumstances (i.e., pandemics, time pressure). Education actors could also, demonstrate a willingness to participate in the institution's efforts to navigate moral decision- making, concerning, for example, the way human augmented affordances (see Chapter three) should be used. Such efforts to tackle digital challenges related to academic dishonesty in digital contexts, could be in alignment, *inter alia*, with virtuous principles of honesty, fairness, accountability, social harmony and social justice (Polizzi, et. al., 2022) aspiring for the common good.

In a concise and pithy way, the *digital phronesis blueprint* is the last building block of this model, perceived also as its *tour de force*, ensuing from the former components of this construct (*digital phronesis literacy, digital phronesis reasoning, digital phronesis reflection*). This is the component where entrenched phronesis virtues, approaches and practices of education communities have left their 'extract', at a collective and personal level, forming the blueprint that allows academic integrity to reach its *'eudaimonia'* beyond any digital challenges. Also, the *digital phronesis blueprint* is the component which praises role models and rewards participants and initiatives in digital contexts, contributing to human flourishing.

5.5.1 Practicum -The Refinement Phase

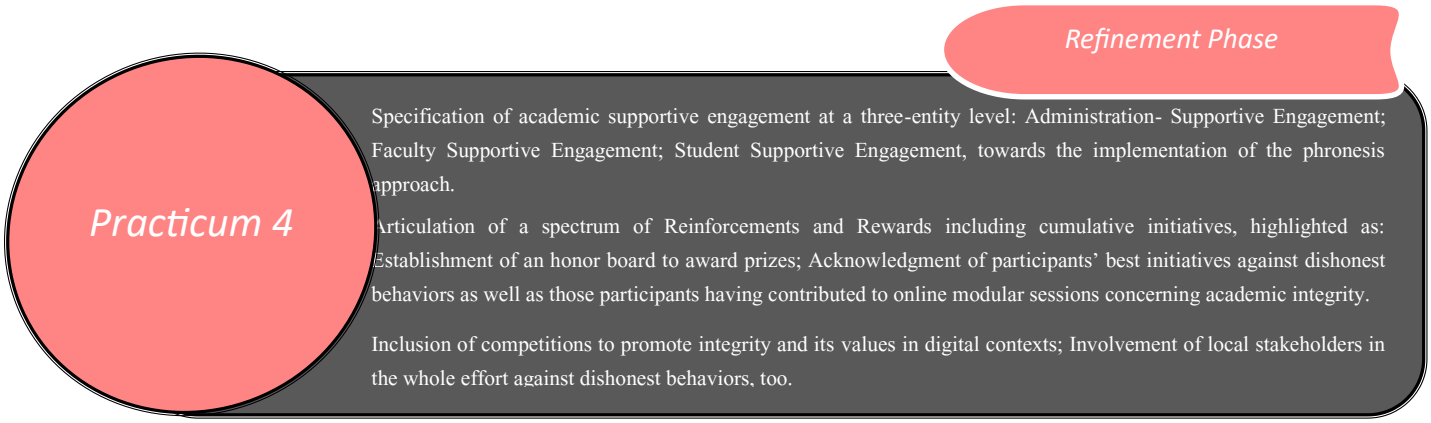


Figure. 4 *The Refinement Phase*

As the last component of the *digital phronesis* model, this *practicum* is defined by the 'Refinement' process, which sets its fourth phase. *'Refinement'* is translated as *'the quality of excellence in thought and manners*' (thefreedictionary.com), and is considered as the signifier of the excellence of phronesis learning and 'the stone' that would put the 'finishing touch' to this model. This *refinement phase* operates on a cumulative, though, a synoptic way. Notably, it encapsulates the framework of practical processes, initiatives, and activities at a multi-stakeholder level, as arranged in preceding phases of the *practicum* and subsequently implemented in the following section, organized in the manner of: *Administration - Supportive Engagement, Faculty - Supportive Engagement, Student - Supportive Engagement, and Reinforcements and Rewards.*

5.5.2 Administration - Supportive Engagement

This framework of practices embraces a strategy of bottom-up innovations and digitalization, led by education and training staff. It involves adopting a multi-stakeholder approach, delegating specific responsibilities for the formulation and enactment of academic integrity policies, while considering both the opportunities and challenges presented by digital environments. Students should be among the key participants to policy- making processes. Thus, they can be more eager to support a policy they developed rather than the policies being imposed on them (Whitley and Keith-Spiegel, 2001; Razi, et. al., 2022). Adopting student-centric pedagogies that are value-based, infused with constructivist principles, and emphasized on a *phronetic*, educational approach over a punitive one, can establish a supportive effort, too. Additionally, creating online modules focused on academic integrity in partnership with students and faculty, and setting up an online training center involving faculty, administration, and students, can foster and spread the principles of a culture of academic integrity. This effort, rooted in the *digital phronesis* approach, further strengthens the supportive framework. Fostering interdisciplinary collaboration within the institution, as well as with other higher education institutions and local stakeholders, serves as a pivotal strategy for enhancing academic integrity and resource sharing, too.

5.5.3 Faculty - Supportive Engagement

Within the Faculty spectrum, the supportive engagement can be provided in the form of attendance of professional development trainings on emerging technologies and orientation trainings on new policies concerning a *digital phronesis* approach of academic integrity. Faculty engagement can also include evaluation and reflection methods on the effectiveness and impact of advanced intelligent tools on student learning process. In line with it, Herbart's concept of pedagogical tact, can enhance educators' essential practical knowledge to navigate and address the complexities of phronesis approach effectively between theory and practice (1802/2022; in Friesen, 2023). Also, the identification of digital technology dynamics related to the academic integrity principles and adjusting teaching strategy accordingly, is essential part of this supportive framework. It is also crucial to prioritize the implementation of equitable assessment strategies that focus on enhancing learning rather than merely measuring it, achieved through encouraging student interaction, monitoring progress, and fostering reflection (Black & Wiliam, 2009). Even further, the assignment of a spectrum of practices to students, related to academic integrity in digital contexts, including feedback, group work initiatives, open discussions, student re-evaluation of problems and reflection tasks, can enhance faculty supportive efforts (Kurt, 2021). This framework should also, incorporate encouraging students to tackle contextually relevant, real-world problems through research, investigation, exploration, and analysis (Garwood, 2022; in Eaton et. al., (eds), p. 434). Additionally, it involves employing captivating methods like storytelling and narration to educate on academic integrity issues (Macfarlane, et. al., 2014).

5.5.4 Student - Supportive Engagement

This context encompasses a range of initiatives, such as sharing participatory roles in academic committees, organizing workshops in collaboration with faculty and library staff, and establishing a student counselling board to address inquiries or experiences concerning academic misconduct in digital environments. In addition to this, developing a multi-component initiative aimed at addressing academic misconduct in digital environments and keeping journals that record insights and experiences concerning challenges in academic integrity, along with the appropriate use of digital technologies to maintain integrity, can demonstrate students' proactive engagement efforts.

5.5.5 Reinforcements and Rewards

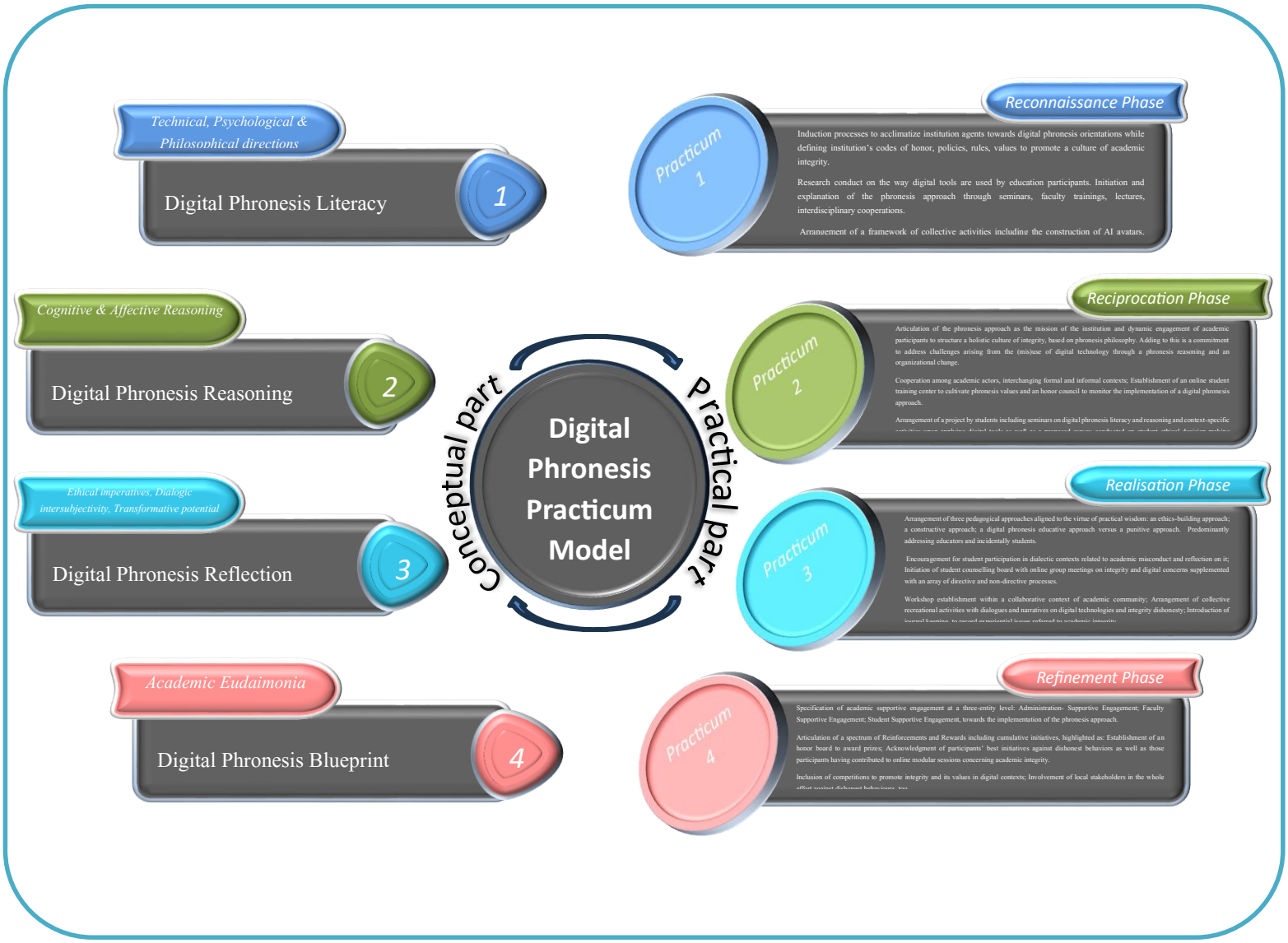
The initiatives of the *Refinement phase*, outlined succinctly below, contribute to the fulfilment of practices integrated into the *practicum* of the *digital phronesis* model. With that being stated, appraisal and remuneration strategies are put into play to reward education stakeholders who set role models for their 'good academic life' contributing to the human flourishing. Recognition is also attributed to stakeholders (such as students and educators) for their dedication to embodying the *digital phronesis practicum* model, fostering prudent judgment to navigate moral dilemmas concerning the appropriate use of digital and AI technologies for academic integrity

and the collective welfare. The next lines accommodate, concisely, the particularities of the *Refinement phase*:

These particularities include the establishment of an honour board of administrative, faculty and student members to acknowledge the best initiatives undertaken by students or/and educators, in their effort to minimize academic, dishonest practices while using digital tools. Within this framework, students are provided with awards in the form of i.e., credits or paid internship. These particularities can extend to further initiatives like organizing competitions to promote academic integrity and its values within digital contexts. In this direction, providing accolades, such as awards for exemplary storytelling, avatar creation, mobile app development, or portfolio design, with the winners showcasing their creations on the University's website and social media platforms, could serve as supportive measures. Within this framework, numerous supplementary initiatives can be implemented, such as acknowledging students' outstanding ideas for crafting honour codes related to academic integrity and policies on digital technology use. Additionally, recognizing educators or students whose *phronetic* initiative has resulted in the development of online modular sessions, aiming to foster practical wisdom and uphold academic integrity among incoming undergraduate students, can play a complementary role. Also, inviting local stakeholders to provide winners with the opportunity to have a well-paid part-time job, for instance, in the domain of communications and computing so as to exercise their digital knowledge in a *phronetic* way, could serve as a catalyst, too.

Such remuneration approaches, embedded in the *digital phronesis practicum* model, have to play a dual role: Firstly, they operate as an extant reward, acknowledging any single effort of the members of the education society to ensure academic integrity in a digital era. Secondly, these methods act as robust reinforcements for nurturing an environment of academic integrity within an intricate digital landscape, aiming to cultivate a flourishing academic community for the betterment of humanity.

Table. 3 The Model of *Digital Phronesis Practicum*



5.6 Summary of the Digital Phronesis Practicum Model

Grounding on the Aristotelian *phronesis*, as the ultimate moral and intellectual virtue, *this digital phronesis practicum* model, stands as a heuristic educative construct aiming to contribute to academic integrity in a digital context. *Videlicet*, as higher education is being gradually transformed, inundated with a plethora of digital affordances and tools, this model introduces an innovative spectrum of theoretical and practical approaches to address certain challenges, moral dilemmas and concerns encountered by academic actors upon the use of these intelligent tools. The present model, as a conceptual and practical construct, although inspired by five further models, it is Polizzi, et. al.'s construct that sets its reference point. Four components frame the conceptual part of the *digital phronesis practicum- digital phronesis literacy, digital phronesis reasoning, digital phronesis reflection, digital phronesis blueprint*. Each one of these components is accompanied by a *practicum*, a mechanism of *4Rs phases- Reconnaissance, Reciprocation, Realisation, Refinement*- one phase for each component- including in-depth practices and strategies, to build agents' practical wisdom.

The first component (*digital phronesis literacy*), operating on a theoretical basis, has a bilateral direction, approaching *digital literacy* from a technical as well as from a psychological/philosophical approach. It is, mainly, value-based, emphasizing on the Aristotelian triptych of *episteme, techne* and *phronesis,* taking into consideration that *digital literacy* calls for an understanding of the virtues concerning the use of digital tools, so as for academic actors to use them with respect and prudence, avoiding any

misconduct. The accompanying mechanism of *practicum* with the *Reconnaissance* as its first phase, assigned an introductory role, embeds certain interactive processes and strategies to be implemented by an institution, intending to develop and promote *digital phronesis literacy*. Thus, this early phase, in brief, includes: Induction processes to acclimatize institution agents towards *digital phronesis* orientations while defining institution's codes of honor, policies, rules and values so as a culture of academic integrity to be promoted. More than that, a research conduct on the way digital tools are used by education participants, is included, perceived as essential, at this early stage. Initiation and explanation of the phronesis approach through seminars, lectures, interdisciplinary cooperations, faculty trainings, as well as, the arrangement of a framework of collective activities including the construction of AI Avatars (see also Appendix 2), cartoons, games, and invention of target-based stories (see Appendix 3) addressing digital risks of academic integrity, all these set preliminary attempts towards the development of the *digital phronesis literacy*. Under this context learners can engage in a creative and critical thinking, which leads them to prudent judgement and consequently, to the potential flourishing of their institution.

The *digital phronesis reasoning*, at its theoretical level, accommodates a dual frame, consisting of the cognitive and the affective *reasoning*. Succinctly, its cognitive parameter addresses the way as to how to achieve *eudaimonia* while its affective parameter addresses the reason for achieving this virtue. It is this *phronetic reasoning* that directs a person to develop practical wisdom so as to use emerging technologies in a wise and responsible way abstaining from academic misconduct. Its *practicum*, through the *Reciprocation phase*, introduces practices and processes of interchanging

ideas between learners and facilitators as well as values grounded on *phronesis,* guiding to the prudent use of intelligent technologies. The framework of those practices are arrayed as : Articulation of the *phronesis* approach as the mission of the institution; Dynamic engagement of academic participants to plan the structure of a holistic culture of integrity co-existing with digital technology, based on *phronesis* philosophy; Commitment to address challenges arising from the (mis)use of digital technology through a *phronesis reasoning* and an organizational change; Cooperation among academic actors, interchanging formal and informal contexts; Establishment of an online student training centre to cultivate *phronesis* values and a honour council to monitor the implementation of a digital *phronesis* approach; Arrangement of a project by students including seminars on digital *phronesis literacy* and *reasoning* and context-specific activities upon applying digital tools. The end of this *practicum* comes with a proposed survey conducted on student ethical decision-making mechanisms. The framework of such processes on a par with a *phronesis reasoning* can encourage and facilitate agents' prudent judgements and their practical wisdom to define their actions and their contact with digital and AI technology in education, thus eliminating academic misconduct cases.

In turn, the *digital phronesis reflection* part, sets a distinctive construct of the present model. In the Aristotelian theory (Aristotle, 2002; see also, Chapter four), *reflection*, qua self- questioning and self- awareness, operates as an assisting tool towards wise actions that lead to sublime ends (*eudaimonia*). Kinsella's, (2012) three criteria (*Ethical Imperatives, Dialogic Intersubjectivity, Transformative Potential)*, defining reflective actions, are included in this component, directing persons to critically address the way

things are posed, what they take for granted and lead transformations in the interest of justice for the humanity's good. These criteria can direct actors towards rethinking philosophical ideas and act with practical wisdom. The *practicum,* supporting the component of the *digital phronesis reflection*, encompassing the *Realization phase*, frames an insightful arrangement of three pedagogical approaches (*an ethics-building approach; a constructivist approach*; *a digital phronesis educative approach versus a punitive approach*). These are aligned to the virtue of practical wisdom, aiming to promote academic integrity vis-à-vis an exponential growth of intelligent tools. The practical context of this phase addresses, predominantly, educators and incidentally students. Besides the strategies and practices embedded within each one of the pedagogical approaches in question, certain particulars and actions are also integrated in the *Realization phase*, orchestrated and presented in a rather concise modus as detailed below: Encouragement for student participation in dialectic contexts related to academic misconduct and reflection on it; Workshop establishment within a collaborative context of academic community; Online module development on integrity on a collective basis; Initiation of student counselling board with online group meetings on integrity and digital concerns supplemented with an array of directive and non-directive processes; Arrangement of collective, recreational activities with dialogues and narratives on digital technologies and integrity dishonesty; and Introduction of journal keeping, to record experiential issues referred to academic integrity. This third component of the *digital phronesis reflection,* has endeavoured to harmonise its embedded theory and practice on *phronesis,* connecting 'values with actions', having in mind, *inter alia*, Macfarlane's, (2011, p.82) insightful statement: While *episteme (knowledge)* and *techne (skills*) can help

education community *'in responding to a limited number of specific situations, phronesis is about deciding what to do more broadly'.*

The last component embedded within the *digital phronesis practicum* model, the *digital phronesis blueprint*, on its conceptual part, accommodates comprehensive insights pertaining to *eudaimonia*, the conception of good life to operate as the blueprint for a person to develop a moral character. That being said, this *eudaimonia* blueprint can attach motivational dynamics to moral character. This fourth part accords priority to an awareness and mindfulness of academic *eudaimonia* (living a good academic life), which assumes an established culture of academic integrity, built on collective efforts, values and aspects responsive to a collective *phronesis* approach in a digital era. Be that as it may, this is the component where the applied values, practices and pedagogies have left their quintessence, hence, allowing for academic integrity to reach its '*eudaimonia'* and consequently, the common good, despite any digital barriers/challenges. The accompanying *practicum* through the *Refinement phase*, this time, encapsulates, in a cumulative and concise way, the framework of the strategies, practices, mechanisms and processes arranged in earlier phases. Hence, this last phase encompasses, initially, a specification of academic supportive engagements at a three-entity level: *Administration- Supportive Engagement; Faculty Supportive Engagement; and Student Supportive Engagement,* signifying the practical contribution of each academic entity, separately, on their effort to implement the Aristotelian *phronesis* approach. The arrangement of *Reinforcements and Rewards* is the following part of the *Refinement phase*, including cumulative initiatives highlighted as: Establishment of an honour board to award prizes, acknowledging

participants' best initiatives against dishonest behaviours; Inclusion of competitions to promote integrity and its values in digital contexts; Acknowledgment of those participants having contributed to online modular sessions concerning academic integrity; Involvement of local stakeholders in the whole effort against dishonest behaviours. Conclusively, the *digital phronesis blueprint*, this last component of the *digital phronesis practicum* model, has operated as the blueprint, in the whole process of this study to demonstrate how phronesis, as a pedagogical approach, can build and strengthen academic integrity, amongst a multitude of digital technological opportunities and risks for the flourishing of academia and the society. This strikes a chord with Lewin's, (2013, p.6) insightful conception on the virtue of phronesis which '*seeks not just the right goal, but above and beyond all, the right way to bring about the right goal'.*

5.7 Digital phronesis practicum: Strengths and limitations

In evaluating the *digital phronesis* model, it is essential to consider its strengths and limitations. These attributes not only pertain to the model itself but also extend to the entirety of this study. While the model shows promise in fostering academic integrity within a digital ecosystem, it requires empirical application to obtain conclusive insights. By analysing both the advantages and potential drawbacks, a thorough understanding of its effectiveness and areas for improvement can be achieved.

Considering its *strengths*, the current digital model excels with its interdisciplinary approach, seamlessly blending ethical theory with technological challenges in digital higher education contexts. It confronts urgent issues as transformative technologies reshape educational landscapes, offering profound insights into the nuances of upholding academic integrity in the digital era. The model not only proposes actionable strategies and tools to enhance academic integrity but also grounds these recommendations in Aristotelian phronesis, championing practical wisdom and virtue ethics as a steadfast ethical foundation.

The limitations of the model include its complexity, which may pose challenges for readers with diverse academic backgrounds. Additionally, applying a broad theory of phronesis to digital education may contradict its inherently contextual and situation-dependent nature. Moreover, establishing a rigid framework could diverge from phronesis principles that prioritize situational awareness and adaptability. Furthermore, the pursuit of a universal model based on a situational concept like phronesis may appear paradoxical, potentially limiting flexibility. Practical aspects of the model may face resistance or practical challenges during implementation, with positive outcomes requiring time to materialize. Similarly, rapid technological advancements may outpace the theoretical framework, necessitating ongoing updates and revisions. Additionally, ethical interpretations and applications of phronesis can be subjective, resulting in varied perspectives, and outcomes.

Ultimately, the digital model demonstrates strengths through its interdisciplinary approach and practical strategies grounded in Aristotelian phronesis. However,

challenges arise from its complexity and the application of a generalized theory like phronesis to varied educational contexts, underscoring the importance of empirical application to refine and potentially mitigate these limitations in practice.

CONCLUSION

Digital ecosystems in education call for new transformative, innovative pedagogies with students to be key stakeholders of academic communities. However, as AI technologies are rapidly evolving, certain moral dilemmas and moral decision-making issues have come into existence, related to the way these innovative technologies should be used in education so as to ensure academic integrity.

According to the Aristotelian epistemology theory, knowledge (*episteme*) and skills(*techne*) are not sufficient to lead agents towards prudent judgement needed to tackle moral issues. It is the moral and intellectual virtue of *phronesis* that is proposed as the *sine qua non*, for a person to develop a *phronetic* judgement and which helps him acquire his *practical wisdom*.

Drawing on this Aristotelian philosophy, this study has, auspiciously, introduced an archetype, a paradigm of pedagogical approach in the form of a multi- component, multi-phased construct, aiming to ensure academic integrity *vis-à-vis* a multitude of digital opportunities but and barriers/challenges, as well. The *digital phronesis practicum* operates on both, conceptual and practical basis. It consists of four core

components: *digital phronesis literacy, digital phronesis reasoning, digital phronesis reflection* and *digital phronesis blueprint*. These components are underpinned by Aristotelian conceptual approaches grounded on moral psychology and moral philosophy. Each of these four components is also accompanied with a *practicum* and its *'4Rs'* distinctive phases: *Reconnaissance, Reciprocation, Realisation, Refinement*. The *practicum,* as a mechanism, forms a framework of in-depth, comprehensive practices and strategies based mainly on education character literature and value-based, constructivist, transformative, student-centric pedagogies. The present model is inspired by Polizzi, et. al.'s (2022) model of *cyber-wisdom,* a framework for understanding how wisdom can be fostered via education in the digital era. However, the *digital phronesis* fourth component, the *digital phronesis blueprint,* resonates Ardelt's, (2019) *phronesis blueprint* function and less Polizzi, et. al.'s cyber-wisdom motivation component. Also, Polizzi, et. al.'s model is not concerned about academic integrity and the use of digital technologies, which sets the core point at issue of the *digital phronesis practicum.*

This study has also encompassed four further models to build on: Ardelt's, (2004), Darnell, et. al.'s (2019), Venera-Mihaela, et. al.'s (2021) and Caldwell's, (2010) model. The former two models that *digital phronesis practicum* is based on, are drawn on the Aristotelian phronesis theory, which is in line with the present model. Ardelt's model is mainly based on moral psychology while Darnell, et. al.'s on moral philosophy. The third model, of Venera-Mihaela's, is value-based, underpinned by the fundamental values of ICAI, (2021) framing academic integrity, hence, it is harmonised with the *digital phronesis practicum.* Caldwell's, (2010) is an integrative model operating on a

practical basis and has added up to the *4Rs phase practicum* framework of the *digital phronesis* model.

The overarching purpose, via these core components of the *digital phronesis practicum* model, is the cultivation of a phronesis approach, (practical wisdom) to guide the mind, the character, and actions of education agents' so as to ensure academic integrity *vis-à-vis* a multitude of digital and AI affordances, opportunities and challenges, thus, leading academic communities to the common good. This model could also help education participants advance a prudential judgement not only to address their moral decision making related to the way progressive technologies should be used in education. This model can also help education community to develop a *phronetic* judgment over the way agents can guide and control these digital technologies through academic integrity, for an academic *eudaimonia* and the common good.

Accordingly, navigating moral dilemmas and moral decision-making arising in academic communities, concerning the use of emerging technologies, is not an issue mainly attributed to these cutting-edge technologies, *per se*. In the same sense, blocking access approaches and/or deontological, utilitarian punitive strategies, evidently, do not provide any effective solution. Instead, innovative, transformative, value-based pedagogical approaches that the present *digital phronesis practicum* construct embraces, can lay out - conceptually and practically - the ways for academic communities to leverage the new digital technologies to support new learning styles and create more equitable learning chances for students while minimising academic,

dishonest cases. As the case may be, the obligation of academic communities to uphold academic integrity, primarily falls on the phronesis virtues defining education pedagogies and the education agents' character, and incidentally on the digital technologies, *per se*, they use. To put it in a simplistic way, leveraging cutting-edge technology to ensure academic integrity is not merely a technological concern; within a social constructivism approach, it is, primarily, an educational concern, and the *digital phronesis practicum* stands out as a much promising educative tool towards this direction.

With reference to its further directions, this model, embeds dual implications. In the first place, it calls for empirical implementation, organised and tested on a pilot basis and addressing, initially, upper secondary and higher education contexts. In the second place, it could set an inspirational source for researchers from various disciplines (psychology, biology, sociology, philosophy) to conduct, for example, research on the reasons that facilitate or impede the formation of an agent's *phronetic* character and if and how it can be related to the way an education agent navigates digital tools in education. Further research could be conducted on those factors (i.e., context-based, value- based, digital literacy-based) operating as the main determinants of education stakeholders required to direct digital tools so as to serve against academic misconducts.

Regarding the practical implications of the *digital phronesis practicum* and the inclusion of its prototype *'4Rs' phase practicum*, this model gives the chance to education stakeholders, education policy makers, government actors, and public or

private education institutions around the world, to implement the Aristotelian phronesis approach as embedded in the *digital phronesis practicum* and its four core components. Indicatively, it can form an inclusive construct of a modular online course, or a curriculum, a supplementary tool or even a framed programme of practices, initiatives, strategies and educative pedagogies, running throughout the academic year. It can also constitute a valuable means for education communities to *phronetically* reshape their education system and guide it towards the cultivation of an innovative digital culture of academic integrity. This can be facilitated through a co-operative, interdisciplinary and interdependent approach, including, *inter alia*, government and education technology agents and a new framework of legal and technological regulations to define digital contexts in education (see also, Polizzi, et. al., 2022). Even further, the model of *digital phronesis practicum* could encourage the establishment of an *Aristotelian Phronesis Centre* on a digital education character.

Ontologically speaking, a shift towards innovative, transformative, student- centric education approaches as they are conducive to the *digital phronesis practicum* model and to the digital and AI technologies, is not an easy step for the education sector. Its complexity and the challenge of applying a generalized theory like phronesis to diverse educational contexts, presents significant limitations that require careful consideration and adaptation in real-world implementation. Also, fostering a diametrically different approach to accommodate and promote a digital culture of academic integrity, underpinned by the Aristotelian phronesis approach, could take time, and collective efforts to generate a *collective phronesis* for the human flourishing.

Beyond the multi-stakeholder alliance this effort calls for, the following concluding lines enkindled by Hibbert, (2012; in Kinsella, et. al., (eds)), should be taken into deep consideration: whatever the progression and the use of digital technologies in education can be, human mind would always excel in qualities, emotions and values, provided that it is directed, in a *phronetic* way, towards a sublime *telos,* the humanity's flourishing. It is this profound convergence of humans and technology that finds reflection in Aristotle's introduction of phronesis to digital education.

APPENDICES

1

Types of Student misconducts

Types of student dishonest behaviours are organised and presented in accordance with Pavela's, (1997) conceptual framework**.**

***Cheating behaviours in exams*:** Chirumamilla, et. al., (2020) suggest the following categories of exam cheating: Someone else sits for one's exam who is called impersonator; The use of forbidden technological tools (i.e., wireless head phones and other ear pieces) to provide answers during exams (see also, Cizek's, 1999); Peeking at a peer's exam answer sheet; and student-staff collusion (Trost, 2009) which includes the exchange of information between the examinee and university staff during exams (Peters, et. al., 2020; in Eaton, et.al., (eds), p.311). Since cheating behaviours are evolving in view of new technologies, either within classroom or online context, cheating incidents in educational settings are growing (ibid; Fendler & Godbey, 2016, p. 74). Against this backdrop, McCabe, et. al., (2012) studies have shown that, 68% of undergraduates and 43% of graduate students admit to committing test cheating.

Plagiarism: It can be termed as 'the appropriation of another person's words and ideas and presenting them as one's own, in order to obtain a benefit in an environment where originality is expected' (Peters, et. al., 2022; in Eaton, et.al., (eds), p.309; Foltýnek, et. al., 2019; Kakkonen & Mozgovoy, 2010). One type of plagiarism relates to essay mills and includes papers bought by students and then submitted as their own work (Lancaster, 2020) which is also known as contract cheating. McCabe, et. al., (2012, p. 22) in a survey of 2342 American upper secondary students, discovered that 67–81% of the students affirmed to have committed plagiarism or cheating on a test.

***Contract Cheating or pay-to-pass*:** It refers to 'the practice of students engaging in a transaction to have their schoolwork completed by a third party'; this may presuppose the exchange of money or it could also include bartering (Crossman, 2022; in Easton et. al., (eds), p.221; Stoesz & Eaton, 2020; Lancaster & Clarke, 2008). Bretag, et. al., (2018) have demonstrated that students dissatisfied with their learning environment may have recourse to contract cheating. According to recent research (Newton, 2018), has been found 'not only that contract cheating has increased rapidly in recent years, but also that as many as one in seven (or a mindboggling 31 million students globally) have purchased assignments' (Crossman, 2022; in Easton, et. al., (eds), p. 223). A study conducted by Janke, et. al., (2021) demonstrated that 83% of German students surveyed (n=1608) admitted they were engaged in various forms of cheating during one remote term (spring, 2020) alone.

Research falsification/fabrication: Falsification is 'the changing or omission of research results (data) to support claims, hypotheses, other data, etc'. Fabrication is 'the construction and/or addition of data, observations, or characterizations that never occurred in the gathering of data or running of experiments'. Either one can occur during the conduct of research. According to the Council of Europe (Vol:1, 2021-2022), it is estimated that 2.9% of surveyed researchers have admitted to committing FFP (falsification, fabrication, plagiarism) while 12.5% have admitted to engaging in questionable research practices (Xie, et. al., 2021). On a par with that, 15.5% of researchers have reported that they have seen a colleague commit research breach, while 39.7% are aware that colleagues have applied questionable research practices(ibid).

2

AVATAR.mp4

Please double click to open the Avatar file

3

Phronesis Storytelling.mp4

For this storytelling sample, the author has used ChatGPT in a simplistic way to demonstrate just, how this AI tool can be used constructively. The following prompt was given to ChatGPT:

"Give me one dialogue concerning an ancient Greek scenery with Aristotle, phronesis and young students. One of them is trying to convince the other to use ChatGPT instead of completing the task alone. Phronesis advises both of them. The scene must last 10 seconds."

The given answer was:

Aristotle: Young minds, we must unravel the mysteries of philosophy together.
Student 1: But wouldn't it be faster to consult ChatGPT for insights?
Student 2: Indeed, Phronesis, what say you?
Phronesis: Both paths hold merit. ChatGPT may offer guidance, but collaborative learning fosters deeper understanding.

The writer has slightly changed this dialogue as presented in the storytelling animation sample.

4

Academic Integrity Misconducts App (presentation)

REFERENCES

Abdelghanie, E. (2017). Systematic Analysis of the Effects of Digital Plagiarism on Scientific Research: Investigating the Moroccan Context. *Journal of Education and Practice* www.iiste.org ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.8, No.2, 2017 133 - Ibn to fail University as Case Study.

Addis, A. (1997). "On Human Diversity and the Limits of Toleration," in *Ethnicity and Group Rights* (Nomos 39), I. Shapiro and W. Kymlicka (eds.), New York: New York University Press.

Aditya, B.R.; Ferdiana, R.; Kusumawardani, S.S. (2020). The Study of the Barriers to Digital Transformation in Higher Education: A Preliminary Investigation in Indonesia. In Proceedings of the 2020 6th International Conference on Science and Technology (ICST), Yogyakarta, Indonesia, 7–8 September 2020; pp. 1–6.

Aiken, R.M., Epstein, R. G. (2000). Ethical Guidelines for AI in Education: Starting a Conversation. *International Journal of Artificial Intelligence in Education* (2000), 11,163-176

Alenezi, M. (2021). Deep Dive into Digital Transformation in Higher Education. *Educ. Sci.* 2021, 11, 770.

Alhubaishy, A., Aljuhani, A. (2021). The challenges of instructors' and students' attitudes in digital transformation: A case study of Saudi Universities. *Educ. Inf. Technol*, *26*, 4647–4662.

Alin, P. (2020). Detecting and prosecuting contract cheating with evidence – a "Doping Test" approach. *Int J Educ Integr* **16**, 7 (2020). https://doi.org/10.1007/s40979-020-00056-4.

Alzahrani, S. M., Salim, N., & Abraham, A. (2012). Understanding plagiarism linguistic patterns, textual features, and detection methods. *Systems, Man, and Cybernetics, Part C: Applications and Reviews, IEEE Transactions on,* 42(2), 133e149.

Anderman, E. M. (2007). The effects of personal, classroom, and school goal structures on academic cheating. In E. M. Anderman & T. B. Murdock (Eds.), *Psychology of academic cheating* (pp. 87–106). Boston: Elsevier.

Annas, J. (2011). *Intelligent virtue*. Oxford University Press.

Appanna, S. (2008). "*A review of benefits and limitations of online learning in the context of the student, the instructor and the tenured faculty*", International Journal on E-Learning.

Ardelt, M. (2003). Empirical assessment of a three-dimensional wisdom scale. *Research on Aging,* 25(3), 275–324.

Ardelt, M. (2004). Wisdom as expert knowledge system: A critical review of a contemporary operationalization of an ancient concept. *Human Development,* 47(5), 257-285.

Ardelt, M. (2011a). Wisdom, age, and well-being. In K. W. Schaie & S. L. Willis (Eds.), *Handbook of the psychology of aging* (pp. 279-291). Amsterdam: Elsevier.

Aristotle. (1906). *The Ethics of Aristotle: the Nicomachean Ethics*, trans. G.H. Lewes. London: Walter Scott.

Aristotle. (1985). Nicomachean Ethics. Irwin T, tr. Cambridge: Hackett Publishing Company, 1985.

Aristotle. (2002). *Nicomachean Ethics*, Rowe, C. (trans.) and Broadie, S. (ed.), Oxford: Oxford University Press.

Aristotle, (2002). Nicomachean Ethics, 1103b15-20, 1104a15-25, 1104b1-10, 1107a30-1107b5, 1108b15-35, 1109a5-15, 1115a5-1117b25, 1129b20-5, 1137a20-5, 144b5-10, 1167a20, 1177a30-b1, in Aristotle, Translation, Introduction, and Commentary, Broadie, Sarah, & Rowe, C., Oxford University Press, 2002.

Arthur, J., Harrison, T., Carr, D., Kristjánsson, K., Davidson, I., Hayes, D., & Higgins, J. (2014a). Knightly virtues: Enhancing virtue literacy through stories. *Jubilee Centre for Character and Virtues,* University of Birmingham. http://epapers.bham.ac.uk/1946/1/ KnightlyVirtuesReport.pdf.

Arthur, J., Kristjánsson, K., Harrison, T., Sanderse, W., & Wright, D. (2016). *Teaching character and virtue in schools*. Routledge

Arthur, J., Earl, S.R., Thompson, A.P., Ward, J.W. (2021). The value of character-based judgement in the professional domain. *Journal of Business Ethics*, 169 (2) (2021), pp. 293-308.

Ashworth, P., Bannister, P., & Thorne, P. (1997). Guilty in whose eyes? University students' perceptions of cheating and plagiarism in academic work and assessment. *Studies in Higher Education*, 22(2), 187–203. https://doi.org/10.1080/03075079712331381034.

Association for Computing Machinery. (2006). ACM policy and procedures on plagiarism Accessed 27.05.09 http://www.acm.org/publications/policies/plagiarism_policy.

Ayoub/Al-Salim, M.I., Aladwan, K. (2021). "The relationship between academic integrity of online university students and its effects on academic performance and learning quality", *Journal of Ethics in Entrepreneurship and Technology*, Vol. 1 No. 1, pp. 43-60. https://doi.org/10.1108/JEET-02-2021-0009.

Baeva, L. (2019). Formation of ethics of digital society [Paper presentation]. XI International Conference Theoretical and Applied Ethics: Traditions and Prospects – 2019. The coming of digital society: a venture in ethics forecasting, Saint Petersburg State University. St. Petersburg, Russia.

Baldwin, D.C Jr., Daugherty, S.R., Rowley, B.D., Schwarz, M.R. (1996). Cheating in medical school: a survey of second- year students at 31 schools. *Acad Med* 71:267–273. https://doi.org/10.1097/00001888-199603000-00020.

Ball, D. L., &Wilson, S. M. (1996). Integrity in teaching: Recognizing the fusion of the moral and intellectual. *American Educational Research Journal*, 33 (1), 155.

Ballard, I. B. (2013). The impact of an academic integrity module and turnitin R on similarity index scores of undergraduate student papers. Res. Sch. 20, 1–13. doi: 10.1080/00405841.2017.1283573.

Balslev, G.M. (2012). *Omdannelse & uddannelse: innovation, læring og samarbejde* [transformation and education: innovation, learning and collaboration]. Thesis (PhD). *Institut for Samfund og Globalisering*, Roskilde University.

Baltes, P. B., & Staudinger, U. M. (2000). Wisdom: A metaheuristic (pragmatic) to orchestrate mind and virtue toward excellence. *American Psychologist,* 55, 122–136. https://doi.org/10.1037//0003-066x.55.1.122.

Barratt, J. (2007). Design for an ageing society. *Gerontechnology*, 6(4), pp.188-189.

Bass, B. M. (1990). *Bass and Stogdill's Handbook of Leadership: Theory, Research, and Managerial Applications*, Free Press, New York, NY.

Bealle, P. (2017). Community college academic integrity lessons that put research into practice. *Theory Pract*. 56, 144–155.

Bearman, M., Dawson, P., O'Donnell, M., Tai, J., Jorre de St Jorre, T. (2020). "*Ensuring academic integrity and assessment security with redesigned online delivery [PDF]*", Deakin University, Melbourne, available at: http://dteach.deakin.edu.au/2020/03/23/academic-integrity-online/.

Becker, T. E. (1998). 'Integrity in organizations: beyond honesty and conscientiousness' *The Academy of Management Review*, Vol. 23 No. 1, pp. 154-61.

Bedeian, A.G., Taylor, S.G., Miller, A.N. (2010). Management science on the credibility bubble: cardinal sins and various misdemeanors. *Acad. Manage. Learn. Educ*. 9 (4), 715–725. https://doi.org/10.5465/amle.9.4.zqr715.

Bell, D. (2005). 'Resolving Academic Dishonesty Through Facilitated Discussion', *Academic Leader* 21(3), 3–4.

Benson, N.F, Floyd, R.G, Kranzler, J.H, Eckert, T.L, Fefer, S.A, Morgan, G.B. (2019). Test use and assessment practices of school psychologists in the United States: Findings from the 2017 National Survey. *J Sch Psychol*. 2019 Feb; 72:29-48. doi: 10.1016/j.jsp.2018.12.004. Epub 2018 Dec 30. PMID: 30819461.

Bergman, R. (2002). Why be moral? A conceptual model from developmental psychology. *Human Development*, 45, 104–12

Bergsma, A., & Ardelt, M. (2012). Self-reported wisdom and happiness: An empirical investigation. *Journal of Happiness Studies*, 13(3), 481-499.

Berkey, D., & Halfond, J. (2015). Cheating, Student Authentication and Proctoring in Online Programs. *New England Journal of Higher Education*, 1-1.

Bernard, E., Whitley, Jr., & Keith-Spiegel, P. (2001). Academic Integrity as an Institutional Issue, *Ethics & Behavior*, 11:3, 325-342, DOI: 10.1207/S15327019EB1103_9.

Bertram Gallant, T, Drinan, P. (2008). Toward a model of academic integrity institutionalization: Informing practice in postsecondary education. *Can J Higher Educ* 38(2):25–43 (https://eric.ed.gov/?id=EJ815066).

Bertram- Gallant, T. (2008). *Academic integrity in the twenty-first century: A teaching and learning imperative*. Hoboken, NJ: Wiley.

Bertram- Gallant, T. (2017). Academic Integrity as a Teaching & Learning Issue: From Theory to Practice. Theory into Practice, 56, 88-94.

Bertram- Gallant, T. (ed.) (2011). Creating the Ethical Academy: A Systems Approach to Understanding Misconduct and Empowering Change in Higher Education. Routledge.

Betram- Gallant, T., Drinan, P. (2006). Institutionalizing academic integrity: administrator perceptions and institutional actions. *NASPA J* 43(4):61–81. https://doi.org/10.2202/1949-6605.1723.

Biagioli, M., Kenney, M., Martin, R.B., Walsh, J. P. (2019). Academic misconduct, misrepresentation and gaming: A reassessment, Research Policy, Volume 48, Issue 2, Pages 401-413, ISSN 0048-7333, https://doi.org/10.1016/j.respol.2018.10.025. https://www.sciencedirect.com/science/article/pii/S0048733318302658)

Biderman, S., & Raff, E. (2022). *Fooling MOSS Detection with Pretrained Language Models* (arXiv:2201.07406). arXiv. https://doi.org/10.48550/arXiv.2201.07406

Biesta, G.J.J., Miedema, S. (2002). Instruction or pedagogy? The need for a transformative conception of education. *Teaching and Teacher Education* 18 (2002) 173–181

Bijker, W. E., Hughes, T. P., & Pinch, T. (Eds.). (1987). *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. MIT Press

Birmingham, C. (2023). Experiencing pedagogical reflection as the virtue phronesis, *Reflective Practice*, DOI: 10.1080/14623943.2023.2212888.

Bjørn, Ribers., Gitte Miller, Balslev., & Christine Revsbech, Jensen. (2021). Education, collaboration and pedagogical phronesis: essential dimensions in professional learning and development, *Professional Development in Education,* DOI: 10.1080/19415257.2021.1902835.

Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and / Accountability*, 21, 5-31.

Blasi, A. (1984). Moral identity: Its role in moral functioning. In W. Kurtines & J. Gewirtz (Eds.), *Morality, moral behavior and moral development* (pp. 128–139). New York: Wiley

Blau, I., & Eshet-Alkalai, Y. (2017). The ethical dissonance in digital and non-digital learning environments: Does technology promotes cheating among middle school students*? Computers in Human Behavior*, *73*, 629-637. https://doi.org/10.1016/j.chb.2017.03.074.

Blau, I., Goldberg, S., Friedman, A. et al. (2021). Violation of digital and analog academic integrity through the eyes of faculty members and students: Do institutional role and technology change ethical perspectives*? J Comput High Educ* 33, 157–187 (2021). https://doi.org/10.1007/s12528-020-09260-0.

Bloch, J. (2012). Plagiarism, intellectual property and the teaching of L2 writing. Bristol, UK: Multilingual Matters.

Bloomer, M. (1997). Curriculum making in post-16 education. *The social conditions of studentship*. London/New York: Routledge.

Boehm, P. J., Justice, M., Weeks, S. (2009). Promoting academic integrity in higher education. *Commun. Coll. Enterp.* 15, 45–61.

Boney, K. (2014). "Beyond the Skilled Application of Know-How: Pedagogical Reasoning as Phronesis in Highly Competent Teachers" (2014). USF Tampa Graduate Theses and Dissertations. https://digitalcommons.usf.edu/etd/4989.

Bowie, N.E. (2010). Organizational integrity and moral climates. In: Brenkert G and Beauchamp T(eds) *The Oxford Handbook of Business Ethics*. Oxford: Oxford University Press, 501–724.

Bracher, M. (2021). "Foundations of a Wisdom-Cultivating Pedagogy: Developing Systems Thinking across the University Disciplines" *Philosophies* 6, no. 3: 73. https://doi.org/10.3390/philosophies6030073.

Bredillet, C., Tywoniak, S., Dwivedula, R. (2014). Reconnecting the theory and practice in a pluralistic organizing context: issues and Aristotelian considerations, *14th EURAM Conference Proceedings*, Valencia, Spain, 4–7 June 2014.

Bretag, T., Mahmud, S. (2016). A conceptual framework for implementing exemplary academic integrity policy in Australian higher education. In T. Bretag (ed.), *Handbook of academic integrity. Springer*, p. 463–480. https://doi.org/10.1007/978-981-287-098-8_24.

Bretag, T. (Ed.). (2016*). Handbook of academic integrity.* Springer.

Bretag, T., & Harper, R. (2017). *Addressing contract cheating: Local and global responses*. [PowerPoint slides]. Contract Cheating and Assessment Design. https://cheatingandassessment.edu.au/ wp-content/uploads/2016/08/addressing-contract-cheating_local-and-global-responses.pdf.

Bretag, T., & Mahmud, S. (2009). A model for determining student plagiarism: Electronic detection and academic judgement. *Journal of University Teaching & Learning Practice,* 6(1). http://ro.uow.edu.au/jutlp/vol6/iss1/6.

Bretag, T., Harper, R., Burton, M., Ellis, C., Newton, P., van Haeringen, K., Saddiqui, S., & Rozenbuerg, R. (2018). Contract cheating and assessment design: Exploring the relationship. *Assessment & Evaluation in Higher Education*, 44(5), 676–691. https://doi.org/10.1080/02602938.2018.152 7892.

Bretag, T., Mahmud, S., Wallace, M., Walker, R., McGowan, U., East, J., Green, M., Partridge, L., & James, C. (2014). 'Teach us how to do it properly!' An Australian academic integrity student survey. *Studies in Higher Education*, 39(7), 1150–1169. https://doi.org/10.1080/03075079.2013.777406.

Bretag, Tracey; Mahmud, Saadia; Wallace, Margaret; et al. (2011). "Core elements of exemplar academic integrity policy in Australian higher education*". International Journal for Educational Integrity*. 7 (2). doi:10.21913/IJEI.v7i2.759. S2CID 154460695.

Bristor, J., & Burke, M. M. (2016). Academic integrity policies: Has your institution implemented an effective policy? *The Accounting Educators' Journal,* 26, 1–10. https://www.aejournal.com/ ojs/index.php/aej/article/view/338.

Brockman, G. (2022). *ChatGPT just crossed 1 million users; it's been 5 days since launch*. [Tweet]. Twitter. https://twitter.com/gdb/status/1599683104142430208.

Broussard, A., & Golson, B. (2000). High school honor code curbs cheating. *Education Digest*, 65(6), 27–30.

Brown, R. P., Tamborski, M., Wang, X., Barnes, C. D., Mumford, M. D., Connelly, S., & Devenport, L. D. (2011). Moral credentialing and the rationalization of misconduct. *Ethics & Behavior*, 21(1), 1–12.

Brown, T., Isbel, S., Logan, A. and Etherington, J. (2019), "*Predictors of academic honesty and success in domestic and international occupational therapy students*", *Irish Journal of Occupational Therapy*, Vol. 47 No. 1, pp. 18-41, doi: 10.1108/ijot-12-2018-0022.

Bruya, B., Ardelt, M. (2018). Fostering Wisdom in the Classroom, Part 1: A General Theory of Wisdom Pedagogy. *Teach. Philos*. 2018, 41, 239–253.

Buchmann, M. (1986). Role over personal Morality and authenticity in teaching. *Teachers College Record* 87(4), 529-543.

Burbidge, T., Hamer, R. (2020). Academic honesty in the international baccalaureate diploma programme: Student, teacher, and school perspectives. J. *Int. Stud*. 10, 265–285. doi: 10.32674/jis.v10i2.667.

Burgason, Kyle., & Sefiha, Ophir & Briggs, Lisa. (2019). Cheating is in the Eye of the Beholder: an Evolving Understanding of Academic Misconduct. *Innovative Higher Education*. 44. 1-16. 10.1007/s10755-019-9457-3.

Byrnes, K. (2009). *Portraits of contemplative teaching: A third way* (Doctoral dissertation) Available from ProQuest.

Calabrese, R., Roberts, B. (2001). The promise forsaken: Neglecting the ethical implications of leadership. *The International Journal of Educational Management* 15(6): 267–275.

Calabrese, R., & Cochran, J. (1990). The relationship of alienation to cheating among a sample of American adolescents. *Journal of Research and Development in Education*, 23(2) 65–72.

Caldwell, C. (2010). A ten-step model for academic integrity: a positive approach for business schools. *J Bus Ethics* 92(1):1–13. https://doi.org/10.1007/s10551-009-0144-7.

Callahan, D. (2007). *The cheating culture: Why more Americans are doing wrong to get ahead*: Houghton Mifflin Harcourt.

Camara, S.K., Eng-Ziskin, S., Wimberley, L., Dabbour, K.S. & Lee, C.M. (2017). Predicting Students' Intention to Plagiarize: an Ethical Theoretical Framework. *Journal of Academic Ethics*, 15(1), 43-58.

Campbell, E. (2008). The ethics of teaching as a moral profession. *Curriculum Inquiry*, 38 (4), 357-385.

Carr, D. N. (2022). Interpreting Integrity: A Qualitative Approach. *Public Integrity*.

Carr, D., & Harrison, T. (2015). *Educating character through stories*. Imprint Academic.

Carroll, J. (2007). A handbook for deterring plagiarism in higher education (2nd ed.). Oxford Centre for Staff and Learning Development.

Cavaleri, M. R., & Dianati, S. (2016). You want me to check your grammar again? The usefulness of an online grammar checker as perceived by students. *Journal of Academic Language and Learning*, 10(1), Article 1. https://journal.aall.org.au/index.php/jall/article/view/393.

Çelik, O. (2023). Developing a multipronged academic integrity policy writing tool for secondary schools, *International Journal of Educational Development*, Volume 100, 102807, ISSN 0738-0593, https://doi.org/10.1016/j.ijedudev.2023.102807. https://www.sciencedirect.com/science/article/pii/S0738059323000834).

Çelik, Ö., Razı, S. (2023). Facilitators and barriers to creating a culture of academic integrity at secondary schools: an exploratory case study. *Int J Educ Integr* **19**, 4 (2023). https://doi.org/10.1007/s40979-023-00125-4.

Chang, C., Chen, Y., Huang, Y., & Chou, C. (2015). Why do they become potential cyber-plagiarizers? exploring the alternative thinking of copy-and-paste youth in Taiwan. *Computers & Education*, *87*, 357-367. doi:10.1016/j.compedu. 2015.07.006.

Chankova, M. (2020). Teaching Academic Integrity: the Missing Link. *Journal of Academic Ethics.*18 (2020) 155–173 https://doi.org/10.1007/s10805-019-09356-y.

Chen, Jiin-Yu. (2015). "Virtue and the Scientist: Using Virtue Ethics to Examine Science's Ethical and Moral Challenges." *Science and Engineering Ethics* 21: 75–94. https://doi.org/10.1007/s11948-014-9522-3

Chen, Y., & Chou, C. (2017). Are we on the same page? College students' and faculty's perception of student plagiarism in Taiwan. *Ethics & Behavior*, 27(1), 53–73.

Chiang, Forite., & Zhu, Dan & Yu, Wenhao. (2022). A systematic review of academic dishonesty in online learning environments. *Journal of Computer Assisted Learning*. 38. n/a-n/a. 10.1111/jcal.12656.

Chirumamilla, A., Sindre, G., & Nguyen-Duc, A. (2020). Cheating in e-exams and paper exams: The perceptions of engineering students and teachers in Norway. *Assessment and Evaluation in Higher Education*, 45(7), 1–18.

Chishtie, F. (2012). Phronesis and the Practice of Science in Kinsella et.al.,(eds) Professional Practice and Education Book Rotterdam: Sense Publishing.

Choi, E. P. H., Lee, J. J., Ho, M. S., Kwok, J. Y. Y., & Lok, C. Y. W. (2023). Chatting or cheating? The impacts of ChatGPT and other artificial intelligence language models on nurse education. *Nurse Education Today,* 125. https://doi.org/10.1016/j. nedt.2023.105796

Christensen Hughes, J. (2017). *Understanding academic misconduct: Creating robust cultures of integrity*. Paper presented at the University of Calgary, Calgary. http://hdl.handle.net/1880/110083.

Christensen, L Hughes, J. M., & McCabe, D. I. (2006a). Academic misconduct within higher education in Canada. *Canadian Journal of Higher Education, 36(2), 1–21.*

Christner, N., Paulus, M. (2022). Varieties of normative understanding and their relation to sharing behavior in preschool children, *Journal of Experimental Child Psychology,* Volume 224, 2022, 105498, ISSN 0022-0965, https://doi.org/10.1016/j.jecp.2022.105498. (https://www.sciencedirect.com/science/article/pii/S0022096522001278)

Chrysanthos, N. (2020). 'You're being watched and recorded, every breath': Students unsettled by exam software. *The Sydney Morning Herald*. https://www.smh.com.au/national/nsw/you-re-being-watched-and-recorded-every-breath-students-unsettled-by-exam-software-20200519-p54ucb.html.

Churchland, P.M. (1996). The neural representation of the social world. In: May, L., Friedman, M. & Clark, A., (Editors*). Mind and morals: Essays on cognitive science and ethics. The MIT Press.* 91-108.

Cifuentes-Muñoz, A. (2019). Epistemología implícita en el código de ética profesional del colegio de psicólogos de Chile [Implicit epistemology in the code of professional ethics of the College of Psychologists of Chile]. *Cinta de Moebio*, 64, 51-67. https://doi.org/10.4067/s0717-554x2019000100051

Cizek, G. J. (1999). *Cheating on tests: how to do it, detect it, and prevent it*. Mahwah, N.J: L. Erlbaum Associates.

Clarke, J., Newman, J. (1997). *The Managerial State*, (London: Sage)

Clarke, R., Lancaster, T. (2006). Eliminating the successor to plagiarism? Identifying the usage of contract cheating sites. In: Paper presented at proceedings of 2nd international plagiarism conference.

Clarke, R., Lancaster, T. (2007). Establishing a systematic six-stage process for detecting contract cheating. In: Paper presented at 2007 2nd international conference on pervasive computing and applications.

Clayton, V. P., & Birren, J. E. (1980). The development of wisdom across the life-span: A reexamination of an ancient topic. In P. B. Baltes & O. G. Brim Jr (Eds.*), Life-span development and behavior* (pp. 103-135). New York: Academic Press.

Cording, M.P. (2004). “Organizational integrity and acquisition performance: the role of values in value creation”, unpublished doctoral dissertation, University of Virginia Charlottesville, VA

Council of Europe. (2022). BEST PRACTICE PROGRAMME IN PROMOTING ACADEMIC INTEGRITY. *A COMPENDIUM OF BEST PRACTICES* Volume1 2021-2022 (Author: Tricia Bertram Gallant).

Cox, D., La Caze, M. & Levine, M. (2017). Integrity. In: E. N. Zalta, ed. The Stanford Encyclopedia of Philosophy. Spring ed. Stanford: Stanford Center For the Study of Language and Information.

Cronan, T.P., McHaney, R., Douglas, D.E., Mullins, J.K. (2017), Changing the academic integrity climate on campus using a campus using a technology-based intervention. *Ethics Behav* 27(2):89–105. https://doi.org/10.1080/10508422.2016.1161514

Crossman, K. (2019). Is this in my contract? How part-time contract faculty face barriers to reporting academic integrity breaches. *Canadian Perspectives on Academic Integrity,* 2(1), 32–39. https:// doi.org/10.11575/cpai. v2i1.68934.

Crossman, K. (2022). Education as a Financial Transaction: Contract Employment and Contract Cheating. In: Eaton, S.E., Christensen Hughes, J. (eds) Academic Integrity in Canada. Ethics and Integrity in Educational Contexts, vol 1. Springer, Cham. https://doi.org/10.1007/978-3-030-83255-1_11.

Cruickshank, J. (2019). 'Neoliberalism, Technocracy and Higher Education Editors' Introduction', *Social Epistemology*, vol. 33, no. 4, pp. 273-279. https://doi.org/10.1080/02691728.2019.1638983

Cuban, L. (1986). *Teachers and Machines: The Classroom Use of Technology Since 1920*; Teachers College Press: New York, NY, USA.

Curren, R. (2008). Cardinal virtues of academic administration. *Theory and Research in Education,* 6(3), 337-363.

Czajkowska-Białkowska, M. (2022). Honesty as a value in the interpersonal relationships in organizations. *Problems and Perspectives in Management*, 20(1), 14-26. doi:10.21511/ppm.20(1).2022.02

Dahlstrom, E., Brooks, D.C, Bichsel, J. (2014). The current ecosystem of learning management systems in higher education: student, faculty, and IT perspectives.

Dakakni, D., Safa, N. (2023). Artificial intelligence in the L2 classroom: Implications and challenges on ethics and equity in higher education: A 21st century Pandora’s box. *Computers and Education: Artificial Intelligence* 5 (2023) 100179 https://doi.org/10.1016/j.caeai.2023.100179

Dalal, N. (2015). Responding to plagiarism using reflective means. *International Journal for Educational Integrity*. 11, 4 (2015) 1-12. https://doi.org/10.1007/s40979-015-0002-6.

Dale, R. (2021). GPT-3: What’s it good for? *Natural Language Engineering*, 27(1), 113–118. https://doi.org/10.1017/S1351324920000601.

Damon, W., & Hart, D. (1992). Self-understanding and its role in social and moral development. In M. Bornstein & M. Lamb (Eds.), *Developmental psychology*: *An advanced textbook* (pp. 421–458). Hillsdale, NJ: Erlbaum.

Darnell, C., Blaine J., Fowers., Kristjánsson, K. (2022). A multifunction approach to assessing Aristotelian phronesis (practical wisdom), *Personality and Individual Differences*, Volume 196, 2022,111684, ISSN 0191-8869,

https://doi.org/10.1016/j.paid.2022.111684.
(https://www.sciencedirect.com/science/article/pii/S019188692200188X).

Darnell, C., Gulliford, L., Kristjánsson, K., Paris, P. (2019). Phronesis and the knowledge–action gap in moral psychology and moral education: A new synthesis? *Human Development*, 62 (3) (2019), pp. 101-129.

Darwall, Stephen, L. (1997). "Two Kinds of Respect." *Ethics* 88 (1) (1977): 36–49.

Dawson, P., Sutherland-Smith, W. (2018). Can markers detect contract cheating? Results from a pilot study. *Assess Eval High Educ* 43(2):286–293.

Dawson, P. (2020). Strategies for Using Online Invigilated Exams. https://www.teqsa.gov.au/sites/default/files/strategies-for-using-online-invigilated-exams.pdf.

Dehouche, N. (2021). Plagiarism in the age of massive Generative Pre-trained Transformers (GPT-3). *Ethics in Science and Environmental Politics,* 21, 17–23. https://doi.org/10.3354/esep00195

De Maio, C., Dixon K., Yeo, S. (2019). Academic staff responses to student plagiarism in universities: A literature review from 1990 to 2019 Curtin University, Australia.

Dea, S. (2019). The price of academic freedom. *University Affairs*. https://www.univer sityaffairs.ca/opinion/dispatches-academic-freedom/the-price-of-academic-freedom/.

Dee, T.S., Jacob, B.A. (2010). Rational ignorance in education: a field experiment in student plagiarism (working paper 15672). *National Bureau of Economic Research* https://www.nber.org/papers/w15672.

De Graaf, G. (2021). Value conflicts in academic teaching. *Teaching Public Administration*, 39(1), 107-124. https://doi.org/10.1177/0144739420937755

DeLong, D. (2012). Propensity toward unintentional plagiarism. *Global Education Journal*, 2012(4), 136–154.

Dewey, J. (1932). Theory of the moral life. New York: Holt, Rinehart, and Winston.

Dewey, J. (1933). How we think: A restatement of the relation of reflective thinking to the educative process. Boston: D. C. Heath.

Dichtl, J. (2003). Teaching Integrity. *The History Teacher*, *36*(3), 367–373. https://doi.org/10.2307/1555693.

Diekhoff, G.M. et al. (1996). College cheating: ten years later *Research in Higher Education.*

Dillon, Robin S. (2022). "Respect", The Stanford Encyclopedia of Philosophy (Fall 2022 Edition), Edward N. Zalta & Uri Nodelman (eds.), URL = <https://plato.stanford.edu/archives/fall2022/entries/respect/>.

Dinneen, C. (2021). Students' use of digital translation and paraphrasing tools in written assignments on Direct Entry English Programs. *English Australia Journal*, 37(1), 40–51. https://doi.org/10.3316/informit.748262877947586.

Dittmann-Kohli, F., & Baltes, P. B. (1990). Toward a neo functionalist conception of adult intellectual development: Wisdom as a prototypical case of intellectual growth. In C. Alexander & E. Langer (Eds.), *Higher stages of human development: Perspectives on adult growth* (pp. 54-78). New York: Oxford University Press.

D'Olimpio, L. (2016). Trust as a virtue in education. Educational Philosophy and Theory. Original article available here: http://www.tandfonline.com/doi/full/10.1080/00131857.2016.1194737

Drach, I., Slobodianiuk, O. (2020). Building a culture of academic integrity in the student environment case of Vinnytsia National Technical University (Ukraine*). Creat Educ* 11(08):1442. https://doi.org/10.4236/ce.2020.118105.

Dubiansky, S. (2020). Students speak out on controversial lockdown browsers for online courses. *Technician Online*. *http://www.technicianonline*.com/news/article_c9693924-1996-11eb-869a-4b90407243a0.html.

Dufresne, R. L. (2004). 'An Action Learning Perspective on Effective Implementation of Academic Honor Codes', *Group & Organization Management* 29(2), 201–218.

Duncan, T. G., McKeachie, W. J. (2005). The making of the motivated strategies for learning questionnaire. *Educ. Psychol*. 40 117–128. [34].

Dunleavy, M., & Dede, C. (2014). Augmented reality teaching and learning. In J. M. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.), *Handbook of research on educational communications and technology (*4th ed., pp. 735–745). New York: Springer.

Dunne, J. (1993). Back to the rough ground: Practical judgment and the lure of technique. Notre Dame, IN: University of Notre Dame Press.

Dyer, K. (2010). Challenges of Maintaining Academic Integrity in an Age of Collaboration, Sharing and Social Networking. In *Proceedings of TCC 2010* (pp. 168-195). TCCHawaii. Retrieved July 23, 2023 from https://www.learntechlib.org/p/43770/.

East, J. (2009). Aligning policy and practice: an approach to integrating academic integrity J. *Acad. Lang.* Learn. (2009).

East, J. (2010). Judging plagiarism: A problem of morality and convention. Higher Education, 59(1), 69–83. https://doi.org/10.1007/s10734-009-9234-9.

East, J., & Donnelly, L. (2012). Taking responsibility for academic integrity: A collaborative teaching and learning design. *Journal of University Teaching and Learning Practice,* 9(3), 1–11. https://ro.uow.edu.au/jutlp/vol9/iss3/2.

Eaton, S. E. (2020). E-Proctoring: Understanding the debate about invigilating remote exams. https://drsaraheaton.wordpress.com/2020/05/12/e-proctoring-understanding-the-debate-about-invigilating-remote-exams/.

Eaton, S. E. (2020). Ethical considerations for research conducted with human participants in languages other than English. *British Educational Research Journal,* 46(4), 848-858. https://doi.org/10.1002/berj.3623.

Eaton, S. E. (2021). Plagiarism in higher education: Tackling tough topics in academic integrity. Santa Barbara, CA: Libraries Unlimited.

Eaton, S. E., & Christensen Hughes, J. (2020). *Academic Integrity in Canada: Edited Book—Project Launch Meeting*. http://hdl.handle.net/1880/113116.

Eaton, S. E., Chibry, N., Toye, M. A., & Rossi, S. (2019). Interinstitutional perspectives on contract cheating: A qualitative narrative exploration from Canada. *International Journal for Educational Integrity*, 15(1), 1–17. https://doi.org/10.1007/s40979-019-0046-0.

Eaton, S.E. (2023). The Academic Integrity Technological Arms Race and its Impact on Learning, Teaching, and Assessment *Canadian Journal of Learning and Technology,* Vol. 48, No.2.

Eckstein, M.A. (2003). *Combating academic fraud: Towards a culture of integrity*. International Institute for Educational Planning, p. 73. https://unesdoc.unesco.org/ark:/48223/pf0000133038.

Edwards, M.A., Roy, S. (2017). Academic research in the 21st century: maintaining scientific integrity in a climate of perverse incentives and hyper competition. *Environ. Eng. Sci*. 34 (8). https://doi.org/10.1089/ees.2016.0223. 616-616.

Eikeland, O. (2008). The ways of Aristotle: Aristotelian Phrónêsis, Aristotelian philosophy of dialogue, and action research, *Studies in vocational and continuing education* (5), Peter Lang, Bern.

Eikeland, O. (2006). Phronesis, Aristotle and action research. *International Journal of Action Research*, 2(1), 5–53.

Eke, D. O. (2023). ChatGPT and the rise of generative AI: Threat to academic integrity? *Journal of Responsible Technology*, 13. https://doi.org/10.1016/j.jrt.2023.100060

El-Sayed Abd-Elaal., Sithara H.P.W., Gamage, Julie E. Mills. (2019). Artificial Intelligence Is a Tool for Cheating Academic Integrity. Proceedings of the AAEE2019 Conference Brisbane, Australia, Copyright © Authors' names, 2019.

Elander, J., Pittam, G., Lusher, J., Fox, P., & Payne, N. (2010). Evaluation of an intervention to help students avoid unintentional plagiarism by improving their authorial identity. *Assessment & Evaluation in Higher Education*, 35(2), 157–171.

Elgin, C. (2000). Goodman, Nelson. In *Concise Routledge encyclopedia of philosophy* (pp. 321–322). London: Routledge.

Ellett, Jr. F.S. (2012). Practical rationality and a recovery of Aristotle's 'Phronesis' for the Professions, Ch. 2. In: Pitman A, Kinsella EA (eds) Phronesis as professional knowledge: practical wisdom in the professions. *Sense Publishers*, pp. 13–34.

Ellis, C., Zucker, I.M., Randall, D. (2018). The infernal business of contract cheating: understanding the business processes and models of academic custom writing sites. *Int J Educ Integr* 14(1):1.

Ertmer, P.A. (1999). Addressing first-and second-order barriers to change: Strategies for technology integration. *Educ. Technol. Res. Dev.* **1999**, *47*, 47–61.

European Parliament. (2020). Rethinking education in the digital age PE641.528 ISBN: 978-92-846-6126-8 doi: 10.2861/84330 QA- 02-20-026-EN-N http://www.europarl.europa.eu/stoa.

Evering, L.C., & Moorman, G. (2012). Rethinking Plagiarism in the Digital Age. *Journal of Adolescent & Adult Literacy*, 56 (1), 35– 44. doi: 10.1002/jaal.100.

Fatemi, G., Saito, E. (2020). Unintentional plagiarism and academic integrity: The challenges and needs of postgraduate international students in Australia. J. *Further High. Educ.* 44, 1305–1319. doi: 10.1080/0309877X.2019. 1683521.

Feenberg, A. (1999). *Questioning Technology*. Routledge

Fendler, R. J., & Godbey, J. M. (2016). Cheaters should never win: Eliminating the benefits of cheating. *Journal of Academic Ethics*, 14(1), 71–85.

Fitria, T. N. (2021). Grammarly as AI-powered English Writing Assistant: Students' Alternative for Writing English. Metathesis: *Journal of English Language, Literature, and Teaching,* 5(1), Article 1. https://doi.org/10.31002/metathesis.v5i1.3519

Flaming, D. (2001). Using phronesis instead of "research-based practice" as the guiding light for nursing practice. *Nursing Philosophy*, 2, 251–258.

Foltýnek, T., Meuschke, N., & Gipp, B. (2019). Academic plagiarism detection: A systematic literature review. *ACM Comput. Surv*., 52(6), Article 112.

Font de la Valle, R. R., & Araya, F. G. (2023). Exploring the benefits and challenges of AI language learning tools. *International Journal of Social Sciences and Humanities Invention*, 10(1), 7569–7576. https://doi.org/10.18535/ijsshi/v10i01.02

Fowers, B. J., Carroll, J. S., Leonhardt, N. D., & Cokelet, B. (2021). The emerging science of virtue. *Perspectives on Psychological Science,* 16(1), 118–147.

Fowers, B.J. (2015). The evolution of ethics: Human sociality and the emergence of ethical mindedness, Palgrave/McMillan, Hampshire, UK.

Franklin, U.M. (1999). The real world of technology. House of Anansi Press.

Frankel, T. (2006). *Trust and Honesty: America's Business Culture at a Crossroad.* Oxford: University Press.

Franklyn-Stokes A, Newstead SE. (1995). Undergraduate cheating: who does what and why? *Stud High Educ* 20(2):159–172. https://doi.org/10.1080/03075079512331381673.

Frederiksen, M., Larsen, C., & Lolle, H. L. (2016). *Education and trust, Acta Sociologica,* 59(4), 293–308. https://doi.org/10.1177/0001699316658936

Freitag, M., & Bauer, P. C. (2016). Personality traits and the propensity to trust friends and strangers, The Social Science Journal, 53(4), 467–476. https://doi.org/10.1016/j.soscij.2015.12.002

Frey, William J. (2010). "Teaching Virtue: Pedagogical Implications of Moral Psychology." *Science and Engineering Ethics* 16(3): 611–628. https://doi.org/10.1007/s11948-009-9164-z

Friesen, N. (2023). Pedagogical Tact - An Historical Introduction.

Fröhling, L., & Zubiaga, A. (2021). Feature-based detection of automated language models: Tackling GPT-2, GPT-3 and Grover. *PeerJ Computer Science*, 7, e443. https://doi.org/10.7717/peerj-cs.443

Fulton, C., McGuinness, C. (2016). Chapter 2 - Your Learning in a Digital World, Editor(s): Crystal Fulton, Claire McGuinness, Digital Detectives, *Chandos Publishing*, Pages 9-17, ISBN 9780081001240, https://doi.org/10.1016/B978-0-08-100124-0.00002-7. (https://www.sciencedirect.com/science/article/pii/B9780081001240000027).

Gallant, T. B. (2008). *Academic integrity in the twenty-first century: A teaching and learning imperative*. San Francisco, CA: Wiley Bass

Ganimian, A., Vegas, E., Hess, F. (2020). *Realizing the Promise: How Can Education Technology Improve Learning for All*?, The Brookings Institution, Washington, https://www.brookings.edu/wp-content/uploads/2020/08/edtech_playbook_full_v2.pdf.

Garwood, K. (2022). Supporting Academic Integrity in the Writing Centre: Perspectives of Student Consultants. In: Eaton, S.E., Christensen Hughes, J. (eds) *Academic Integrity in Canada. Ethics and Integrity in Educational Contexts*, vol 1. Springer, Cham. https://doi.org/10.1007/978-3-030-83255-1_22.

Gehrmann, S., Strobelt, H., & Rush, A. M. (2019). GLTR: Statistical Detection and Visualization of Generated Text (arXiv:1906.04043). arXiv. https://doi.org/10.48550/arXiv.1906.04043

Gijbels, D., Segers, M., & Struyf, E. (2008). Constructivist learning environments and the (im)possibility to change students' perceptions of assessment demands and approaches to learning. *Instructional Science*, 36(5/6), 431–443. http://www.jstor.org/stable/23372649.

Gilster, P. (1997). Digital literacy. New York: Wiley.

Gino, F., Ayal, S., & Ariely, D. (2009). Contagion and differentiation in unethical behavior: The effect of one bad apple on the barrel. *Psychological Science*, 20(3), 393–399.

Giorgini, G., Irrera, E., (eds). (2017). THE ROOTS OF RESPECT A HISTORIC-PHILOSOPHICAL ITINERARY ISBN 978-3-11-044813-9 e-ISBN (PDF) 978-3-11-052628-8 https://library.oapen.org/bitstream/id/b1ebf13e-8045-443f-ba75-b3b0b97fa12c/630212.pdf

Giroux, H. (1988). Teachers as transformative intellectuals. In *Teachers as intellectuals: Towards a critical pedagogy of learning* (pp. 121–128). Granby, MA: Bergin & Garvey.

Gkrimpizi, T., Peristeras, V. (2022). Barriers to digital transformation in higher education institutions. In Proceedings of the 15th International Conference on Theory and Practice of Electronic Governance, Guimarães, Portugal, 4–7 October 2022; Association for Computing Machinery: New York, NY, USA, 2022; pp. 154–160.

Gkrimpizi, T., Vassilios Peristeras, V., Magnisalis, I. (2023). "Classification of Barriers to Digital Transformation in Higher Education Institutions: Systematic Literature Review" *Education Sciences* 13, no. 7: 746. https://doi.org/10.3390/educsci13070746

Glendinning, I., Foltýnek, T., Demoliou, C., Joswik, K., Stabingis, L. (2013). Comparison of policies for academic integrity in higher education.

Glendinning, I., Lancaster, T., Foltýnek, T., Henek, D., Linkeschova, D., Calhoun, Ben. (2018). South-East European Project on Policies for Academic Integrity.

Glück, J., Bluck, S. (2013). The MORE life experience model: A theory of the development of personal wisdom M. Ferrrari, N. Weststrate (Eds.), *The scientific study of personal wisdom,* Springer (2013), pp. 75-97.

Goddiksen, M., & Gjerris, M. (2022). Teaching phronesis in a research integrity course. *FACETS*. 7. 10.1139/facets-2021-0064.

Goodman, N. (1978). *Ways of worldmaking*. Sussex, UK: The Harvester Press.

Goralski, M. A., & Tan, T. K. (2020). Artificial intelligence and sustainable development. *The International Journal of Management Education, 18* (1), 100330. https://doi.org/10.1016/j.ijme.2019.100330.

Gottardello, D., & Karabag, S. F. (2020). Ideal and actual roles of university professors in academic integrity management: A comparative study. *Studies in Higher Education*. https://doi.org/10. 1080/03075079.2020.1767051.

Grant, P., Arjoon, S., McGhee, P. (2018). "In Pursuit of *Eudaimonia*: How Virtue Ethics Captures the Self-Understandings and Roles of Corporate Directors." *Journal of Business Ethics* 153: 389–406. https://doi.org/10.1007/s10551-016-3432-z

Graveland, B. (2018). Judge upholds university's right to rescind master's degree over plagiarism. The Star Calgary. Retrieved from https://www.thestar.com/calgary/2018/09/19/judge-upholds-universitys-right-to-rescind-masters-degree-over-plagiarism.html.

Gravett, K., & Kinchin, I. M. (2018). Referencing and empowerment: exploring barriers to agency in the higher education student experience. *Teaching in Higher Education*, 1–14.

Gray, B. (2022). Ethics, EdTech, and the Rise of Contract Cheating. In: Eaton, S.E., Christensen Hughes, J. (eds) Academic Integrity in Canada. *Ethics and Integrity in Educational Contexts*, vol 1. Springer, Cham. https://doi.org/10.1007/978-3-030-83255-1_9.

Griffith, J. (2013). Pedagogical Over Punitive: The Academic Integrity Websites of Ontario Universities *Canadian Journal of Higher Education Revue canadienne d'enseignement supérieur Volume* 43, No. 1, 2013, pages 1-22 CSSHE SCÉES York University.

Grossmann, I., Oakes, H., & Santos, H. C. (2019). Wise reasoning benefits from emo diversity, irrespective of emotional intensity. *Journal of Experimental Psychology*: General, 148(5), 805–823. https://doi.org/10.1037/xge0000543.

Grossmann, I., Weststrate, N. M., Ardelt, M., Brienza, J. P., Dong, M., Ferrari, M., Fournier, M. A., Hu, C. S., Nusbaum, H. C., & Vervaeke, J. (2020). The science of wisdom in a polarized world: Knowns and unknowns. *Psychological Inquiry*, 31(2), 103–133. https://doi.org/10.1080/1047840X.2020.1750917.

Guerrero-Dib, J., Portales, L., Heredia-Escorza, Y. (2020). Impact of academic integrity on workplace ethical behaviour. *Int J Educ Integr* 16 (1):1–18. https://doi.org/10.1007/s40979-020-0051-3.

Gullifer, J., Tyson, G.A. (2010). Exploring university students' perceptions of plagiarism: *a focus group study. Stud High Educ* 35(4):463–481. https://doi.org/10.1080/03075070903096508.

Gutmann, A. (2003). *Identity and democracy.* Princeton: Princeton University Press

Habermas, J. (1971). *Knowledge and human interests*. London: Heinneman.

Hager, P., Beckett, D. (1995). Philosophical underpinnings of the integrated conception of competence Educational Philosophy and Theory, 27 (1) (1995), pp. 1-24.

Hamilton, M., Wolsky, K. (2022). The Barriers to Faculty Reporting Incidences of Academic Misconduct at Community Colleges. In: Eaton, S.E., Christensen Hughes, J. (eds) Academic Integrity in Canada. *Ethics and Integrity in Educational Contexts*, vol 1. Springer, Cham. https://doi.org/10.1007/978-3-030-83255-1_24.

Han, Hyemin. (2015). "Virtue Ethics, Positive Psychology, and a New Model of Science and Engineering Ethics Education." *Science and Engineering Ethics* 21: 441–460. https://doi.org/10.1007/s11948-014-9539-7

Hansen, D. T. (1995). *The call to teach*. New York: Teachers College Press.

Harding, T.S., Carpenter, D.D., Finelli, C.J., Passow, H.J. (2004). Does academic dishonesty relate to unethical behavior in professional practice*? An exploratory study. Sci Eng Ethics* 10(2):311–324. https://doi.org/10.1007/s11948-004-0027-3.

Hardwig, J. (1991). 'The Role of Trust in Knowledge', *The Journal of Philosophy*, 88(12): 693–708. doi:10.2307/2027007

Harris, Charles, E. (2008). "The Good Engineer: Giving Virtue Its Due in Engineering Ethics." *Science and Engineering Ethics* 14: 153–164. https://doi.org/10.1007/s11948-008-9068-3

Harris, C.J., Krajcik, J.S., Pellegrino, J.W. and De Barger, A.H. (2019), Designing Knowledge-In-Use Assessments to Promote Deeper Learning*. Educational Measurement: Issues and Practice*, 38: 53-67. https://doi.org/10.1111/emip.12253.

Harris, L., Harrison, D., McNally, D., Ford, C. (2019).: Academic Integrity in an Online Culture: Do McCabe's Findings Hold True for Online, Adult Learners*? Journal of Academic Ethics*. (2019). https://doi.org/10.1007/s10805-019-09335-3.

Harrison, T., Burns, E., & Moller, F. (2018). Teaching character: Cultivating virtue perception and virtue reasoning through the curriculum. *Educational Review*, 72(5), 617–634. https://doi.org/10. 1080/00131911.2018.1538937.

Harrison, T., Polizzi, G., McLoughlin, S. et. al. (2023) Measuring cyber wisdom: preliminary validation of a new four-component measure. *Educ Inf Technol* (2023). https://doi.org/10.1007/s10639-023-11953-9.

Havnes, A. (2004). 'Examination and Learning: An Activity-Theoretical Analysis of the Relationship Between Assessment and Education Practice', *Assessment & Evaluation in Higher Education* 29(2), 159–176.

Hayden, K. A., Eaton, S. E., Pethrick, H., Crossman, K., Lenart, B. A., &Penaluna, L. A. (2021). A scoping review of text-matching software used for student academic integrity in higher education. *Education Research International*, 2021, 1-15. https://doi.org/10.1155/2021/4834860.

Hedayati-Mehdiabadi, A., Huang, W. D., & Oh, E. G. (2020). Understanding students' ethical reasoning and fallacies through asynchronous online discussion: Lessons for teaching evaluation ethics. *Journal of Moral Education*, 49(4), 454–475. https://doi.org/ 10.1080/03057240.2019.1662774.

Herbart, J.F. (1802/2022). Introductory lecture to students in pedagogy. In N. Friesen (Ed.*) Tact and the pedagogical relation*: *introductory readings*. (pp. 28-37). Peter Lang

Hern, A. (2022). AI bot ChatGPT stuns academics with essay-writing skills and usability. *The Guardian*. https://www.theguardian.com/technology/2022/dec/04/ai-botchatgpt-stuns-academics-with-essay-writing-skills-and-usability

Heyneman, S.P. (2004). Education and corruption. *International Journal of Educational Development* 24 (2004) 637–648 www.elsevier.com/locate/ijedudev.

Heyneman, S.P. (2000a). From the party/state to multi-ethnic democracy: education and social cohesion in the Europe and Central Asia region. *Educational Evaluation and Pol icy Analysis* 22 (2), 173–191.

Heyneman, S.P. (2002/3). Defining the influence of education on social cohesion. International Journal of Education Research, Policy and Practice 3 (4, Winter), 73–97. S.P. Heyneman / *International Journal of Educational Development* 24 (2004) 637–648 647.

Hibbert, K. (2012). CULTIVATING CAPACITY: Phronesis, Learning, and Diversity in Professional Education in Kinsella et.al., (eds) Professional Practice and Education Book Rotterdam: Sense Publishing.

Higgs, Joy, A.M. (2012). Realising Practical Wisdom From the Pursuit of Wise Practice Education in Kinsella et.al., (eds) Professional Practice and Education Book Rotterdam: Sense Publishing.

Holliday, S. G., & Chandler, M. J. (1986). Wisdom: Explorations in adult competence. *Contributions to Human Development*. Basel, NY: Karger.

Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, 57, 542–570. https://doi.org/10.1111/ejed.12533

Honneth, A. (2007), *Disrespect*, Cambridge: Polity.

Honneth, A. (1995), *The Struggle for Recognition*, Cambridge: Polity.

Hortal, A. (2000). Docencia. In A. Cortina, & Y. Corrill (Eds.), 10 palabras claves en etica de las profesiones (pp. 55- 78). Verbo Divino.

Howard, R. M. (2001). Forget about policing plagiarism. Just teach. *The Chronicle of Higher Education*, B24. http://chronicle.com/article/Forget-About-Policing/2792. https://pressbooks.pub/techandcurr2019/chapter/digital-integrity/.

Huang, C. S. J., Yang, S. J. H., Chiang, T. H. C., & Su, A. Y. S. (2016). Effects of situated mobile learning approach on learning motivation and performance of EFL students. *Educational Technology & Society*, 19(1), 263–276

Huberts, I.W. (2018). Integrity: What it is why it is important. *Public Integrity*, 20 (sup1), S18-S32, DOI: 10.1080/10999922.2018.1477404.

Huberts, L. W. J. C. (2014). *The integrity of governance. What it is, what we know, what is done, and done, and where to go.* Basingstoke, England: Palgrave Macmillan.

Hulsart, R., & McCarthy, V. (2008). Educators' role in promoting academic integrity. Proceedings of the Allied Academies, 15(2) 104–109.

Hunter, J., Kier, C. (2022). Canadian Open Digital Distance Education Universities and Academic Integrity. In: Eaton, S.E., Christensen Hughes, J. (eds) Academic Integrity in Canada. *Ethics and Integrity in Educational Contexts*, vol 1. Springer, Cham. https://doi.org/10.1007/978-3-030-83255-1_13.

Hussey, T., & Smith, P. (2010). *The trouble with higher education: A critical examination of our universities*. New York and London: Routledge.

Hwang, E. J., Park, J., & Hong, W. (2022). Artificial intelligence system for identification of false negative interpretations in chest radiographs. *European Radiology*, 32, 4468–4478. https://doi.org/10.1007/s00330-022-08593

Ina Blau., Yoram Eshet-Alkalai. (2017). The ethical dissonance in digital and non-digital learning environments: Does technology promotes cheating among middle school students?, Computers in Human Behavior, Volume 73, Pages 629-637, ISSN 0747-5632,https://doi.org/10.1016/j.chb.2017.03.074. (https://www.sciencedirect.com/science/article/pii/S0747563217302108).

International Center for Academic Integrity [ICAI]. (2021). The Fundamental Values of Academic Integrity. (3rd ed.). ISBN: 978-0-9914906-7-7 (pbk) www.academicintegrity.org/the-fundamental-valuesof-academic-integrity.

Ip, E.J, Nguyen, K, Shah, B.M, Doroudgar, S, Bidwal, M.K. (2016). Motivations and predictors of cheating in pharmacy school. *Am J Pharm Educ* 80(8):133–133. https://doi.org/10.5688/ajpe808133.

Ison, D.C. (2020). Detection of online contract cheating through stylometry: a pilot study. *Online Learn 24*(2):142–165.

Isto Huvila. (2012). Information services and *digital literacy, Editor(s): Isto Huvila, In Chandos Information Professional Series, Information Services and Digital Literacy, Chandos* Publishing, Pages 25-34, ISBN 9781843346838, https://doi.org/10.1016/B978-1-84334-683-8.50003-3.
(https://www.sciencedirect.com/science/article/pii/B9781843346838500033).

Jaeger, T.P., Bertot, J.C., Thompson, K.M., Katz S.M &. De Coster, E.J. (2012). The Intersection of Public Policy and Public Access: Digital Divides, Digital Literacy, Digital Inclusion, and Public Libraries, *Public Library Quarterly*, 31:1, 1-20, DOI: 10.1080/01616846.2012.654728.

Jandrić, P. (2018). Post-truth and critical pedagogy of trust. In M. A. Peters, S. Rider, M. Hyvönen & Tina Besley (Eds.), *Post-Truth, Fake News: Viral Modernity & Higher Education* (pp. 101–111). Singapore: Springer. https://doi.org/10.1007/978-981-10-8013-5_8.

Jandrić, P., Luke, T. W., Sturm, S., McLaren, P., Jackson, L., MacKenzie, A., Tesar, M., Stewart, G. T., Roberts, P., Abegglen, S., Burns, T., Sinfield, S., Hayes, S., Jaldemark, J., Peters, M. A., Sinclair, C., & Gibbons, A. (2023). Collective Writing: The Continuous Struggle for Meaning-Making. *Post digital Science and Education*, 5(3), 851–

Janke, S., Rudert, S. C., Petersen, Ä., Fritz, T. M., Daumiller, M. (2021). Cheating in the wake of COVID-19: How dangerous is ad-hoc online testing for academic integrity? *Computers and Education* Open, 2. https://doi.org/10.1016/j.caeo.2021.100055.

Jarman, R., Warner, B., Gill, G. (2006). 'Cheater, Cheater, Pumpkin Eater: Dealing with Cheating in a Large Class', Informing Faculty: *An International Journal of Higher Education Cases* 1, 1–22.

Jenkins, H. (2006). Convergence culture: *Where old and new media collide* New York University Press, New York and London (2006).

Jenkins, H., Purushotma, R., Weigel, M., Clinton, K., Robison, A.J. (2006). Confronting the challenges of participatory culture: *Media education for the 21st century* MIT Press, Cambridge, MA (2006).

Jensen, T. (2019). Higher Education in the Digital Era The current state of transformation around the world. *IUA* 2019, 626–633

Jhones, A.R., Larramendi, J.V. (2019). Informatizing the universities: Reflections on one Cuban experience. *Libr. Trends*, 67, 655–668

Johansen, M.W., Goddiksen, M.P., Centa, M. (2022). Lack of ethics or lack of knowledge? European upper secondary students' doubts and misconceptions about integrity issues. *Int J Educ Integr*.**18**, 20 (2022). https://doi.org/10.1007/s40979-022-00113-0.

John, S.R., Ramdas, S., Khan, S., Wilson, S., Shabbir, R. (2021). Formation of the student board at the UAE Centre for Academic Integrity—Our initiatives and experience. *Cana Perspect Acad Integrity* 4:38–41. https://doi.org/10.11575/cpai.v4i2.74169.

Johnson, C., Davies, R. (2020). Using digital forensic techniques to identify contract cheating: a case study. *J Acad Ethics* 2020:1–9.

Johnson, J. (2021). *Internet usage worldwide - Statistics & Facts*. https://www.statista.com/topics/1145/internet-usage-w

Johnston, D, (2011) Aristotle's Theory of Justice. In *A Brief History of Justice*. Malden, MA: Wiley-Blackwell. pp. 63–88

Jones, Karen. (1999). 'Second-Hand Moral Knowledge', *The Journal of Philosophy*, 96(2): 55–78. doi:10.2307/2564672

Jones, Karen. (2012a). 'Trustworthiness', *Ethics*, 123(1): 61–85. doi:10.1086/667838

.Kakkonen, T., & Mozgovoy, M. (2010). Hermetic and web plagiarism detection systems for student essays—an evaluation of the state of the art. *Journal Educational Computing Research*, 42(2), 135–159.

Kant, I. (1785). *Groundwork of the Metaphysics of Morals*. In *Immanuel Kant*: Practical Philosophy. Translated and edited by Mary Gregor. New York: Cambridge University Press, 1996.

Kant, I. (1797). *The Metaphysics of Morals.* In *Immanuel Kant*: Practical Philosophy. Translated and edited by Mary Gregor. New York: Cambridge University Press, 1996.

Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons, 62*(1), 15–25. https://doi.org/10.1016/j.bushor.2018.08.004.

Kara, F., MacAlister, D. (2010) Responding to academic dishonesty in universities: a restorative justice approach. https://doi.org/10.1080/10282580.2010.517981.

Karami, S., Ghahremani, M., Parra-Martinez, F., Gentry, M. (2020). A polyhedron model of wisdom: A systematic review of the wisdom studies in three different disciplines Roeper Review, 42 (4) (2020), pp. 241-257.

Kauffman, Y., & Young, M. F. (2015). Digital plagiarism: An experimental study of the effect of instructional goals and copy-and-paste affordance. *Computers & Education*, *83*, 44-56. doi:10.1016/j.compedu.2014.12.016.

Kayaoğlu, M. N., Erbay, Ş., Flitner, C., & Saltaş, D. (2016). Examining students' perceptions of plagiarism: A cross-cultural study at tertiary level. *Journal of further and Higher Education*, *40*(5), 682-705. doi: 10.1080/0309877X.2015.1014320Cancel.

Kearney, R. (1988). *The wake of imagination*. London: Routledge.

Keith-Spiegel, P., Tabachnick, B. G., Whitley Jr, B. E., & Washburn, J. (1998). Why professors ignore cheating: Opinions of a national sample of psychology instructors. *Ethics and Behavior*, 8(3), 215-227.https://doi.org/10.1207/s15327019eb0803_3.

Kemmis, S. (2012). Phronesis, experience, and the primacy of praxis. In Kinsella, E.A. & Pitman, A. (Eds.*) Phronesis as professional knowledge: Practical wisdom in the professions* (147-161). Rotterdam: Sense Publishing.

Kemmis, S., & Smith, T. J. (2008). Personal praxis: Learning from experience. Chapter 2 in S. Kemmis & T. J. Smith (Eds.*), Enabling praxis: Challenges for educatio*n. Rotterdam: Sense.

Kenny, N., Eaton, S.E. (2022). Academic Integrity Through a SoTL Lens and 4M Framework: An Institutional Self-Study. In: Eaton, S.E., Christensen Hughes, J. (eds) Academic Integrity in Canada. *Ethics and Integrity in Educational Contexts*, vol 1. Springer, Cham. https://doi.org/10.1007/978-3-030-83255-1_30.

Keohane, N. (1999). The fundamental values of academic integrity. *The Center for Academic Inte*grity, Duke University. (1999) 1–12.https://www.chapman.edu/academics/academic-integrity/_files/the-fundamentalvalues-of-academic integrity.pdf.

Kerasidou, A. (2017). Trust me, I'm a researcher!: The role of trust in biomedical research. *Med Health Care Philos*. 2017 Mar;20(1):43-50. doi: 10.1007/s11019-016-9721-6. PMID: 27638832; PMCID: PMC5318478.

Kezar, A. (Author), DePaola, T., (Author), Scott, D. T (Author). (2019). The Gig Academy: Mapping Labor in the Neoliberal University (Reforming Higher Education: Innovation and the Public Good) ISBN-10 1421432706 ISBN-13 978-1421432700.

Khan, Z.R. (2014). Developing a factor-model to understand the impact of factors on higher education students' likelihood to e-cheat, Doctor of Philosophy thesis, School of Information Systems and Technology, University of Wollongong, 2014. https://ro.uow.edu.au/theses/4545.

Khan, Z.R., Subramanian, S. (2012). Students go click, fick and cheat... e-cheating, technologies and more'. *J Acad Bus Ethics* 6:1–26.

Khan, Z.R., Dyer, J., Bjelobaba, S. et. al. (2021). Initiating count down - gamification of academic integrity. *Int J Educ Integr* **17**, 6 (2021). https://doi.org/10.1007/s40979-020-00068-0.

Khan, Z.R., Priya, J. & Tuffnell, C. (2022). Culture of integrity – institutional response to integrity during COVID19. *Int J Educ Integr* 18, 27 (2022). https://doi.org/10.1007/s40979-022-00118-9.

Kılıçoğlu, G. (2017). Consistency or discrepancy? Rethinking schools from organizational hypocrisy to integrity. *Management in Education*. 31.10.1177/0892020617715268.

Killen, M., & Dahl, A. (2021). Moral Reasoning Enables Developmental and Societal Change. *Perspectives on Psychological Science*, 16(6), 1209-1225. https://doi.org/10.1177/1745691620964076

King, C. G., Guyette, R. W., & Piotrowski, C. (2009). Online Exams and Cheating: An Empirical Analysis of Business Students' Views. *Journal of Educators Online*,6(1), 11.

King, S.H. (2018). Advancing the Practices of Millennial Teachers of Color. In *Millennial Teachers of Color*, Edited by Mary Dilworth. Harvard Education Press.

Kinsella, E. A. (2005). Constructions of self: Ethical overtones in surprising locations. Medical Humanities, 31, 67–71.

Kinsella, E. A. (2006). Constructivist underpinnings in Schön's theory of reflective practice. *Reflective Practice*, 7(3), 277–286.

Kinsella, E. A., Pitman, A. (eds.). (2012). ENGAGING PHRONESIS IN PROFESSIONAL PRACTICE AND EDUCATION Phronesis as Professional Knowledge: *Practical Wisdom in the Professions*, 1–11. © 2012 Sense Publishers.

Kinsella, E.A. (2012). Practitioner Reflection and Judgement as Phronesis. In: Kinsella, E.A., Pitman, A. (eds) Phronesis as Professional Knowledge. Professional Practice and Education: *A Diversity of Voices*, vol 1. SensePublishers, Rotterdam. https://doi.org/10.1007/978-94-6091-731-8_3.

Knights, P. (2019). "Inconsequential Contributions to Global Environmental Problems: A Virtue Ethics Account." *Journal of Agricultural and Environmental Ethics* 32(4): 527–545. https://doi.org/10.1007/s10806-019-09796-x

Kolb, R. W. (2008). *Encyclopedia of Business Ethics and Society*. Thousand Oaks: SAGE Publications, Inc.

Kozma, R. B. (1991). Computer-based writing tools and the cognitive needs of novice writers. *Computers and Composition*, 8(2), 31–45. https://doi.org/10.1016/8755-4615(91)80046-G

Kramer, D. A. (1990). Conceptualizing wisdom: The primacy of affect-cognition relations. In R. Sternberg (Ed.), *Wisdom: Its nature, origins and development* (pp. 279-313). Cambridge: Cambridge University Press.

Kramer, D. A. (2000). Wisdom as a classical source of human strength: Conceptualization and empirical inquiry. *Journal of Social and Clinical Psychology,* 19, 83-101.

Kraut, R. (2014). Aristotle's ethics. The Stanford Encyclopedia of Philosophy. Retrieved from http://plato.stanford.edu/ entries/Aristotle-ethics

Kristjánsson, K. (2021). Twenty-two testable hypotheses about *phronesis:* Outlining an educational research programme. *British Educational Research Journal,* in press. Retrieved from https://berajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/berj.3727.

Kristjánsson, K. (2022). Collective *Phronesis* in Business Ethics Education and Managerial Practice: A Neo-Aristotelian Analysis. *J Bus Ethics* **181**, 41–56 (2022). https://doi.org/10.1007/s10551-021-04912-2.

Kristjánsson, K., & Fowers, B. (2022). Phronesis as moral decathlon: contesting the redundancy thesis about phronesis, *Philosophical Psychology*, DOI: 10.1080/09515089.2022.2055537.

Kuhlmann, N. (2022), On the Power of the Concept of Responsibility. *Educ Theory*, 72: 65-83. https://doi.org/10.1111/edth.12514

Kuhn, T. (1962). The structure of scientific revolutions. Chicago: University of Chicago Press.

Kuhn, T. S. (1977). The essential tension: *Selected studies in scientific tradition and change*. Chicago: University of Chicago Press.

Kurt, S. (2021). Constructivist Learning Theory EDUCATIONAL TECHNOLOGY electronic source: https://educationaltechnology.net/constructivist-learning-theory/.

Kurtz, R. C. (2015). Organizational deviance, integrity, and regulation. *Public Integrity* 17 (1) 75– 89.

Kurz, E. U., & Chibry, N. (2021). Pay-to-Pass: Emerging On-Line Services that are Undermining the Integrity of Student Work. *Canadian Perspectives on Academic Integrity*, *4*(2), 26. https://doi.org/10.11575/cpai.v4i2.74161.

Lancaster, T. (2019). Profiling the international academic ghost writers who are providing low-cost essays and assignments for the contract cheating industry. *Journal of Information, Communication and Ethics in Society*, 17(1), 72–86. https://doi.org/10.1108/JICES-04-2018-0040.

Lancaster, T. (2020). Academic discipline integration by contract cheating services and essay mills. *Journal of Academic Ethics*, 18(2), 115–127. https://doi.org/10.1007/s10805-019-09357-x.

Lancaster, T. (2022). *Artificial intelligence led threats to academic integrity [online]* European Network on Academic Integrity (ENAI) 8th European Conference on Academic Integrity and Plagiarism (ECAIP) 2022, Porto, Portugal.

Lancaster, T., & Clarke, R. (2008). The phenomena of contract cheating. *In Student plagiarism in an online world: Problems and solutions* (pp. 144–159). Pennsylvania, U.S: IGI Global.

Lankshear, C., Knobel, M. (2008). Introduction: digital literacies – concepts, policies and practices C. Lankshear, M. Knobel (Eds.), Digital Literacies: *Concepts, Policies and Practices,* Peter Lang, New York (2008), pp. 1-16.

Lapsley, D. (2019). Phronesis, Virtues and the Developmental Science of Character: Commentary on Darnell, Gulliford, Kristjánsson, and Paris. *Human Development* ; 62 (3): 130–141. https://doi.org/10.1159/000496758.

Lathrop, A., & Foss, K. (2000). *Student cheating and plagiarism in the Internet era: A wake-up call*. Englewood, CO: Libraries Unlimited.

LDR. (2016). Products. Pocket Trips. http://pocket-trips.com/.

Leal Filho, W., Yang, P., Eustachio, J.H.P.P. (2023). Deploying digitalization and artificial intelligence in sustainable development research. *Environ Dev Sustain* **25**, 4957–4988 (2023). https://doi.org/10.1007/s10668-022-02252-3.

Leena Rantala. (2010). Chapter 6 - Digital literacies as school practices, Editor(s): Annemaree Lloyd, Sanna Talja, Practising Information Literacy, Chandos Publishing, 2010, Pages 121-141, ISBN 9781876938796, https://doi.org/10.1016/B978-1-876938-79-6.50006-6. (https://www.sciencedirect.com/science/article/pii/B9781876938796500066).

Lennick, D., & Kiel, F. (2007). *Inteligencja moralna. Jak poprawić wyniki prowadzenia interesów i skutecznie zarządzać*. Wrocław: Purana. (In Polish).

Leo, G. (2017). U of R engineering profs warned about teaching assistants taking bribes to increase grades. *CBC News*. https://www.cbc.ca/news/canada/saskatchewan/unviersity-of-regina-engine ering-teaching-assistants-1.4369110.

Leonard, V., La Brasseur, R. (2008) 'Individual Assignments and Academic Dishonesty – Exploring the Learning Conundrum', *Australian Educational Researche*r 35(1), 37–56.

Lewin, D. (2013). No Place for Wisdom: Technological Thinking and the Erosion of Phronesis (PESGB 2013) *Philosophy of Education* Society of Great Britain Annual Conference.

Lines, L. (2016). Ghostwriters guaranteeing grades? The quality of online ghostwriting services available to tertiary students in Australia. *Teach High Educ* 21(8):889–914.

Lipsky, M. (1980). Street-Level Bureaucracy: *Dilemmas of the Individual in Public Services*. New York: Russell Sage Foundation.

Lloyd, A., Talja, S. (2010). Practising Information Literacy *Bringing Theories of Learning, Practice and Information Literacy Together* Book. *Science Direct*.

Löfström, E., Trotman, T., Furnari, M., and Shephard, K. (2015). Who teaches academic integrity and how do they teach it? *High. Educ*. 69, 435–448. doi: 10. 1007/s10734-014-9784-3.

Luke, A., Sefton-Green, J., Graham, P., Kellner, D., & Ladwig, J. (2017). Digital Ethics, Political Economy And The Curriculum: This Changes Everything. In K. Mills, A. Stornaiuolo, & J. Zacher Pandya, (Eds.) *Handbook of Writing, Literacies, and Education in Digital Cultures* (pp. 251–263). New York: Routledge.

Macdonald, R., & Carroll, J. (2006). Plagiarism: A complex issue requiring a holistic institutional approach. *Assessment & Evaluation in Higher Education,* 31(2), 233–245. https://doi.org/10. 1080/02602930500262536.

Macfarlane, B. (2004). *Teaching with Integrity: the Ethics of Higher Education Practice*. London: Routledge Falmer.

Macfarlane, B, Zhang. J & Pun, A. (2014). Academic integrity: a review of the literature, *Studies in Higher Education,* 39:2, 339-358, DOI: 10.1080/03075079.2012.709495 http://dx.doi.org/10.1080/03075079.2012.709495.

Macfarlane, B. (2011). Teaching, integrity and the development of professional responsibility: why we need pedagogical phronesis, IN Sugrue, C. and Solbrekke, T.D. (eds.) (2011) *Professional Responsibility: New Horizons of Praxis?* Oxford University Press, Oxford, pp. 72-86.

Macfarlane, B. J. (2019). The neoliberal academic: Illustrating shifting academic norms in an age of hyper-performativity. *Educational Philosophy and Theory*. https://doi.org/10.1080/00131857.2019.1684262

MacInnis, D. J. (2011). A framework for conceptual contributions in marketing. *Journal of Marketing,* 75, 136–154. https://doi.org/10.1509/jmkg.75.4.136.

MacIntyre, Alasdair, C. (1981). After virtue: a study in moral theory. Notre Dame, Ind.: University of Notre Dame Press.

Mackiewicz, J., & Thompson, I. (2013). Motivational scaffolding, politeness, and writing center tutoring. *Writing Center Journal*, 33(1), 38-73.

Mahmud, S., Bretag, T. (2013). Postgraduate research students and academic integrity: 'It's about good research training'. J. *High. Educ. Policy Manage.* 35, 432–443. doi: 10.1080/1360080X.2013.812178.

Mahmud, S., Bretag, T., & Foltýnek, T. (2019). Students' perceptions of plagiarism policy in higher education: A comparison of the United Kingdom, Czechia, Poland and Romania. *Journal of Academic Ethics*, 17(3), 271–289.

Malesky, L.A., Baley, J., Crow, R. (2016). Academic dishonesty: assessing the threat of cheating companies to online education. *Coll Teach* 64(4):178–183.

Malkova, E. (2001). Principles of virtual ethics. *Symposium Series, Religion and Morality in the Secular World, Proceedings of the Scientific Conference,* 20, 112-115. St. Petersburg Philosophical Society.

Manly, T.S., Leonard, L.N.K., Riemenschneider, C.K. (2015). Academic Integrity in the Information Age: *Virtues of Respect and Responsibility. Journal of Business Ethics*. 127 (2015) 579–590 https://doi.org/10.1007/s10551-014-2060-8.

Marche, S. (2022). *The College Essay Is Dead*. The Atlantic. https://www.theatlantic.com/technology/archive/2022/12/chatgpt-ai-writing-collegestudent-essays/672371/

Marshall, T. (2019). The concept of reflection: A systematic review and thematic synthesis across professional contexts. *Reflective Practice*, 20(3), 396–415. https://doi.org/10.1080/14623943.2019. 1622520.

Martin, B. (2007). Obstacles to academic integrity. Published in the Proceedings of the 3rd Asia-Pacific Conference on Educational Integrity: Creating a Culture of Integrity, University of South Australia, Adelaide, 6-7 December 2007, pp. 21-26 pdf of published conference paper Brian Martin's publications on education https://www.bmartin.cc/pubs/07-3apcei.html

Massingham, P. (2019). An Aristotelian interpretation of practical wisdom: the case of retirees. *Palgrave Commun* 5, 123 (2019). https://doi.org/10.1057/s41599-019-0331-9.

Mastin, L. (2008). *The basics of philosophy*. Retrieved from http://www.philosophybasics.com/branch_eudaimonism.html

Mastroianni, A.C. (2008). Sustaining public trust: Falling short in the protection of human research participants. *Hastings Center Report*. 2008;38(3):8–9. doi: 10.1353/hcr.0.0012. [PubMed] [CrossRef] [Google Scholar]

Matt, C., Hess, T., Benlian, A. (2015). Digital Transformation Strategies. *Bus. Inf. Syst. Eng*. 2015, 57, 339–343.

Matthews, K., Garratt, C., Macdonald, D. (2018). The Higher Education Landscape: Trends and Implications., pp. 1–10. https://espace.library.uq.edu.au/data/UQ_68d8c9a/UQ68d8c9a_OA.pdf?Expires=1536424039&Signature=BfkRFENvbqYynOFSi-lOYx71ZKsN8rEkaQ4eQDty47CzHOY3MAMEi6Dt50skvxoC0wIGzmBSeG1T06BDuoJTXctdTk2wToISI-Fd8d-1nUgNaGAUpLgg8sTf9EVMTUEjH3T70Lj9SkfsbxB3v9kcQ1xJWGvzWcW

Maxwell, N. (2012). Arguing for wisdom in the university: An intellectual autobiography. *Philosophia*, 40(4), 663–704. https://doi.org/10.1007/s11406-012-9375-4.

Maxwell, N. (2019). *Science and enlightenment: Two great problems of learning.* Cham: Springer Nature. https://doi.org/10.1007/978-3-030-13420-4

Mayer, R.C., Davis, J. H., Schoorman, F.D. (1995). "An interactive model of organizational trust" *Academy of Management Review*, Vol. 20, pp. 709-34.

Mazzoli Smith L, Todd L, Laing K. (2017). Students' views on fairness in education: the importance of relational justice and stakes fairness. *Research Papers in Education* (2017) DOI: https://doi.org/10.1080/02671522.2017.1302500

McBride, C. (2013). *Recognition*, Cambridge: Cambridge University Press.

McCabe D.L. (1999). Academic dishonesty among high school students. A*dolescence* 34(136):681–687.

McCabe, D. (2005b). It takes a village: Academic integrity. Liberal Education, 91(3), 26–31.

McCabe, D., & Pavela, G. (2004). Ten [updated] principles of academic integrity. Change. 36(6), 10–15.

McCabe, D. (2005). Cheating among college and university students: A North American perspective. *International Journal for Educational Integrity* 1(1). http://www.ojs.unisa.edu.au/index.php/IJEI/article/viewFile/14/9.

McCabe, D. (2005a). Cheating: Why students do it and how we can help stop them. In A. Lathrop & K. Foss (Eds.), *Guiding students from cheating and plagiarism to honesty and integrity: Strategies for change* (pp. 237–240). Westport, CT: Libraries Unlimited.

McCabe, D. (2010). McCabe's Academic Integrity Survey 2010 Prepared by the Office of Planning and Assessment, Devin DuPree and Sabrina Sattler, June 2010 Page 1 of 50.

McCabe, D. L., & Treviño, L. K. (1993). Academic dishonesty: honor codes and other contextual influences. *The Journal of Higher Education*, 64(5), 522–538.

McCabe, D. L., K. D. Butterfield and L. K. Trevino. (2006). 'Academic Dishonesty in Graduate Business Programs: Prevalence, Causes, and Proposed Action', *Academy of Management Learning & Education* 5(3), 294–305.

McCabe, D., Butterfield, K. D., & Trevino, L. K. (2012). *Cheating in college*: *Why students do it and what educators can do about it.* Baltimore: The Johns Hopkins University Press.

McDermott, R., Daniels, M. (2022). Phronesis: deliberative judgement as a key competence in the post-Covid educational environment. In Proceedings of the 2022 IEEE (Institute of Electrical and Electronics Engineers) *Frontiers in education conference* (FIE 2022), 8-11 October 2022, Uppsala, Sweden. Piscataway: IEEE [online], article 9962515. Available from: https://doi.org/10.1109/FIE56618.2022.9962515.

Mcgee, P. (2013). Supporting Academic Honesty in Online Courses. *Journal of Educators Online*. 10(1) (2013) 1- 31. http://dx.doi.org/10.9743/JEO.2013.1.6.

McKenzie, L. (2021). Proctoring Tool Failed to Recognize Dark Skin, Students Say. *Inside Higher Ed*. https://www.insidehighered.com/quicktakes/2021/04/06/proctoring-tool-failed-recognize-dark-skin-students-say.

Mckeown, A. (2016). Chapter 6 - Information Poverty at the Macro Level: Part 2, Editor(s): Anthony Mckeown, Overcoming Information Poverty, Chandos Publishing, 2016,Pages 115-145, ISBN 9780081011102, https://doi.org/10.1016/B978-0-08-101110-2.00006-3. (https://www.sciencedirect.com/science/article/pii/B9780081011102000063).

McLeod, C. (2023). "Trust", The Stanford Encyclopedia of Philosophy (Fall 2023 Edition), Edward N. Zalta & Uri Nodelman (eds.), URL = <https://plato.stanford.edu/archives/fall2023/entries/trust/>.

McNeill, L. (2022). Changing "Hearts" and Minds: Pedagogical and Institutional Practices to Foster Academic Integrity. In: Eaton, S.E., Christensen Hughes, J. (eds) Academic Integrity in Canada. *Ethics and Integrity in Educational Contexts*, vol 1. Springer, Cham. https://doi.org/10.1007/978-3-030-83255-1_25.

Meenakshi, F., Lenka, J., Niombo, L. (2022). Digital transformation Cost of Non-Europe. 2022. Available online: https://policycommons. net/artifacts/2221155/digital-transformation/2978106/

Mershad, K., Wakim, P. (2018). A learning management system enhanced with internet of things applications. *J Educ Learn* 7(3): 23–40.

Merton, R.K. (1973). The Sociology of Science: Theoretical and Empirical Investigations. University of Chicago Press, Chicago.

Misselbrook, D. (2013). Duty, Kant, and deontology. *Br J Gen Pract*. 2013 Apr;63(609):211. doi: 10.3399/bjgp13X665422. PMID: 23540473; PMCID: PMC3609464.

Michel, Torsten. (2011). 'Time to Get Emotional: Trust, Rationality and the Spectre of Manipulative Mentality', Working Paper No 01-11, School of Sociology, Politics and International Studies, University of Bristol, 2011

Miller, A.D., Murdock, T. B. Murdock., Grotewiel, Morgan M. (2017). Addressing Academic Dishonesty Among the Highest Achievers. *Theory Into Practice*, 56:121–128, 2017 Copyright © The College of Education and Human Ecology, The Ohio State University ISSN: 0040-5841 print/1543-0421 online DOI: 10.1080/00405841.2017.1283574

Miller, A., Shoptaugh, C., and Wooldridge, J. (2011). Reasons not to cheat, academic-integrity responsibility, and frequency of cheating. *J. Exp. Educ.* 79, 169–184. doi: 10.1080/00220970903567830.

Miller, L. (2019). Digital Integrity as a 21st Century Skill PRESSBOOKS TECHNOLOGY AND THE CURRICULUM: SUMMER 2019

Miron, J. (2016). Academic integrity and senior nursing undergraduate clinical practice [Unpublished doctoral dissertation]. Queen's University.

Miron, J. (2019). Academic integrity in a student placement environment–An elicitation study. *Journal of Educational Thought*, 52(3), 253–273.

Misselbrook D. (2013) Duty, Kant, and deontology. *Br J Gen Pract*. 2013 Apr; 63(609):211. doi: 10.3399/bjgp13X665422. PMID: 23540473; PMCID: PMC3609464.

Misztal, B. A. (2011). Trust: Acceptance of, precaution against and cause of vulnerability, *Comparative Sociology*, 10(3), 358–379. https://doi.org/10.1163/156913311X578190

Montefiore, A., &Vines, D. (Eds.). (1999). *Integrity in the public and private domains* London, England: Routledge.

Montgomery, K. (2006). How doctors think: Clinical judgement and the practice of medicine. Oxford, UK: Oxford University Press.

Moorman, G., & Horton, J. (2007). Millennials and how to teach them. In G. Moorman & J. Lewis (Eds.), *Adolescent literacy instruction: Policies and promising practices* (pp. 263– 285). Newark: International Reading Association.

Moro, J. (2020). Against cop shit. *Jeffreymoro.com*. https://jeffreymoro.com/blog/2020-02-13-against-cop-shit/.

Morris, E. J. (2016). Academic Integrity: A Teaching and Learning Approach. In T. Bretag (Ed.), *Handbook of Academic Integrity* (pp. 1037–1053). Springer Singapore. https://doi.org/10.1007/ 978-981-287-098-8_11.

Morris, E. J., & Carroll, J. (2016). Developing a sustainable holistic institutional approach: Dealing with realities 'on the ground' when implementing an academic integrity policy. In T. Bretag (Ed.), Handbook of academic integrity (pp. 449–462). Singapore. https://doi.org/10.1007/978-981-287- 098-8_23.

Morrow, D. (2008). 'Don't Lie, Don't Cheat, Don't Steal', *BizEd* 7(2), 46–48.

Murdock, T. B., & Stephens, J. M. (2007). Is cheating wrong? Students' reasoning about academic dishonesty. In E. M. Anderman & T. B.

Murphy, P. E. (1999). Character and virtue ethics in international marketing: An agenda for managers, researchers and educators. *Journal of Business Ethics*, 18(1), 107–124. doi:10.1023/A:1006072413165

Narvaez, D., & Lapsley, D. K. (2009). Moral identity and the development of moral character. In D. Medin, L. Skitka, D. Bartels, & C. Bauman (Eds.), *Moral cognition and decision making, Vol. 50 of the Psychology of Learning and Motivation series* (pp. 237–274). Elsevier.

Newstead, S.E., Franklyn-Stokes, A., Armstead, P. (1996). "Individual differences in student cheating". *Journal of Educational Psychology*. 88 (2): 229–241. doi:10.1037/0022-0663.88.2.229.

Newton, P. (2016). Academic integrity: A quantitative study of confidence and understanding in students at the start of their higher education. Assess. *Eval. High. Educ*. 41, 482–497. doi: 10.1080/02602938.2015.1024199.

Newton, P. M. (2018). How common is commercial contract cheating in higher education and is it increasing? A Systematic Review. *Frontiers in Education*, 3, 67. https://doi.org/10.3389/feduc. 2018.00067.

Nicholson, K. (2017). 4 - Objectives and actions, Editor(s): Kirstie Nicholson, Innovation in Public Libraries, Chandos Publishing, Pages 127-135, ISBN 9780081012765, https://doi.org/10.1016/B978-0-08-101276-5.00004-1 (https://www.sciencedirect.com/science/article/pii/B9780081012765000041).

Niebuhr, H.R. (1963). *The Responsible Self: An essay in Christian moral philosophy* (New York Harper & Row)

Niedlich, S., Kallfaß, A., Pohle, S. and Bormann, I. (2021). A comprehensive view of trust in education: Conclusions from a systematic literature review. Rev Educ, 9: 124-158. https://doi.org/10.1002/rev3.3239

Noddings, N. (1990). Constructivism in mathematics education. In R. B. Davis, C. A. Maber & N. Noddings (Eds.), *Constructivist views on the teaching and learning of mathematics* (pp. 7–18). Reston, VA: National Council of Teachers of Mathematics.

Nussbaum, M. C. (1999). Virtue ethics: A misleading category? *The Journal of Ethics*, 3, 163–201. doi:10.1023/A:1009877217694

Nussbaum, M. (2001). The fragility of goodness: *Luck and ethics in Greek tragedy and philosophy*. Cambridge, UK: Cambridge University Press.

ONeill, R., & Russell, A. (2019). Stop! Grammar time: University students' perceptions of the automated feedback program Grammarly. *Australasian Journal of Educational Technology*, 35(1), Article 1. https://doi.org/10.14742/ajet.3795

O'Rourke, J., Barnes, J., Deaton, A., Fulks, K., Ryan, K., & Rettinger, D. A. (2010). Imitation is the sincerest form of cheating: The influence of direct knowledge and attitudes on academic dishonesty. *Ethics & Behavior*, 20(1), 47–67.

O'Connor, S. (2003). *Cheating and electronic plagiarism e Scope, consequences and detection*. Report by Caval Collaborative Solutions http://www.caval.edu.

OECD. (2018). Integrity of Education Systems: A Methodology for Sector Assessment.

OECD. (2023). "Pedagogical approaches, curricula and assessments for digital education", *in Shaping Digital Education: Enabling Factors for Quality*, Equity and Efficiency, OECD Publishing, Paris. DOI: https://doi.org/10.1787/01b37cb5-en.

Olafson, L., Schraw, G., Nadelson, L., Nadelson, S., & Kehrwald, N. (2013). Exploring the judgment-action gap: College students and academic dishonesty. *Ethics & Behavior*, 23(2), 148–162.

OpenAI. (2022). *ChatGPT: Optimizing Language Models for Dialogue.* OpenAI. https://openai.com/blog/chatgpt/.

OpenAI. (n.d.). ChatGPT. Retrieved 21 December 2022, from https://chat.openai.com.

OpenAi. (n.d.). *DALL·E 2. DALL·E 2*. Retrieved 25 November 2022, from https://openai.com/dall-e-2/.

OpenAI. (2024). ChatGPT (GPT-4) [Large language model]. Retrieved from https://www.openai.com/

Orr, J. (2018). Developing a campus academic integrity education seminar. *Journal of Academic Ethics*, 16(3), 195–209. https://doi.org/10.1007/s10805-018-9304-7.

Oxford Learner's Dictionaries. (2021a). *Artificial intelligence*. Retrieved 23 Jun from https://www.oxfordlearnersdictionaries.com/definition/english/artificial-intelligence?q=artificial+intelligence.

Oxford Learner's Dictionaries. (2021b). *Digitalisation*. Retrieved 23 Jun from https://www.oxfordlearnersdictionaries.com/definition/english/digitalization?q=digitalization.

Packmohr, S., Brink, H. (2021). Impact of the pandemic on the barriers to the digital transformation in higher education-comparing pre-and intra-COVID-19 perceptions of management students. In Proceedings of the International Conference on Business Informatics, Bolzano (Virtual), Italy, 1–3 September 2021; Springer: Berlin/Heidelberg, Germany, 2021; pp. 3–18

Palazzo, G. (2007). Organizational integrity: Understanding the dimensions of ethical and unethical behavior in corporations. In: Zimmerli WC, Richter K and Holzinger M(eds) Corporate *Ethics and Corporate Governance*. Berlin, Heidelberg: Springer Verlag, 113–128.

Palmer, A., Pegrum, M., and Oakley, G. (2019). A wake-up call? Issues with plagiarism in transnational higher education. *Ethics Behav*. 29, 23–50. doi: 10.1080/ 10508422.2018.1466301.

Palmer, P. J. (1998). *The courage to teach: Exploring the inner landscape of a teacher's life.* San Francisco: Jossey-Bass.

Palmquist, M. (2003). A brief history of computer support for writing centers and writing-acrossthe-curriculum programs. *Computers and Composition,* 20(4), 395–413. https://doi.org/10.1016/j.compcom.2003.08.013.

Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in psychology*, 8, p.422.

Papouli, E. (2014). Field learning in social work education: Implications for educators and instructors. *The Field Educator*, 4.2, 1–15. Retrieved from http://fieldeducator.simmons.edu/article/fieldlearning-in-social-work-educationimplications-for-educators-and-instructors

Papouli, E. (2016). Teaching and learning for ethical practice in social work education. In I. Taylor, M. Bogo, M. Lefevre, & B. Teater (Eds.), *Routledge international handbook of social work education* (pp. 157–170). Abingdon: Routledge.

Papouli, E. (2018). Aristotle's virtue ethics as a conceptual framework for the study and practice of social work in modern times, European *Journal of Social Work*, DOI: 10.1080/13691457.2018.1461072 To link to this article: https://doi.org/10.1080/13691457.2018.1461072

Papouli, E. (2018). Ethical and professional challenges for social workers in times of crisis: Lessons learned from Greece. In C. Panagiotopoulos (Ed.), *Financial crisis and social work* (pp. 56–78). Beau-Bassin, Mauritius: LAP Lambert Academic Publishing.

Park, S.H., Lee, E.H., Blackman, J., Ertmer, P., Simons, K., Belland, B. (2005). Examining the barriers encountered when planning and implementing technology-enhanced PBL in the middle school classroom. In Proceedings of the Society for Information Technology & Teacher Education International Conference. Association for the Advancement of Computing in Education (AACE), Phoenix, AZ, USA, 1–5 March 2005; pp. 2039–2043.

Parker, S. (2020). The Future of Higher Education in a Disruptive World. *KPMG*, 1–30. Available online: https://kpmg.com/xx/en/home/industries/government-public-sector/education/the-future-of-higher-education-in-a-disruptive-world.html

Parnther, C., & Eaton, S. E. (2021). Academic integrity and anti-Black aspects of educational surveillance and e-proctoring. *Teachers College Record*. https://journals.sagepub.com/pb assets/cmscontent/TCZ/Commentaries%20Collection/2021%20Commentaries/Academic%20Integrity%20and%20Anti-Black%20Aspects%20of%20Educational%20Surveillance%20and%20E-Proctoring-1650325575.pdf.

Parra, J., Chaves, R., & Villa, M. (2020). Ética y calidad en la educación virtual [Ethics and quality in virtual education]. Universidad de Ciencias y Artes de Chiapas.

Paton, S. (1921). Human Behavior, Scribners, New York.

Pecorari, D. (2013). *Teaching to avoid plagiarism*. Open University Press.Peled, Y., Eshet, Y., Barczyk, C., & Grinautski, K. (2019). Predictors of academic dishonesty among undergraduate students in online and face-to-face courses. *Computers & Education*, *131*, 49-59. doi:10.1016/j.compedu.2018.05.012.

Penaluna, Lee-Ann., & Ross, Roxanne. (2022). How to Talk About Academic Integrity so Students Will Listen: Addressing Ethical Decision-Making Using Scenarios. 10.1007/978-3-030-83255-1_20.

Pennock, T., O'Rourke, M. (2017). "Developing a Scientific Virtue-Based Approach to Science Ethics Training." *Science and Engineering Ethics* 23: 243–262. https://doi.org/10.1007/s11948-016-9757-2

Perkins, M. (2023). Academic Integrity considerations of AI Large Language Models in the post-pandemic era: ChatGPT and beyond. Journal of University Teaching & Learning Practice, 20(2). https://doi.org/ 10.53761/1.20.02.07.

Perkins, A. (2013). "Fairness Commissions: Is It Possible for Politics to Play Fair?" The Guardian, September 3. Http://Www.Theguardian.Com/Society/2013/Sep/03/Fairness-Commissions-PossiblePolitics-Play-Fair

Peters, M. (2019). Academic integrity: an interview with Tracey Bretag. *Educ Philos Theory* 51(8):751–756. https://doi.org/ 10.1080/00131857.2018.1506726.

Peters, M., Boies, T., Morin, S. (2019). Teaching Academic Integrity in Quebec Universities: Roles Professors Adopt. *Frontiers in Education.* 4. 10.3389/feduc.2019.00099.

Peters, M., Fontaine, S., Frenette, E. (2022). Teaching the Teachers: To What Extent Do Pre-service Teachers Cheat on Exams and Plagiarize in Their Written Work? In: Eaton, S.E., Christensen Hughes, J. (eds) Academic Integrity in Canada. *Ethics and Integrity in Educational Contexts,* vol 1. Springer, Cham. https://doi.org/10.1007/978-3-030-83255-1_16.

Peters, M. & Green, B. (2024). Wisdom in the Age of AI Education. *Post digital Science and Education*. 1-23. 10.1007/s42438-024-00460-w

Phan, LV., Blackie, L.E.R., Horstmann, K., Jayawickreme, E. (2021). An integrative framework to study wisdom J. Rauthmann (Ed.), *Handbook of personality dynamics and processes*, Elsevier (2021), pp. 1159-1182.

Piascik, P., Brazeau, G. A. (2010). Promoting a culture of academic integrity. *American journal of pharmaceutical education*. 74(6) (2010) 113 https://doi.org/10.5688/aj7406113.

Pirkkalainen, H., Pawlowski, J. (2013). Global Social Knowledge Management: From Barriers to the Selection of Social Tools. *Electron. J. Knowl. Manag.11*, 3–17.

Pitt, J. (2000). *Thinking About Technology: Foundations of the Philosophy of Technology*. Seven Bridges Press,

Polizzi, G., & Harrison, T. (2022). Wisdom in the digital age: a conceptual and practical framework for understanding and cultivating cyber-wisdom. *Ethics and Information Technology.* 24. 10.1007/s10676-022-09640-3.

Power, L. G. (2009). University students' perceptions of plagiarism. *J High Educ* 80(6):643–662. https://doi.org/10.1353/jhe.0.0073.

Pramadi, A., Pali, M., Hanurawan, F., Atmoko, A. (2017). Academic cheating in school: a process of dissonance between knowledge and conduct. *Mediterr J Soc Sci* 8(6):155–162 https://www.mcser.org/journal/index.php/mjss/article/view/10118/9750.

Prentice, F. M., & Kinden, C. E. (2018). Paraphrasing tools, language translation tools and plagiarism: An exploratory study. *International Journal for Educational Integrity*, 14(1), 11. https://doi.org/10.1007/s40979-018-0036-7.

QuillBot. (2022). Can I use QuillBot for plagiarism? QuillBot Help Center. Retrieved 16 November 2022, from https://help.quillbot.com/hc/en-us/articles/1500007485841-Can-Iuse-QuillBot-for-plagiarism

QuillBot. (2022). *Is using a paraphrasing tool plagiarizing*? QuillBot Help Center. Retrieved 16 November 2022, from https://help.quillbot.com/hc/en-us/articles/4408075614103-Isusing-a-paraphrasing-tool-plagiarizing.

Rachels, J. (1993). *The Elements of Moral Philosophy*, 2nd ed. New York: McGraw-Hill.

Radu, I. (2014). Augmented reality in education: a meta-review and cross-media analysis. *Personal and Ubiquitous Computing*, 18, 1533–1543.

Rate, C. R., Clarke, J. A., Lindsay, D. R., & Sternberg, R. J. (2007). Implicit theories of courage. *The Journal of Positive Psychology*, 2(2), 80–98. https://doi.org/10.1080/17439760701228755

Rawls, J. (1971). *A Theory of Justice*. Cambridge, MA: Harvard University Press, 1971

Razı, S., Glendinning, I., Sivasubramaniam, S.D., Eaton, S.E., Çelik, Ö., Khan, Z.R., Bjelobaba, S., Fishman, T., Waddington, L. (2022). Changing trends in academic integrity policy development: Implications for post-COVID era. 8th European Conference on Academic Integrity and Plagiarism (ECAIP), 4–6 May, Porto, Portugal. https://academicintegrity.eu/conference/wp-content/files/2022/Book_of_Abstracts_2022.pdf.

Reid, P. (2014). Categories for barriers to adoption of instructional technologies. *Educ. Inf. Technol*. 2014, 19, 383–407

Reid Chassiakos, Y., Stager, M. (2020). Chapter 2 - Current trends in digital media: How and why teens use technology, Editor(s): Megan A. Moreno, Andrea J. Hoopes,Technology and Adolescent Health,Academic Press,2020,Pages 25-56, ISBN 9780128173190, https://doi.org/10.1016/B978-0-12-817319-0.00002-5. (https://www.sciencedirect.com/science/article/pii/B9780128173190000025).

Rens van der Vorst. (2023). How to teach students about ethical issues behind new technologies. Electronic source: https://www.universityworldnews.com/post.php?story=20230221143153224.

Rest, J., Thoma, S. J. (1986). 'Educational Programs and Interventions', in J. Rest (ed.), Moral Development: *Advances in Research and Theory* (Praeger Publishers, New York).

Richards, D., Saddiqui, S., White, F., McGuigan, N., and Homewood, J. (2016). A theory of change for student-led academic integrity. Q. *High. Educ*. 22, 242–259. doi: 10.1080/13538322.2016.1265849.

Rigby, D., Burton, M., Balcombe, K., Bateman, I., Mulatu, A. (2015). Contract cheating & the market in essays. *J Econ Behav Organ* 111:23–37.

Rip, A. (2012). "The Context of Innovation Journeys." *Creativity and Innovation Management* 12(2): 158–170. https://doi.org/10.1111/j.1467-8691.2012.00640.x

Robb, M., and Shellenbarger, T. (2013) Promoting Digital Citizenship and Academic Integrity in Technology Classrooms. *THE Teaching PROFESSOR* Volume 27.

Roe, J. (2022). Reconceptualizing academic dishonesty as a struggle for intersubjective recognition: a new theoretical model. Humanit Soc Sci Commun 9, 157 (2022). https://doi.org/10.1057/s41599-022-01182-9

Roe, J., & Perkins, M. (2022). What are Automated Paraphrasing Tools and how do we address them? A review of a growing threat to academic integrity. *International Journal for Educational Integrity*, 18(1), Article 1. https://doi.org/10.1007/s40979-022-00109-w

Rogerson. S. (2015). ICT Codes of Ethics. Keynote Presentation, Ethics Conference 2015, Council of European Professional Informatics Societies (CEPIS), 7 April, The Hague, The Netherlands.

Rogerson, S. (2018). Ethics omission increases gases emission: A look in the rearview mirror at Volkswagen software engineering. *Communications of the ACM*. 61(3), 30-32.

Rogerson, S. (2021). Rebooting ethics education in the digital age. *Academia Letters.* 10.20935/AL146.

Rogerson, A. M., & McCarthy, G. (2017). Using Internet based paraphrasing tools: Original work, patchwriting or facilitated plagiarism*? International Journal for Educational Integrity*, 13(1), 2. https://doi.org/10.1007/s40979-016-0013-y

Roig, M. (1997). Can undergraduate students determine whether text has been plagiarized? *Psychol Rec* 47(1):113–122. https://doi.org/10.1007/BF03395215.

Roig, M. (2003). Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing. electronic source: https://ori.hhs.gov/sites/default/files/plagiarism.pdf

Rowland, S., Slade, C., Wong, K., Whiting, B. (2018). 'Just turn to us': the persuasive features of contract cheating websites. *Assess Eval High Educ* 43(4):652–665.

Rowley, J. (2006). What do we need to know about wisdom? *Manag Decis* 44(9):1246–1257.

Russell, D. C. (2009). Practical intelligence and the virtues. Oxford University Press.

Ruyter, Doret de. (2002). The Virtue of Taking Responsibility. *Journal Educational Philosophy and Theory* Routledge Doi: 10.1111/j.1469-5812.2002. tb00283.x https://doi.org/10.1111/j.1469-5812.2002.tb00283.x/

Ryan, A. (2006). "Fairness and Philosophy". *Social Research* 73 (2): 597-606

Sand, M. (2018b). "The Virtues and Vices of Innovators." *Philosophy of Management* 17(1): 79–95. https://doi.org/10.1007/s40926-017-0055-0

Sanders, M. (2012). Aristotelian-Inspired Model for Curtailing Academic Dishonesty in the United States

Sanromán, R., González, I., & Villa, M. (2015). Los principios éticos y las obligaciones civiles [Ethical principles and civil obligations]. *Boletín Mexicano de Derecho Comparado*, 48(142), 313-337. https://doi.org/10.22201/iij.24484873e.2015.142.4922105

Santoro, D. A. (2013)."I Was Becoming Increasingly Uneasy About the Profession and What Was Being Asked Of Me": Preserving Integrity in Teaching. *Curriculum Inquiry*, Vol. 43, No. 5, pp. 563-587 Taylor & Francis, Ltd. https://www.jstor.org/stable/23524641.

Sbaffi, L., Zhao, X. (2022). Evaluating a pedagogical approach to promoting academic integrity in higher education: An online induction program. *Front. Psychol*. 13:1009305. doi: 10.3389/fpsyg.2022.1009305.

Schab, F. (1991). Schooling without learning: thirty years of cheating in high school. *Adolescence* 26(104):839–847.

Schleiermacher, F.D.E. (1826/2023). F.D.E. Schleiermacher's Outlines of the art of education: A translation & discussion. Peter Lang.

Shaidullina, A. R., Zakirova, V. G., Kashurnikov, S. N., Arestova, E. N., Shmidt, A. N., & Kovaleva, N. I. (2018). Students training for innovative entrepreneurial activity: Social responsibility competences. *Espacios*, 39(02), 15-26.

Schein, E. H. (2003). *Organizational Culture and Leadership* (Jossey-Bass, San Francisco).

Schiro, M. S. (2012). Curriculum theory: Conflicting visions and enduring concerns. (2nd Ed.). Los Angeles: Sage Publications.

Schmidt, J.A. (2014). "Changing the Paradigm for Engineering Ethics." *Science and Engineering Ethics* 20: 985–1010. https://doi.org/10.1007/s11948-013-9491-y

Scholkmann, A.B. (2021). Resistance to (Digital) Change: Individual, Systemic and Learning-Related Perspectives. In *Digital Transformation of Learning Organizations*; Springer: Cham, Switzerland; pp. 219–236. ISBN 9783030558772.

Schön, D. (1983). *The reflective practitioner*. New York: Basic Books.

Schön, D. (1987*). Educating the reflective practitioner*. San Francisco: Jossey-Bass.

Schoorman, F. D., Mayer, R. C. & Davis, J. H. (2007). An integrative model of organizational trust: *Past, present, and future, AMR*, 32(2), 344–354. https://doi.org/10.5465/amr.2007.24348410

Schroeder, D., Chatfield, K., Singh, M., Chennells, R., Herissone-Kelly, P. (2019). The Four Values Framework: Fairness, Respect, Care and Honesty. In*: Equitable Research Partnerships*. *Springer Briefs in Research and Innovation Governance*. Springer, Cham. https://doi.org/10.1007/978-3-030-15745-6_3

Schwartz, B., Sharpe, K. E. (2010). *Practical wisdom: The right way to do the right thing.* Riverhead Books (2010).

Scott, J., Reynolds and Tara L., Ceranic. (2007). The Effects of Moral Judgment and Moral Identity on Moral Behavior: An Empirical Examination of the Moral Individual. *Journal of Applied Psychology* Copyright 2007 by the American Psychological Association 2007, Vol. 92, No. 6, 1610–1624 0021-9010/07/$12.00 DOI: 10.1037/0021-9010.92.6.1610

Scott, E. D., & Jehn, K. A. (1999). Ranking rank behaviors: A comprehensive situation-based definition of dishonesty. *Business & Society,* 38(3), 296-325. https://doi.org/10.1177/000765039903800304

Sellman, D. (2009). Practical wisdom in health and social care: Teaching for professional phronesis. *Learning in Health and Social Care*, 8(2), 84-91.

Sellman, D. (2012). Reclaiming Competence For Professional Phronesis In Kinsella, E.A. & Pitman, A. (Eds.*) Phronesis as professional knowledge: Practical wisdom in the professions* (147-161). Rotterdam: Sense Publishing.

Selwyn, N. (2008). 'Not necessarily a bad thing …': A Study of Online Plagiarism Amongst Undergraduate Students. *Assessment & Evaluation in Higher Education*, *33*(5), 465-479. Retrieved from https://doi.org/10.1080/02602930701563104.

Shahi, C., Sinha, M. (2021). Digital transformation: Challenges faced by organizations and their potential solutions. *Int. J. Innov. Sci.* 2021, 13, 17–33

Sharadagh, T. A., & Sa'di, R. A. (2022). A systematic review of research on the use of artificial intelligence in English language teaching and learning (2015-2021): What are the current effects? *Journal of Information Technology Education: Research,* 21, 337–377. https://doi.org/10.28945/4999

Sharkey, J. R., Culp, F. B. (2005). 'Cyberplagiarism and the Library: Issues and Solutions', *Reference Librarian* 44(91/92), 103–116.

Sharples, M. (2022). New AI tools that can write student essays require educators to rethink teaching and assessment. LSE Blog. https://blogs.lse.ac.uk/impactofsocialsciences/2022/05/17/new-ai-tools-that-can-write-student-essays-require-educators-to-rethink-teaching-and-assessment.

Shu, L. L., Gino, F., & Bazerman, M. H. (2011). Dishonest deed, clear conscience: When cheating leads to moral disengagement and motivated forgetting. *Personality and Social Psychology Bulletin*, 37(3), 330–349.

Sidi, Y., Blau, I., & Eshet-Alkalai, Y. (2019). How is the ethical dissonanceindex affected by technology, academic dishonesty type and individual differences? *British Journal of Educational Technology*,50(6), 3300–3314.

Simon, C. A., Carr, J. R., and McCullough, S. M. (2003). 'The Other Side of Academic Dishonesty: The Relationship Between Faculty Skepticism, Gender and Strategies for Managing Student Academic Dishonesty Cases', *Assessment & Evaluation in Higher Education* 28(2), 193–207. doi:10.1080/02602930301669.

Sivasubramaniam, S., Kostelidou, K., & Ramachandran, S. (2016). A close encounter with ghostwriters: An initial exploration study on background, strategies and attitudes of independent essay providers. *International Journal for Educational Integrity*, 12(1), 1. https://doi.org/10.1007/s40 979-016-0007-9.

Slusky, L. (2020). Cybersecurity of online proctoring systems. *J Int Tech Inf Man* (29:56–83).

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines, *Journal of Business Research*, Volume 104, Pages 333-339, ISSN 0148-2963, https://doi.org/10.1016/j.jbusres.2019.07.039

Solomon, R.C. (1993). *Ethics and Excellence: Cooperation and Integrity in Business*, Oxford University Press, New York, NY.

Šorgo, A., Vavdi M., Cigler, U., Kralj. (2015). Opportunity makes the cheater: *high school students and academic dishonesty. CEPS J* 5(4):67–87. https://doi.org/10.26529/cepsj.117.

Spain, J.W., Robles, M.M. (2011). Academic integrity policy: The journey. *Bus Commun* Q 74(2):151 159. https://doi.org/10.1177/1080569911404407.

Spear, J. A., & Miller, A. N. (2012). The effects of instructor fear appeals and moral appeals on cheating-related attitudes and behavior of university students. *Ethics & Behavior*, 22(3), 196–207.

Spence, S. (2007). Phronesis and the student teacher. *The Journal of Educational Thought*, 41(3), 311.

Stanisława Steuden., Paweł Brudek., Paweł Izdebski. (2016). A polish adaptation of Monika Ardelt's three-dimensional wisdom scale (3d-ws) Roczniki Psychologiczne/ annals of psychology doi: http://dx.doi.org/10.18290/rpsych.2016.19.4-4en.

Staudinger, U. M. (1999). Older and wiser? Integrating results on the relationship between age and wisdom-related performance. International Journal of Behavioral Development, 23(3), 641-664.

Stedman, M. J. (2011). Aristotle's cardinal virtues: Their application to assessment of psychopathology and psychotherapy. *Practical Philosophy*, 10(1), 57–64. Retrieved from http://www.society-for-philosophy-in-practice.org/journal/pdf/ 10-1%20057%20Stedman%20-%20Aristotles%20Virtues.pdf

Steen, M. (2013). "Virtues in Participatory Design: Cooperation, Curiosity, Creativity, Empowerment and Reflexivity." *Science and Engineering Ethics* 19(3): 945–962. https://doi.org/10.1007/s11948-012-9380-9

Steen, M., Sand, M., & van de Poel, I. R. (2021). Virtue Ethics for Responsible Innovation. *Business and Professional Ethics Journal,* 40(2), 243-268. https://doi.org/10.5840/bpej2021319108

Stein, C., Eisenberg, E., O'Donnell, J., Spallek, H. (2014). 'What dental educators need to understand about emerging technologies to incorporate them effectively into the educational process', *Journal of Dental Education*, 78(4), pp. 520-529.

Stephens, J.M., Wangaard, D.B. (2013). Using the epidemic of academic dishonesty as an opportunity for character education: a three-year mixed methods study (with mixed results). *Peabody J Educ* 88(2):159–179. https://doi.org/10.1080/0161956X.2013.775868.

Stephens, J. M. (2004). Beyond reasoning: The role of moral identities, sociomoral regulation and social context in academic cheating among high school adolescents. Paper presented at the meeting of the American Educational Research Association, San Diego.

Stephens, J. M., & Gehlbach, H. (2007). Under pressure and under-engaged: Motivational profiles and academic cheating in high school. In E. M. Anderman & T. B. Murdock (Eds.), *Psychology of academic cheating* (pp. 107–134). Boston: Elsevier.

Stephens, J. M., Watson, P. W. S. J., Alansari, M., Lee, G., and Turnbull, S. M. (2021). Can online academic integrity instruction affect university students' perceptions of and engagement in academic dishonesty? Results from a natural experiment in New Zealand. Front. Psychol. 12:569133. doi: 10.3389/fpsyg.2021. 569133.

Stephens, J.M, Young, M.F., Calabrese, T.H. (2007). Does moral judgment go offline when students are online? A comparative analysis of undergraduates' beliefs and behaviors related to conventional and digital cheating *Ethics & Behavior*, 17 (2007), pp. 233-254.

Stephens, Jason. (2016). Creating Cultures of Integrity: *A Multilevel Intervention Model for Promoting Academic Honesty*. 10.1007/978-981-287-098-8_13.

Sternberg, R. J. (1990). Wisdom and its relations to intelligence and creativity. In R. J. Sternberg (Ed.), *Wisdom: Its nature, origins, and development* (pp. 142-159). Cambridge, UK: Cambridge University Press.

Sternberg, R.J. (2004). What Is Wisdom and How Can We Develop It? Ann. Am. *Acad. Political Soc. Sci*. 2004, 591, 164–174.

Sternberg, R.J., Emily, S.H. (2019). Teaching for Wisdom. In The Cambridge Handbook of Wisdom; Sternberg, R.J., *Glück, J., Eds*.; Cambridge University Press: New York, NY, USA, 2019; pp. 372–406.

Steyn, F., Sewchurran, K. (2019). "Towards a Grainier Understanding of How to Encourage Morally Responsible Leadership through the Development of Phronesis: A Typology of Managerial Phronesis." *Journal of Business Ethics.* https://doi.org/10.1007/s10551-019-04328-z

Stigmar, M. (2016). Peer-to-peer Teaching in Higher Education: A Critical Literature Review, Mentoring & Tutoring: *Partnership in Learning,* 24:2, 124-136, DOI: 10.1080/13611267.2016.1178963.

Stoesz, B. M., & Eaton, S. E. (2020). Academic integrity policies of publicly funded universities in western Canada. *Educational Policy*. https://doi.org/10.1177/0895904820983032.

Stoesz, B. M., Eaton, S. E., Miron, J., & Thacker, E. J. (2019). Academic integrity and contract cheating policy analysis of colleges in Ontario, Canada. *International Journal for Educational Integrity*, 15(4), 2–18. https://doi.org/10.1007/s40979-019-0042-4.

Stout, J. (1990). Ethics after Babel. Boston, MA: *Beacon Press.*

Stovall, Preston. (2011). "Professional Virtue and Professional Self-Awareness: A Case Study in Engineering Ethics." *Science and Engineering Ethics* 17(1): 109–132. https://doi.org/10.1007/s11948-009-9182-x

Strangfeld, J. A. (2019). I just don't want to be judged: Cultural capital's impact on student plagiarism. *SAGE Open*, 9(1).

Sun, X., Hu, G. (2020). What do academics know and do about plagiarism? An interview study with Chinese university teachers of English. *Ethics Behav*. 30, 459–479. doi: 10.1080/10508422.2019.1633922.

Sun, Y.C. (2013). Do journal authors plagiarize? Using plagiarism detection software to uncover matching text across disciplines. *Journal of English for Academic Purposes*, 12(4), 264–272. https://doi.org/10.1016/j.jeap.2013.07.002.

Sureda-Negre, J., Comas-Forgas, R., Oliver-Trobat, M.F. (2015). Academic plagiarism among secondary and high school students: differences in gender and procrastination. *Comunicar* 22(44):103–111.

Sutherland-Smith, W., Dullaghan, K. (2019). You don't always get what you pay for: user experiences of engaging with contract cheating sites. *Assess Eval High Educ* 44:1–15.

Sutherland-Smith, W. (2015). Academic Integrity in the Digital Age: Introduction. *Handbook of Academic Integrity*. Springer Science+Business Media Singapore (2015) https://link.springer.com/content/pdf/10.1007%2F978-981-287-079-7_82-1.pdf.

Suwantarathip, O., & Wichadee, S. (2014). The effects of collaborative writing activity using google docs on students' writing abilities. *Turkish Online Journal of Educational Technology* - TOJET, 13(2), 148–156.

Swauger, S. (2020). Taking Back the Narrative of Ed Tech. *Shea Swauger*. https://www.sheaswauger.com/post/taking-back-the-narrative-of-ed-tech.

Sweeny, S. (2023). Who wrote this? Essay mills and assessment-considerations regarding contract cheating and AI in higher education. *International Journal of Management in Education,* 21. https://doi.org/10.1016/j.ijme.2023.1008818

Teelken, C. (2012). Compliance or pragmatism: How do academics deal with managerialism in higher education? A comparative study in three countries. *Studies in Higher Education*, 37(3), 271-290

Tertiary Education Quality and Standards Agency (TEQSA). (2017). Good Practice Note: Addressing contract cheating to safeguard academic integrity. https://www.teqsa.gov.au/sites/ g/files/net2046/f/good-practice-note-addressing-contract-cheating.pdf?v=1507082628.

Thompson, L. W., Bagby, J. H., Sulak, T. N., Sheets, J., & Trepinski, T. M. (2017). The cultural elements of academic honesty. *Journal of International Students*, *7*(1), 136-153. Retrieved from https://eric.ed.gov/?id=EJ1125650.

Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, 4, 356–367. https://doi.org/10.1177/ 1534484305278283

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14, 207–222. https://doi.org/10.1111/1467-8551.00375

Trevinyo-Rodrı´guez, R. N. (2005). *Integrity: a systems theory classification* IESE, University of Navarra, Barcelona Spain.*Journal of Management History* Vol. 13 No. 1, 2007 pp. 74-93q Emerald Group publishing Limited1751-1348 DOI 10.1108/17511340710715188 www.emeraldinsight.com/1751-1348.htm.

Trost, K. (2009). Psst, have you ever cheated? A study of academic dishonesty in Sweden. *Assessment & Evaluation in Higher Education,* 34, 367–376.

Trowbridge, R.H. (2011). "Waiting for Sophia: 30 years of Conceptualizing Wisdom in Empirical Psychology*". Research in Human Development.* 8 (2): 111–117. doi:10.1080/15427609.2011.568872. S2CID 145371442

Tsai, C. (2020). Artificial wisdom: a philosophical framework. *AI & Soc* 35, 937–944 (2020). https://doi.org/10.1007/s00146-020-00949-5

Tsoukas, H., Cummings, S. (1997). Marginalization and recovery: the emergence of aristotelian themes in organization studies. *Organ Stud* 18(4):655–683.

Tyson, R. (2015). Pedagogical imagination and practical wisdom: the role of good narratives in teacher education and professional development. Paper presented at ECER 2015 in Budapest in the Teacher Education network.

UNESCO. (2023b). Draft AI competency frameworks for teachers and for school students. UNESCO, November. https://www.unesco.org/sites/default/files/medias/fichiers/2023/11/UNESCO-Draft-AIcompetency-frameworks-for-teachers-and-school-students.pdf. Accessed 10 February 2024.

Vallor, S. (2016). *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting*. New York: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780190498511.001.0001

Van de ven, A.H., Johnson, P.E. (2006). Knowledge for theory and practice. *Acad Manag Rev* 31(4):802–821.

Van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry*, 6(3), 205-228.

Van Tongeren, P. (2020). *The Art of Living Well: Moral Experience and Virtue Ethics London*: Bloomsbury

Venera-Mihaela, Cojocariu., & Mares, Gabriel. (2021). Academic Integrity in the Technology-Driven Education Era. 10.1007/978-981-16-1951-9_1.

Verhezen, P. (2008). The (ir)relevance of integrity in organizations. *Public Integrity* 10: 133–149.

Viktorivna, K. L., Oleksandrovych, V. A., Oleksandrivna, K. I., & Oleksandrivna, K. N. (2022). Artificial intelligence in language learning: What we are afraid of. *Arab World English Journal*, 8, 262–273. https://doi.org/10.24093/awej/call8.18

Villano, M. (2006). Fighting plagiarism: taking the work out of homework. *THE J* 33(15):24–30.

Von Schomberg, R. (2013). "A Vision of Responsible Research and Innovation." In *Responsible Innovation: Managing the Responsible Emergence of Science and Innovation in Society, ed.* Richard Owen, John Bessant, and Maggie Heintz, 51–74. John Wiley & Sons. https://doi.org/10.1002/9781118551424.ch3

Walsh, L.L, Lichti, D.A., Zambrano-Varghese, C.M. (2021). Why and how science students in the United States think their peers cheat more frequently online: perspectives during the COVID-19 pandemic. *Int J Educ Integr* 17:1–18. https://doi.org/10.1007/s40979-021-00089-3)

Walton, Douglas. (2017). The Ethics of Courage (January 25, 2017). Danish translation, Modets Etik, chapter 11 in Den Modige Leder, ed. Karsten Mellon, Frederikshavn: *Dafolo* A/S, 2018, 171-183. Available at SSRN: https://ssrn.com/abstract=3323060

Wang, Ying., Cheney, G., Roper, J. (2016). "Virtue Ethics and the Practice Institution Schema: An Ethical Case of Excellent Business Practices." *Journal of Business Ethics* 138: 67–77. https://doi.org/10.1007/s10551-015-2579-3

Wangaard, D.B., Stephens, J.M. (2011). Creating a culture of academic integrity: A toolkit for secondary schools. *Search Institute Press*.

Wangaard, B. D. (2016). Practices to Support Developing Academic Integrity in Secondary School Students. What the Research Tells Us. Handbook of Academic Integrity With 42 Figures and 23 Tables Editor Tracey Bretag School of Management University of South Australia Adelaide, SA, Australia ISBN 978-981-287-097-1 ISBN 978-981-287-098-8 (eBook) ISBN 978-981-287-099-5 (print and electronic bundle) DOI 10.1007/978-981-287-098-8.

Webb, Mark Owen. (1993). 'Why I Know About As Much As You: A Reply to Hardwig', *The Journal of Philosophy*, 90(5): 260–270. doi:10.2307/2940913

Weber, S. (2017). Aristotle and Respect for Persons: *A Historic-Philosophical Itinerary*. 10.1515/9783110526288-005.

Weber-Lewerenz, B.C. (2022). Education and Training in the Digital Era: A Compass for "Building Forward Better" FROM THE EDITED VOLUME 'Digital Transformation' Edited by Antonella Petrillo, Fabio De Felice, Monica Violeta Achim and Nawazish Mirza DOI: 10.5772/intechopen.102678.

Weber-Wulff, D. (2016). Plagiarism detection software: Promises, pitfalls, and practices. In T. Bretag (Ed.), *Handbook of Academic Integrity* (pp. 625-638). Singapore: Springer Singapore.

Whitley, B. E., & Keith-Spiegel, P. (2001). Academic integrity as an institutional issue. *Ethics & Behavior*, 11(3), 325–342. https://doi.org/10.1207/S15327019EB1103_9.

Wiggins, D. (1980). 'Deliberation and Practical Reason' Iin *Essays on Aristotle's Ethics*, ed. Amelie Rorty (Berkeley University of California Press, 1980). 221-40.

Wilson, A. T. (2018). Honesty as a Virtue. *Metaphilosophy,* 49(3), 262-280. https://doi.org/10.1111/ meta.12303

Winter, R.P. (2009). Academic manager or managed academic? Academic identity schisms in higher education. *Journal of Higher Education Policy and Management,* 3(2), 121-131.

Winter, R., O'Donohue, W. (2012). Academic identity tensions in the public university: Which values really matter? *Journal of Higher Education Policy and Management* 34: 565–573.

Witell, L., Snyder, H., Gustafsson, A., Fombelle, P., & Kristensson, P. (2016). Defining service innovation: A review and synthesis. *Journal of Business Research*, 69, 2863–2872.

Wogu, I. A., P., Mistra, S., Olu-Owolabi, E. F., Assibong, P. A., & Udoh, O. D. (2018). Artificial intelligence, artificial teachers and the fate of learners in the 21st century education sector: Implications for theory and practice. *International Journal of Pure and Applied Mathematics*, 119(16), 2245–2259. Retrieved from http://www.acad.pu bl.en/hub.

Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., & Pawson, R. (2013). RAMESES publication standards: *Meta-narrative reviews. BMC Medicine*, 11, 20. https://doi. org/10.1186/1741-7015-11-20.

Wong, E.Y., Kwong, T., & Pegrum. (2018). M. Learning on mobile augmented reality trails of integrity and ethics. *RPTEL* 13, 22 (2018). https://doi.org/10.1186/s41039-018-0088-6.

Woolfolk, A. E. (1993). Educational psychology. Boston: Allyn and Bacon.

Wowra, S. (2007). Moral identities, social anxiety, and academic dishonesty among American college students. *Ethics & Behavior*, 17(3), 303–321.

Wright, Stephen. (2010). 'Trust and Trustworthiness', *Philosophia* 38: 615-627.

Wrigley, W., Van der Vleuten, C., Freeman, A., Muijtjens, A. (2012). 'A systemic framework for the progress test: strengths, constraints and issues', *Medical Teacher*, 34(9), pp. 683-697. https://doi.org/10.3109/0142159X.2012.704437.

Xie, Y., Wang, K., & Kong, Y. (2021). Prevalence of Research Misconduct and Questionable Research Practices: A Systematic Review and Meta-Analysis. *Sci Eng Ethics*, 27(41). https://doi.org/10.1007/s11948-021-00314-9.

Yeung, A. H. W., Chu, C. B. L., Chu, S. K., & Fung, C. K. W. (2018). Exploring junior secondary students' plagiarism behavior. *Journal of Librarianship and Information Science*, *50*(4), 361-373. doi:10.1177/0961000616666625.

Yıldırım, D., Kır¸san, M., Kıray, S., Korhan, E. A., Üstün, Ç., & Aykar, F. S. (2019). Nurse Academicians' Attitudes Related to Academic Ethical Values and Related Factors. *Journal of Academic Ethics*, 17, 363–373. https://doi.org/10.1007/s10805-019-09339-z.

Young, R.B. (2011). The virtues of organizational integrity. *New Directions for Student Services* 135: 5–14.

Younis, J., Gishen, F. (2019). Practical tips for teaching academic integrity in the digital age [version 1]. *Med Ed Publish*, **8**:142 (https://doi.org/10.15694/mep.2019.000142.1).

Zhang, S., Roller, S., Goyal, N., Artetxe, M., Chen, M., Chen, S., Dewan, C., Diab, M., Li, X., Lin, X. V., Mihaylov, T., Ott, M., Shleifer, S., Shuster, K., Simig, D., Koura, P. S., Sridhar, A., Wang, T., & Zettlemoyer, L. (2022). *OPT: Open Pre-trained Transformer Language Models* (arXiv:2205.01068). arXiv. https://doi.org/10.48550/arXiv.2205.01068

Zhang, Q., Wang, D. Y., & Voelker, G. M. (2014). D Spin: Detecting Automatically Spun Content on the Web. Proceedings 2014 Network and Distributed System Security Symposium. Network and Distributed System Security Symposium, San Diego, CA. https://doi.org/10.14722/ndss.2014.23004

Zhao and Kung. (2021). Academic integrity of international students: Investigation in the era of 'The Presumption of Innocence'. *Educ. Dev.* https://www.seda.ac.uk/seda-publishing/educational-developments/ past-issues-2000-onwards/educational-developments-issue-22-2-2021/.

Zhao, Y., Liu, J. Tang, J., Zhu, Q. (2013). Conceptualizing perceived affordances in social media interaction design *Aslib Proceedings*, 65 (3) (2013), pp. 289-303.

Zimitat, C. (2008). A student perspective of plagiarism. In T. S. Roberts (Ed.), *Student plagiarism in an online world problems and solutions* (pp. 10–22). Herchey PA: Information science reference.

Zvereva, E. (2023). Digital ethics in higher education: Modernizing moral values for effective communication in cyberspace. *Online Journal of Communication and Media Technologies,* 13(2), e202319. https://doi.org/10.30935/ojcmt/13033.