12

NAVIGATING AI IN MALTESE CATHOLIC CHURCH SCHOOLS: LEADERSHIP TRANSFORMATION AND ETHICAL CONSIDERATIONS

Natalie Lombardi Calleja, Roberta Trapani Maggi and Jean Gové

Preamble

The authors in this chapter discuss the profound change in the methodology of teaching and learning and the ethical issues which artificial intelligence (AI) is bringing to educational leadership. They highlight how being AI literate is gradually emerging as a crucial leadership skill and how it can be applied to decision-making, administrative duties, and customising educational experiences to meet the needs of each unique student (Donasco & Oliveros, 2024).

In the past 15 years, the authors, professionals in education, have lived and closely observed the growth of digital education and the rising influence of AI in this field. Through their work as Heads of Department (HoDs) for Digital Literacy and Transversal Skills (DL) within the Curriculum Entitlement Department at SfCE, Trapani Maggi and Lombardi Calleja guide and support in the growth of this area within Church Schools. Rev. Dr Gové, while not a member of SfCE, collaborates closely with the Secretariat in virtue of his role within the Archbishop's Curia to develop and coordinate the evangelical and pastoral mission of the Catholic Church in Malta with regards to issues pertaining to the social and ethical impact of AI. As such, the authors share their insights alongside the practices of both the Secretariat for Catholic Education (SfCE) and the Maltese Catholic Church School Leadership Teams (SLTs), as they themselves and educators they support, navigate the challenges and opportunities presented by the evolving AI landscape. In conclusion, they share their outlook on suggestions on how educational leaders in Malta's Catholic Church School sector can navigate their way to lead their schools as AI technologies continues to develop.

The authors hope that their work, alongside that of so many other dedicated individuals and educators within the SfCE, Catholic Church Schools, and the wider Catholic Church in Malta and around the world, function together in harmony like the various parts of the body in order to achieve the aim explained clearly by Pope Francis:

> Education in the use of forms of artificial intelligence should aim above all at promoting critical thinking. Users of all ages, but especially the young, need to develop a discerning approach to the use of data and content collected on the web or produced by artificial intelligence systems. Schools, universities and scientific societies are challenged to help students and professionals to grasp the social and ethical aspects of the development and uses of technology. (Pope Francis, 57th World Day of Peace Message, 2024, January 1)

Introduction

In the context of education, AI tools present innovations which, if carefully integrated, can allow schools to become more inclusive, efficiently adapt instructions to students' various requirements, and increase productivity (Fullan et al., 2024; Tarisayi, 2024; Walter, 2024). As Haleem et al. (2022) note, education has always been impacted by new technology in some way or other, and schools have always followed suit by going through a slow adoption curve to effectively serve the best interests of their pupils. They mention how 'digital technologies have made a paradigm shift in the entire education system' (p.275). However, schools have had to deal with a drastically different adoption curve because of the rapid proliferation of AI tools. This is because AI, with its capacity to process vast quantities of data and make real-time choices, became a catalyst for change, especially in providing individualised learning experiences that are catered to the requirements, preferences, and learning styles of each individual student (Fullan et al., 2024; Walter, 2024).

Compared to prior technologies, educational AI tools go beyond the 'one-size-fits-all' model as they can enable systems to tailor experiences according to students' individual need, pace and preference (Olusola Ayeni et al., 2024) resulting in solutions that were formerly unreachable through traditional techniques. Additionally, when paired with other cutting-edge technologies like virtual reality and augmented reality, AI's significance for education is further enhanced (Clugston, 2024; Zawachi-Richter et al., 2019). While each of these technologies has its own merits, AI strengthens and complements them because the analytics driven by AI give teachers practical insights that let them reflect on their teaching methods and adjust if necessary, based on data. Thus, AI-driven tools serve as a facilitator; they not only enhance the efficacy of other educational technologies and applications, but they also guarantee a more effective and significant augmentation to these technologies by enhancing students' problem-solving skills and their creative and emotional development (Lin & Chen, 2024; UNESCO, 2024c).

Artificial Intelligence and Education

Various studies show how AI is already having a significant impact on education, changing both how teachers and students learn (Ertmer et al., 2012; Fullan et al., 2024; Tarisayi, 2024). Furthermore, AI's value in education goes beyond the classroom, given that across a variety of industries AI is bringing change in conventional jobs, enhancing deliberation and speeding up automatic processing (Camilleri, 2023b; Dingli & Seychell, 2015; Tarisayi, 2024; Prensky, 2010). Consequently, students who are currently engaging with AI systems will grow up in a society and workforce that is increasingly shaped by AI (Tarisayi, 2024). Thus, future workers will need to be AI literate, alongside having the relevant skills to manage sophisticated data, work hand in hand with smart technologies, and solve issues in technologically advanced settings (Dingli & Seychell, 2015). In light of this, leaders in education have a crucial responsibility to offer suitable guidance towards AI incorporation, influencing policy crafting and tangible application, while fostering future readiness in students by giving them the skills necessary to function in a community driven by AI (Fullan et al., 2024; UNESCO, 2024a, 2024b; Walter, 2024).

Through his work, Camilleri (2023b) mentions how AI's influence in education and the workforce will keep on increasing as AI matures. Therefore, it is imperative that students keep on striving towards comprehending and interacting with these technologies. He further states that having educational leaders and educators neglecting to utilise the potential of AI tools constitutes a disservice to students and a major shortcoming in pedagogical practices (Camilleri, 2023b). SLTs and educators who do not embrace these technologies run the risk of maintaining antiquated practices that do not sufficiently equip students for a world that is changing quickly and in which AI and technology will be globally essential (Dingli & Seychell, 2015). By referring to Sheninger's work, Camilleri (2019a) highlights how 'school leaders today must establish a consistently innovative digitally mediated change that at the core supports 21st century skills' (p.81). Thus, it is imperative to note that school administrators should appreciate the fact that in-depth data analysis, driven by AI, can empower them in managing their resources better, assisting them in making well-informed decisions based on real-time data, as well as, addressing performance gaps effectively (Tarisayi, 2024; Tyson & Saures, 2021). Furthermore, Camilleri (2023a) discusses the most effective ways to raise teachers' awareness and notes that educators should also embrace the fact that by using AI tools wisely, they will be in a

better position to design learning activities according to students' needs while encouraging engagement and critical thinking. Therefore, it is imperative to bear in mind that a refusal to use AI tools not only restricts the possibilities for innovative teaching but also defeats the purpose of offering high-quality education that gives pupils the tools and skills they need to succeed in the 21st century (Camilleri 2023b; Dingli & Seychell, 2015; Prensky, 2010). In relation to this, skills like communication, creativity, critical thinking, and teamwork are being acknowledged as crucial for students and teachers to nurture in the era of AI (Dingli & Seychell, 2015; Prensky, 2010; UNESCO 2024c). These competences enable students to overcome difficult obstacles and adjust to a changing environment marked by globalisation and technology breakthroughs (Binkley et al., 2012; Prensky, 2010; Voogt & Pareja Roblin, 2012). As such, in addition to giving children the resources they need to succeed academically, developing 21st century skills also positions them to become active citizens who can make significant contributions to society (Binkley et al., 2012; Camilleri, 2023b; Dingli & Seychell, 2015; McCain, 2005; Voogt & Pareja Roblin, 2012). Being the potential leaders of tomorrow, it is imperative that students begin to reflect, develop, and build competencies as life-long learners. This will assist them in continuously considering the main debates surrounding AI, internalising the ethical concepts, and fostering their ambitions to create and use AI tools that accomplish worthwhile goals or solve pressing problems in the real world. Thus, moving beyond the myth and exaggeration that AI is the panacea (UNESCO, 2024c).

Educational leadership is globally being affected with the introduction of AI and this transformation is also hitting home. In 2019, the Malta.AI Task Force, authorised by the Maltese Government, introduced a national AI strategy, aiming to establish Malta as a leader in the field of AI. It also proposes training local teachers in AI and modifying procedures for learning and assessment. The three strategic pillars centre around increasing innovation, adoption and investment, which are supported by the following enablers: Education and Workforce; Ethical and Legal Considerations; and Ecosystem Infrastructure. Alongside this, *Malta's Ethical AI Framework* (2019) was also issued by the same entity, with the goal of developing a useful and feasible framework that may operate as a roadmap and facilitator for AI professionals to produce reliable AI in Malta and elsewhere. Additionally, in May 2024, MEYR affected the *Digital Education Strategy 2024–2030* as a reaction to the urgent need for a fundamental shift in Malta's educational philosophy that places equity at its centre. The strategy acknowledges the

need to close the digital divide and presents a commitment to give every learner in Malta the tools and assistance needed to succeed (MEYR, 2024).

The Catholic Church School sector, which contributes significantly to the nation's educational system, has also started investing in exploring how AI may improve teaching strategies while upholding their dedication to a holistic education based on Catholic principles. As such, to ensure that digital tools complement rather than diminish character development and critical thinking, most of the educational leadership team in these schools are taking the initiative to integrate technology in a way that is consistent with the school's values. This aligns with Wang's (2021) notion that 'to fulfill [the leaders] moral obligations to students' well-being, [they also] need a human touch' (p.265). Catholic Church School SLTs are also working towards creating an environment where students have the moral compass necessary to lead meaningful lives based on service and ethical responsibility – in addition to the technical skills necessary for future careers – by cautiously navigating the intersections of technology, education, and faith. Furthermore, through this pedagogical framework, they are reinforcing the idea that education is essentially about developing people who can make valuable contributions to society rather than just acquiring knowledge (Camilleri, 2023b). Since this reflective process not only improves cognitive ability but also enriches students' knowledge of their duties as moral agents, SLTs are working hard in creating an environment where, through the integration of 21st century skills with academic learning, students are encouraged to question, analyse, seek the truth, and have conversations about ethical concerns and societal standards (Camilleri, 2023b; European Union, 2006; McCain, 2005, UNESCO, 2024b, 2024c).

In spite of this, although AI has enormous potential in education, it also comes with difficulties and moral dilemmas that need to be properly handled (Tyson & Saures, 2021; Wang, 2021; UNESCO 2024b). In alignment with Pope Francis' (2023) words, during his address to the participants in the 'Minerva Dialogues',

> I encourage you, in your deliberations, to make the intrinsic dignity of every man and every woman the key criterion in evaluating emerging technologies; these will prove ethically sound to the extent that they help respect that dignity and increase its expression at every level of human life.

Catholic Church School leaders in Malta, together with personnel from SfCE and a researcher in the philosophy of AI designated by the Archbishop of Malta, are discussing the moral implications of AI and how depending on their usage, they can either beneficially contribute to society or serve to

increase fragmentation and division. In addition, SLTs are keeping in mind that all this requires reflective and considerate leadership to guarantee that AIs incorporation supports the schools' spiritual mission as well as its academic objectives.

Artificial Intelligence and Ethics

Research in AI ethics is constantly growing, given the variety of ethical concerns that multiply apace with the breathtaking technological advances we are seeing in the field of AI. There is now, thankfully, a growing consensus that due to the pervasive changes and wide-reaching impact of such technologies, ethical considerations should not merely be an after-thought but a central and crucial aspect of the process of developing, designing and deploying such tools. Furthermore, the debate has developed in such a way as to focus on the ethical considerations that should be taken by the relevant stakeholders, be they creators of AI tools, deployers, or users. For the purpose of this chapter, the authors shall restrict themselves to ethical considerations that directly impact the context of education. Within the wide variety of approaches one can take in presenting an ethical framework or set of principles, they shall here focus on principles deriving from Catholic Social Teaching namely the principles of respect for human dignity, solidarity, and subsidiarity.

The aim of education must be more than just knowledge or content acquisition. This basic fact, echoed by the likes of Freire (2020) and repeated in numerous Catholic Church documents (Congregation for Catholic Education, 2007, 2022; The Sacred Congregation for Catholic Education, 1977; Vatican Council II, 1965) must be kept before us when theorising about the how, where and why of AI in education. Apart from content acquisition, education should thus also help to foster…

> […] commitment towards self-improvement and the common good. It [should] allow […] students to develop their creativity, strive for constant learning and become more open towards others. Learning can also provide the opportunity to open students' hearts and minds to the mystery and wonder of the world and nature, to self-consciousness and awareness, to responsibility towards creation, to the Creator's immensity. (Congregation for Catholic Education, 2014)

Thus, in line with the first principle of respect for human dignity, any introduction of AI tools that does not respect this aim of education risks treating students (as well as educators) as passive agents or mere receptacles of information. Furthermore, given the manner in which AI systems function

by processing vast amounts of data, there is here another related risk (present also within the wider AI ethics discourse) of not treating and dealing with students and educators as human persons but as collections of quantifiable data. In striving to measure students' aptitudes, or quantifying the resources and time being dedicated to certain tasks, or in utilising AI tutors to maximise students' progress the risk is to focus on manipulating numbers and figures in order to achieve desired outcomes – especially in contexts where resources are scarce – as opposed to engaging with individuals and their distinct and unique realities and needs – some of which might not necessarily be quantifiable. The risk here, therefore, is that the incorrect implementation of AI tools in the educational context risks treating students and educators themselves as if they were mere machines.

Closely related to this point is the principle of solidarity. A recent publication by the AI Research Group of the Vatican's Dicastery for Culture and Education articulates solidarity in the context of AI in education in the following way:

> [S]olidarity in education demands that schools be communities of encounter in which students bear witness to safe, caring, and attentive relationships among guardians, faculty, staff, and administrators, as well as form and enter into right relationships with them and their peers. Technology ought not and simply cannot ever take the place of a human teacher or human peer in or outside the classroom for this reason. This is why individualized learning ought never become individualistic learning." (AI Research Group of the Centre for Digital Culture, 2023).

The link between respect for human dignity and solidarity is thus easy to draw. A proper appreciation and understanding of who we are as persons leads us to recognise that a holistic education can only take place if students understand and explore who they are in relation to others. Following this principle of solidarity thus means that while AI tools might be implemented in different areas of the educational process, they must never cut the student off from forming genuine interpersonal relationships with others. It is precisely through these relationships that students understand who they are and their place in society. Furthermore, these relationships help students to apprehend the moral skills necessary to flourish in society as mature citizens; from learning how to compromise, work as a team, persevere, respect authority and dialogue with disagreeing opinions. Failure to do so might result in students becoming morally deskilled (Vallor, 2015). Additionally, empowering young students to help re-balance their relationships, not only

with others, but also with technology and the environment is key for them to be able to help co-create their desired sustainable futures (UNESCO, 2024c).

In a related vein to this issue, the principle of solidarity should also compel educational leaders to ensure that whenever and wherever AI tools are introduced, this does not lead to a greater inequality between students coming from different social or economic backgrounds. On the one hand, the imbalanced or indiscriminate introduction of such tools might lead to a greater advantage to students coming from wealthy backgrounds due to the added benefits such tools create compared to those students who lack access to them. On the other hand, however, there is the opposite risk that AI tools will be deployed in poorer settings where human tutors are not afforded. Both instances run contrary to the principle of solidarity as shown above.

The final point relates to the principle of subsidiarity. This principle asserts that decision-making should be left to the 'lowest' possible authority that is closest to the affected individuals. 'Higher', more centralised authorities must respect this autonomy as far as possible while serving to support such smaller entities or communities in their decisions. In terms of education, this means that while the State might decide on certain salient aspects of curricula, different schools, individual teachers, and parents have a right and a responsibility to exert their autonomy and agency in making certain decisions pertaining to the educative process of their respective students. This principle is already respected within Catholic Church Schools locally wherein the SfCE – as the higher institution – supports and aids individual schools, without imposing on them, but allowing them the liberty to take whatever decisions they feel are warranted in their respective contexts and situations for the benefit of their students. Subsidiarity thus advocates against a 'one-size-fits-all' model of education.

Apart from some of the issues already mentioned above that also relate to subsidiarity, a specific point that should be mentioned is that of AI bias. The claim that AI systems – in virtue of being built on logical algorithms – are somehow less biased than humans has been thoroughly shown to be a falsehood (Ferrara, 2023; Srinivasan & Chander, 2021). There is no such thing as a 'value-free' AI tool; values are baked into the system at every stage, whether explicitly or not, from the way the data an AI tool is trained on is collected and categorised, to the algorithms used to run the system, to the manner in which tools are deployed. As a result, bias is replicated and perpetuated. This should already ring alarm bells for educational leaders in schools. An indiscriminate implementation of AI tools in the educative

process is tantamount to absconding of the duties of such leaders in deciding on the content and manner of what is taught to the students under their care. Upholding the principle of subsidiarity thus ensures that decisions on what students learn are not taken by corporate entities and tech companies which are oblivious to the specific needs of a particular set of students, but rather by those best positioned to take such decisions – the students' parents, educators and, in some cases, even the students themselves.

Malta's Educational Leadership and AI Integration: Catholic Church Schools' Viewpoint

In the Catholic Church School sector, SLTs are feeling the need to embrace AI and adapt to this evolving era, rather than ban it and put in place restrictive policies (Dilberty et al., 2024). In this section the authors will be sharing their insights, gained over the years from their experiences as educators, HoDs (DL, SfCE) and researchers, through their work with SLT's in Church Schools.

The rise of AI in education, has introduced new challenges amongst Church School leadership, as they seek support, guidance and more clear strategies on how to navigate this new landscape. School leadership feel the need of not only acquiring basic technological competences or hard skills on how to use AI but to also develop the soft skills needed to be able to engage critically, ethically and positively with such technologies (European Union, 2022; Milton & Al-Busaidi, 2023). The beneficial aspects of AI in handling school administrative tasks including admissions, timetabling, and attendance, has driven Catholic Church SLT to become more literate in the area of AI. Furthermore, as SLTs recognised the urgency to ethically guide students, who already use AI, and the potential AI has to enhance data use, such as identifying students at risk of failure, they started looking for further support on ways to develop their AI competencies (UNESCO, 2021, 2024b). This helped them in staying ahead of advancements and leverage AI tools to develop forward-thinking educational strategies to ensure that their schools remain technologically advanced and not fall behind (Tyson & Sauers, 2021).

Zajda (2010) refers to the work of Ivan Illich who maintained that a quality educational system ought to serve three functions. One of these functions is to equip anyone who wishes to learn with resources that are accessible at that moment in their lives. In relation to this, various researchers emphasised the necessity that schools accept the world of AI, adjust to it and make it available to their community, especially considering that it is the

world's current technological resource (Camilleri 2023b; Fullan et al., 2024; Khan, 2024; Walter, 2024). They mention how schools must figure out how to adapt to change rather than fighting the inevitable, since AI has the potential to offer new, previously undiscovered opportunities that can benefit everyone, if it is properly directed and utilised. Also, while recognising AI's flaws and restrictions, schools need to accept that there is no point in denying its influence on education as it will only continue to grow in the future (Camilleri 2023b; Fullan et al., 2024; Khan, 2024; Walter, 2024).

Secondary Catholic Church School leaders in Malta, have been seeking solutions to address the challenge of limited student devices in classrooms to create opportunities for developing digital literacy skills including AI literacy. In line with this some of these schools have introduced and set a Bring Your Own Device (BYOD) policy where pupils use their personal mobiles or tablets for educational purposes. The BYOD strategy was originally 'proposed by Intel's chief security and privacy officer Malcolm Harkins in 2009' (Afreen, 2014, p.233) ensuing his observations that most workers carry their personal smartphones, tablets, and mobile storage devices to work. Subsequently, the education sector globally took up this concept and proposed the integration of these gadgets into the process of teaching and learning (Aggarwal, 2018). As noted by Aggarwal (2018), this policy 'brings the students closer to technology and makes them understand that the digital revolution is not just about social networking and entertainment, but it has a major role in enhancing the learning and knowledge sharing processes' (p.90). In the primary sector, since 2016, through the One Tablet per Child (OTPC) project, (MEYR, 2024), each student in Years 4–6 had access to a tablet for educational purposes. This project aspired to assist Malta in achieving the Early School Leaving and Further and Higher Education targets of Europe 2020 (European Commission, 2020). During the scholastic year 2024–2025, the Directorate will be extending this project to encompass the 'One Device Per Child (ODPC), through which a laptop will be distributed to all students in Year 7' (MEYR, 2024, p.21).

Notwithstanding all this, due to the possibilities created by AI tools in educational environments, teachers were placed at the core of these exciting new advances, which were formerly restricted to computer-science labs or ICT educators. This set a demand on educators to have a good understanding of the educational potential of AI and eventually implement this innovative technology in their work (Homes & Tuomi, 2022). However, although for some educators, embracing AI proved very challenging at the beginning,

those same educators realised by time that by creating a student-centred environment and allowing students to voice their opinions, they themselves became pertinent change agents (Camilleri, 2023b). In a report issued by ASCD (2016) as part of the *Whole Child Symposium*, titled 'The Engagement Gap: Making Each School and Every Classroom an All-Engaging Learning Environment', it was noted that prior to tackling the achievement gap, it is necessary that one recognises that this is a sign of a much bigger problem – an engagement gap. Thus, educators and school leaders need to equip themselves by using these novel AI technologies to be able to 'fill up the void in which traditional classroom instructions fall short of, that is, an immediate learning environment, faster evaluations, and more engagement' (Haleem et al., 2022, p.275). In this manner, by adopting an engaging pedagogy, students would be involved in the educational process and receive instruction that is relevant to them. This includes engaging activities that encourage hands-on learning, which often results in a love for learning (Lombardi Calleja & Trapani Maggi, 2021).

However, Catholic Church School SLTs frequently highlight that one of the greatest challenges they face is helping educators navigate their way in the AI environment, as their role shifts from one of disseminators of knowledge to one of mentoring and personalisation of learning (Walter, 2024). In fact, the application of AI in education necessitated careful thought, including an analysis of the changing roles that educators must play and the skills that educators must possess in order to apply AI in an ethical and efficient manner (UNESCO, 2024b). As such, one way to help teachers make this shift is by providing continuous and effective Professional Development (PD) for teachers (ISTE, 2024). This aligns with the data provided by Diliberty et al. (2024), following a survey carried out with teachers, where one third of the teachers who took part mentioned that 'lack of school or district guidance on using AI tools and products' and a 'lack of professional development for using AI tools' were amongst the top three barriers to expanding their use of AI tools. Thus, the need for further PD sessions is not only felt by teachers but also by SLTs.

AI Training and Professional Development (SfCE and Catholic Church School SLTs)

Leadership agility in this digital age, is crucial so that leaders not only keep pace with the change but also harness its potential with forward-thinking approaches that maintain sustainable progress (Agile Leadership Journey, 2024). As Catholic Church School leaders seek an understanding of their own school community, dialogue with other educational leaders in the same sector gives them insight into barriers, risks and skill gaps that other schools are facing in the implementation of AI (ISTE, 2024). This ensures that they continue to learn how to make use of AI and prioritise the relevant ethical knowledge they need to foster an approach of adaptation and continuous learning (Fullan et al., 2024). It is crucial for school leaders to be well-versed in the broader capabilities of AI, including those that enhance decision-making in areas like curriculum. Conclusions from a study carried out by Camilleri (2019a) with seven school leaders indicate that leadership development programs should give aspiring leaders the understanding of resident experience and practice in light of the growing demands for change and transformation. Thus, to continue supporting Church School leaders, SfCE in collaboration with university academics, held training sessions to SLTs on the use of AI tools and their benefits and pitfalls, as well as hands-on workshops on how this can be used. Similar sessions were also held with other HoDs, from the Curriculum Entitlement Department, who also work in schools supporting both the SLTs and educators. This multiplier approach enables SLTs to provide greater support to their educators, and better understand their concerns when discussing issues related to AI integration with them, while also acting as role models by demonstrating the need for continuous learning (ISTE, 2024).

Catholic Church School SLTs and HoDs (DL, SfCE), communicate clearly the benefits of AI for educators, as this could be crucial in driving and stepping up the adoption process. Therefore, to address the needs brought to light by schools, HoDs (DL, SfCE) plan their PD sessions in alignment with the *European Framework for the Digital Competence of Educators* (DigCompEdu) (Redecker & Punie, 2017) and the *AI Competency Framework for Educators* (UNESCO, 2024b). They provide a stepped approach to PD sessions to avoid overwhelming educators starting off with the benefits of AI tools that help educators in their planning, preparation of learning activities, and automation of administrative tasks that reduce workloads (UNESCO, 2021, 2024b). Subsequently these sessions guide

educators on ways how to design and set learning activities that involve students' use of AI, in such a way that there is a joint understanding on the extent that AI tools can be used in their learning activities (UCL, 2024). With primary educators, a playful approach is adopted when introducing AI to make sure that when using the tools with their young students in class, the students would be interacting with AI in a suitable and safe setting. In contrast, a slightly different approach is adopted with secondary educators as they teach more mature learners. Together, educators explore AI-driven digital tools, such as, ChatGPT, Canva Magic Studio, Reading Progress and other Microsoft Tools, through hands-on practices and delve into their benefits and limitations. One of the limitations which educators frequently point out during these sessions, is the lack of accuracy of ChatGPT in relation to the Maltese language. Żammit (2023) speaks about this and emphasises the necessity of improving ChatGPT's Maltese language training and working with Maltese language and AI specialists to better serve Maltese students' demands. Another tool which HoDs (DL, SfCE) are encouraging educators in the primary to explore is Education AI, better known as the Artificial Intelligence Assisted Learning (AIAL) application (Dingli & Caruana Montaldo, 2019). This tool assists teachers and pupils in primary by creating customised math assignments and homework according to each student's aptitude. It gives teachers quick feedback and insightful analysis to pinpoint students' strengths and weaknesses. Besides, teachers do not require any programming experience to use it since they can quickly build and modify question templates with the Blueprint Designer tool, allowing for focused assignments and flexible curriculum adaption.

Conversely, Catholic Church School leaders strive to balance the integration of AI with their school's mission and vision. In this regard, SLTs are also looking towards the Catholic Church in Malta for guidance on how to ensure that AI technologies are used ethically and morally, aligned with their school values. In view of this, a researcher in philosophy of AI, who also contributes to the wider Catholic Church, was designated by the Archbishop of Malta to assist in this area. Through his sessions, he guides SLTs and educators in becoming aware of how AI tools affect interpersonal interactions and helps them gain the necessary critical skills required in deciding when, where, and how AI tools could be beneficial in the educational context. Also, he collaborates with SfCE in providing guidance to Church Schools on this area. Several SLTs have opted for this PD session to be held at their school as it lays the foundation, for themselves and their staff, to critically reflect on

their role as educators. Together they think deeply about not only how their role can enhance students' academic performance but also the ever-increasing role they play in the development of character, ethics and social responsibility among students to prepare them for an AI-integrated world (UNESCO, 2024b, 2024c).

Challenges and Opportunities faced by SLTs on AI Integration

Catholic Church School leaders operate in a unique environment where they must not only navigate the rapid advancement in AI tools, but also to do so in a manner that upholds ethical and moral values rooted in Christian values and ethos. Leaders in Church Schools focus on embedding character education into their curriculum and ensure that students not only thrive academically but develop values such as resilience, self-discipline, and accountability, which are crucial in navigating ethical challenges responsibly in this AI-influenced world (Dingli & Seychell, 2015; UNESCO, 2024b, 2024c). As such, PD sessions offered by HoDs (DL, SfCE), with secondary educators, involve a mixture of theoretical learning about AI and workshops where educators can apply their learning to their own subject and context helping them to reflect on how AI can align with the school values and goals by fostering critical thinking around the use of AI. School leaders feel responsible in ensuring that AI complements rather than replaces human oversight, reinforcing the importance of empathy, social responsibility, and compassion, which are all core Christian values (Watkins, 2018). Hence, the ethical use of AI can promote social justice, fairness, and the common good, rather than perpetuate biases or inequalities (European Union, 2022; UNESCO 2024b).

To date, some Catholic Church Schools have taken the lead in AI implementation whilst others are still lagging. Prioritising AI-specific PD sessions may be challenging given the numerous competing essential training needs (Dunningam et al., 2023) faced by local Church Schools, due to the changes in the learning outcome framework and the SEC new assessment model. SLTs have also voiced their concerns about the uneven adoption of AI tools amongst their educators since this would ultimately lead to inconsistencies in education equality and student outcomes. As a result, SLTs in a number of Church Schools have created a space for educators that have taken the lead and implemented the use of AI in their classroom, to give training sessions and share their good practices with their colleagues. SLTs feel that this encourages other educators to also implement the use of AI in

their classroom. This aligns with Dilberty et al.'s (2024) study who reported that school leaders relied on teachers with a personal interest in AI to serve as coaches and informal training sessions. This methodology also follows UNESCO's (2023) statement that school leaders need to provide space and opportunities to understand the potential benefits and risks of AI in education, by supporting educators also through training and continuous coaching on proper use of AI to ensure an understanding of ethical issues and regulations on data privacy and intellectual property.

Before further implementing the use of AI in their schools, school leaders would benefit from seeking an understanding from their own school community and that of other Catholic Church School educators of the unmet needs, current perceptions of AI, barriers, risks and skill gaps (ISTE, 2024), as this would give them further insights into the best way forward. Also, offering a community which fosters positive word-of-mouth and key testimonials of successful implementation is vital for accelerating adoption rates (Venkatesh et al., 2003). In fact, SLTs within Church Schools in Malta build on social influence which in return provide space for educators to form professional learning communities (PLCs) of practice, both on online school platforms like, Microsoft Teams, and also by timetabling slots that encourage and foster professional collaboration. As Wong and Ng (2020) mention, leaders that create such an environment can ease AI adoption, as teams work together to address challenges and collaboratively develop AI-aligned educational practices that can also lead to AI-policy creation. Along these lines, HoDs (DL, SfCE) have also fostered PLCs where subject-specific HoDs (secondary) work in similar learning areas and exchange knowledge and best practices about AI integration. The authors truly believe that this collaborative model is key as part of dissemination of AI training across schools. In addition, HoDs (DL, SfCE) collaborate with various SLTs, in both the primary and secondary sectors, to co-ordinate AI-training abroad through Erasmus+ Funding Projects. This enables educational leaders and educators to attend these trainings and bring back with them new knowledge which is then disseminated across different Catholic Church Schools (European Union, 2022).

Catholic Church Schools Educational Leadership in Malta: The path ahead

As Zawacki-Richter et al. (2019) highlight, AI's role in schools remains uncertain and the full consequences of its development cannot yet be known,

as the landscape is continually evolving. However, AI is here to stay and will be a top agenda for school leaders for the foreseeable future. Taking a transdisciplinary approach, this chapter explored how AI is changing leadership in education while tackling the moral dilemmas that AI tools bring to the sector. It also presented current practices, based on the authors' insights, which Catholic Church School's leaders in Malta and Gozo are implementing while working together with the teachers in their schools. Wang (2021) notes that the cornerstone of educational leadership is decision-making but acknowledges that leaders cannot make every decision within an organisation, due to time, expertise, and policy limits. Hence, it is essential that leaders empower other members of the institution to make and carry out decisions. In view of this, 'the development of AI [...] may more constructively be seen as a joint development of human and artificial cognition [in educational contexts]' (Homes & Tuomi, 2022, p.562). Much like a team working together, humans can contribute the heart and soul to ensure that judgements are morally just and consistent with beliefs, while AI can handle the more laborious data tasks (Abduljaber, 2024). This allows an ideal balance between human and AI tools where both agents are 'complementary' in making wiser choices to improve education for all (Abduljaber, 2024; Wang, 2021).

Notwithstanding this, as school leaders adopt AI and engage with it as a 'co-worker, co-teacher and coach' (Mollick, 2024), they face complex decisions regarding its use. AI's ability to personalise learning and automate administrative tasks is valuable but school leaders must ensure that it does not overshadow human-centred education. As such, in ensuring that AI is implemented responsibly within the school community, they must facilitate an understanding among all stakeholders (parents, students and educators) of AI's ethical implications while offering transparency around data usage and collection (Tyson & Sauers, 2021; UNESCO, 2023). One way how school leaders can achieve this is by providing space and time for dialogue. By engaging teachers in discussions about both the ethical use of AI, as well as ways how AI can be implemented in teaching and learning effectively, helps lessen undercurrents that might diminish the quality of education and teacher-student relationships (Shelton & Lanier, 2024). Additionally, involving not only educators, but also parents and learners at different levels – depending on their maturity – will lead to a better understanding in addressing possible concerns and the establishing of reciprocal trust to help achieve the common vision for their school (Shelton & Lanier, 2024). Thus, to ensure that AI

technologies align with broader pedagogical goals, the authors suggest that Catholic Church School leaders, with the support of SfCE, the Archbishop's Curia, and other professionals in the field, develop and implement an AI school policy. Considerations can also be given to including AI in their assessment policy. However, this cannot be done in isolation but, in tandem with other stakeholders in the school. In addition, creating clear guidelines in collaboration with students and educators, of what and where AI can be used within the school community, is vital (Shelton & Lanier, 2024). Therefore, the collaboration ensures that everyone is aligned, and that 'AI-informed human discernment' remain central to educational decisions (Shelton & Lanier, 2024, UNESCO 2024b, 2024c).

In line with this, Church School leaders can also refer to the AI competency frameworks for teachers and students (AI CFT and AI CFS), issued by UNESCO in 2024. The AI CFT framework's goals, found on page 22, are to provide a reference that aids in the development of national, state-level, or institutional AI competency frameworks or teacher training programs, whilst the AI CFS offers practical examples and strategies for developing AI-related educational content at different mastery levels: understanding, application, and creativity. Furthermore, through the first dimension of the AI CFT, one can explore the five facets of AI proficiency, namely: human-centred mindset, ethics of AI, AI foundations and applications, AI pedagogy, and AI for professional development. Although each component element of AI competency is distinct, the components are related to one another because they are complimentary, interdependent, and synergistic. Their connection aids in the coherent development of AI proficiency. Additionally, the second dimension of the framework portrays the scaffolded progression of these competencies whereby the progression levels show the levels at which educators could advance over time in each of the five competency areas while taking into account the readiness and preparedness of teachers and the needs of students (UNESCO 2024b, 2024c).

Furthermore, ethical, inclusion and equity considerations should also form part of the AI school policy (Willage, 2024). Church School leaders can set an example by adopting AI in ways that foster inclusivity and equity, ensuring that all students, regardless of their background, can benefit from AI-enhanced education, in line with the principles of solidarity and subsidiarity mentioned further above (UNESCO, 2024c). Therefore, the authors suggest that guidelines should be specific where AI is used for data analytics, particularly concerning the handling of potential sensitive student

data. The authors further suggest that by working SMART and engaging educators in the construction of a School Development Action Plan, would be essential for tracking progress and clarifying responsibilities. This roadmap should incorporate key priority development targets that are specific, measurable, relevant, achievable, and time bound. It also should outline specific objectives, key milestones, implementation phases, professional development sessions and AI into the curriculum in schools (ISTE, 2024). Evidently, regular evaluations and necessary adjustments will be crucial, but by celebrating small successes along the way, school leaders will help in fostering motivation and commitment (Shelton & Lanier, 2024).

All this however, necessitates that Catholic Church School SLTs, and, arguably, SLTs everywhere, have a thorough understanding of how AI can improve learning outcomes and streamline operational processes (European Union, 2022; Willage, 2024). Investing in infrastructure and resources, as well as teacher training are key steps to support AI adoption. Leadership teams need to have a clear vision and take a consistent rather than haphazard approach to AI implementation while offering PD in schools to ensure equitable use of AI across classrooms (UNESCO, 2023; 2024b; 2024c). As Calleja and Camilleri (2021) envision, teachers are prompted to address their unsatisfactory situations when engaging with purposefully designed disruptive processes. Therefore, SLTs should not hold back in presenting their educators with PD sessions which act as a vehicle in taking them 'out of their comfort zone'. This is because such sessions will ultimately aid in the improvement or even transformation of the teachers' professional practices (Calleja & Camilleri, 2021).

Likewise, not limited to Church Schools, SLTs need to keep upskilling in AI literacy and work towards fostering PLCs to continue integrating AI in their schools in ways that benefit and safeguard all stakeholders and help them thrive in an AI-enhanced world. Results from Tyson and Sauers's (2021) study echo the need felt amongst Catholic Church School SLTs – that of engaging with proper support through professional development for successful technology integration. On this point, HoDs (DL, SfCE), took on a proactive role in offering specifically designed training opportunities for SLTs. In addition, various initiatives and cross-school collaboration ensures that Catholic Church Schools do not take an isolated approach to AI adoption but share best practices and learn from each other as part of a collective effort towards innovation and excellence in the Catholic Church School sector (European Union, 2022). The authors believe that by fostering collaboration,

ongoing skill enhancement, and updated PD opportunities for both leaders and teachers, will help the Catholic Church School sector move toward a more comprehensive approach to AI while ensuring that AI initiatives and educational policies are aligned (ISTE, 2024; UNESCO, 2021).

Being an extension of the wider Catholic Church, the SfCE organisation can be instrumental in helping Church Schools be ahead of the curve while maintaining their commitment to a holistic education founded on Catholic teachings. In this regard, the authors, as representatives from both sections, will continue to collaborate in offering compelling training opportunities and supporting Church Schools along the way. Furthermore, to address the need of AI literacy upskilling and following the guidelines shared in the AI competency framework for teachers and students (UNESCO, 2024b; 2024c), both entities are currently collaborating on a project, together with a foreign entity, on the possibility of the development of a short, age-appropriate course on AI literacy, for students that use an AI safeguarded platform. The course would cover the impact of AI on our lives, including the ethical issues it raises; age-appropriate understanding of algorithms and data, and skills for the proper and creative use of AI tools including AI applications (UNESCO, 2024b). Apart from this, HoDs (DL, SfCE) will continue to strive in building partnerships with other institutions, such as the University of Malta, Directorate for Digital Literacy and Transversal Skills (DDLTS) and other institutions both locally and abroad to help facilitate collaboration and sharing of knowledge and practices in AI implementation. They will assist Catholic Church Schools in engaging with local and European initiatives, focusing on applied research for effective AI implementation. This will help contribute to local evidence-based research on the AI development in schools, that is presently still in its infancy. Therefore, the authors propose more collaboration between local researchers, school leaders, and educators, with a focus on action research.

Lastly, educational leaders should keep in mind that AI models pick up knowledge from human behaviour while presuming the objectivity of this training data (Treiman, Ho & Kool, 2024). Thus, a change in input may result in AI and humans both displaying suboptimal behaviour. In addition, 'AI can hallucinate... [so] although [AI] can be hugely helpful in generating material to help students learn, instructor expertise is critical' (Mollick & Mollick, 2023, p.2). In view of this, schools are encouraged to refer to the *Ethical Guidelines on the use of Artificial Intelligence (AI) and Data in Teaching and Learning for Educators* document, issued by the European Commission

(2022) which provide guidelines for educators to be able to 'engage positively, critically and ethically with AI systems and exploit their full potential' (p.10).

As the technology environment around us is evolving so quickly, we must consider the function that education plays in this evolving world (Homes & Tuomi, 2022).

> May [all people] of good will work together in harmony to embrace the opportunities and confront the challenges posed by the digital revolution and thus hand on to future generations a world of greater solidarity, justice and peace (Pope Francis, 57th World Day of Peace Message, 1st January 2024).

References

Abduljaber, M. F. (2024). *Perceived influence of artificial intelligence on educational leadership's decision-making, teaching, and learning outcomes: A transcendental phenomenological study* [Doctoral dissertation, Liberty University]. Scholars Crossing. https://digitalcommons.liberty.edu/doctoral/5714/

Afreen, R. (2014). Bring your own device (BYOD) in higher education: Opportunities and challenges. *International Journal of Emerging Trends & Technology in Computer Science, 3*(1), 233–236.

Aggarwal, D. (2018). Using the technology acceptance model to understand the use of bring your own device (BYOD) to classroom. *Journal on Today's Ideas-Tomorrow's Technologies, 6*(2), 83–91. https://doi.org/10.15415/jotitt.2018.62007

Agile Leadership Journey. (2024). *Embracing AI in leadership: A paradigm shift in strategy and operation*. Retrieved October 15, 2024, from https://www.agileleadershipjourney.com/blog/embracing-ai-in-leadership-a-paradigm-shift-in-strategy-and-operation

AI Research Group of the Centre for Digital Culture. (2023, December 14). Encountering artificial intelligence: Ethical and anthropological investigations. *Journal of Moral Theology, 1*(Theological Investigations of AI). https://doi.org/10.55476/001c.91230

Association for Supervision and Curriculum Development [ASCD]. (2016). *The engagement gap: Making each school and every classroom an all-engaging learning environment*. Retrieved from https://files.ascd.org/staticfiles/ascd/pdf/siteASCD/wholechild/spring2016wcsreport.pdf

Binkley, M., Erstad, O., Hermna, J., Raizen, S., Ripley, M., Miller-Ricci, M. & Rumble, M. (2012). Defining twenty-first century skills. In P. Griffin, E. Care & B. McGaw (Eds.), *Assessment and teaching of 21st century skills* (pp.17–66). Springer.

Calleja, J., & Camilleri, P. (2021). Teachers' learning in extraordinary times: shifting to a digitally facilitated approach to lesson study. *International Journal for Lesson & Learning Studies*, *10*(2), 118–137. https://doi.org/10.1108/IJLLS-09-2020-0058

Calleja, N.L., & Maggi, R.T. (2021). The use of robotics embedded in playful learning scenarios in secondary schools: Teachers' and students' perspectives. *Malta Journal of Education*, *2*(1), 57–80. https://doi.org/10.62695/TCRV1611

Camilleri, P. (2019a): Digitally mediated leadership: Harnessing tomorrow's school-leadership skills today – a Maltese outlook. In I. Hussein Amzat (Ed.), *Predictive models for school leadership and practices* (pp.78–96). IGI Global.

Camilleri, P., (2019b). Schools, culture and the digital era. A case for change? In C. Bezzina & S. Caruana (Eds.), *Teacher education matters: Transforming lives… transforming schools* (pp.166–176). University of Malta, Faculty of Education.

Camilleri, P. (2023a). A future past? Rationalising the formalisation of an ethical objective in teacher preparation today for the machine autonomy of tomorrow. In J. Casas-Roma, J. Conesa & S. Caballe (Eds.), *Technology, users and uses: ethics and human interaction through technology and AI* (pp.336–363). Ethics International Press.

Camilleri, P. (2023, June 4). Keeping education relevant in times of change. *The Media & Learning Association (MLA)*. https://media-and-learning.eu/type/featured-articles/keeping-education-relevant-in-times-of-change/

Clugston B. (2024). *Advantages and disadvantages of AI in education*. University Canada West. https://www.ucanwest.ca/blog/education-careers-tips/advantages-and-disadvantages-of-ai-in-education/

Congregation for Catholic Education. (2007, §13). *Educating together in Catholic schools: A shared mission between consecrated persons and the lay faithful*. Retrieved from https://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_doc_20070908_educare-insieme_en.html

Congregation for Catholic Education. (2014, April 7, §4). *Educating today and tomorrow: A renewing passion*. Retrieved from http://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_doc_20140407_educare-oggi-e-domani_en.html.

Congregation for Catholic Education. (2022, §19). *The identity of the Catholic school for a culture of dialogue* [Instruction]. Retrieved from https://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_doc_20220125_istruzione-identita-scuola-cattolica_en.html

Dilberty, M.K., Schwartz, H.L., Doan, S., Shapiro, A., Rainey, L.R., & Lake, R.J. (2024). *Using artificial intelligence tools in K-12 classrooms*. RAND Corporation, 2024. Research Report. https://doi.org/10.7249/RRA956-21

Dingli, A., & Caruana Montaldo, L. (2019). Artificial intelligence assisted learning blueprint designer. In *INTED2019 Proceedings* (pp.2931–2941). IATED.

Dingli, A., & Seychell, D. (2015). *The new digital natives: Cutting the chords.* Springer-Verlag. https://doi.org/10.1007/978-3-662-46590-5

Donasco, A.G., & Oliveros, S.T.R. (2024). AI's impact on educational leadership and learning. *International Multidisciplinary Research for Innovation, Sustainability and Excellence, 1*(8). https://doi.org/10.5281/zenodo.13381025

Dunnigan, J., Henriksen, D., Mishra, P., & Lake, R. (2023). 'Can we just Please slow it all Down?' School leaders take on ChatGPT. *TechTrends, 7*(6), 878–884. https://doi.org/10.1007/s11528-023-00914-1

Ertmer, P.A., Ottenbreit-Leftwich, A.T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education, 59*, 423–435. https://doi.org/10.1016/j.compedu.2012.02.001

European Commission. (2020, September 30). Achieving a European education area by 2025 and resetting education and training for the digital age [Pressrelease]. https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1743

European Union. (2006, December 18). Recommendation of the European Parliament and of the council on key competences for lifelong learning. *Official Journal of the European Union*, L394, 10–18. https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:en:PDF

European Union. (2022). *Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators.* Publications Office of the European Union.

Ferrara, E. (2023). Fairness and bias in artificial intelligence: A brief survey of sources, impacts, and mitigation strategies. *Sci, 6*(1), 3. https://doi.org/10.3390/sci6010003

Freire, P. (2020). Pedagogy of the oppressed. In J. Beck, C. Jenks, N. Keddie & M.F.D. Young (Eds.), *Toward a sociology of education* (pp.374–386). Routledge.

Fullan, M., Azorín, C., Harris, A., & Jones, M. (2024). Artificial intelligence and school leadership: challenges, opportunities and implications. *School Leadership & Management, 44*(4), 339–346. https://doi.org/10.1080/13632434.2023.2246856

Haleem, A., Javaid, M., Qadri, M.A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers, 3*, 275–285. https://doi.org/10.1016/j.susoc.2022.05.004

Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education, 57*(4), 542–570. https://doi.org/10.1111/ejed.12533

International Society for Technology in Education. (ISTE), (2024). Evolving teacher education in an AI World. Retrieved October 15, 2024, from https://info.iste.org/openai-white-paper

Khan, S. (2024). *Brave new words: How AI will revolutionize education (and why that's a good thing).* Penguin Random House: NY, Viking.

Lin, H., & Chen, Q. (2024). Artificial intelligence (AI) -integrated educational applications and college students' creativity and academic emotions: students and teachers' perceptions and attitudes. *BMC Psychology, 12*, 487. https://doi.org/10.1186/s40359-024-01979-0

Lombardi Calleja, N., & Trapani Maggi, R. (2021). The use of robotics embedded in playful learning scenarios in secondary schools: Teachers' and students' perspectives. *Malta Journal of Education, 2*(1), 57–80. https://doi.org/10.62695/TCRV1611

Malta Digital Innovation Authority [MDIA]. (2019). *A Strategy and Vision for Artificial Intelligence in Malta 2030.* https://www.mdia.gov.mt/malta-ai-strategy/

Malta Digital Innovation Authority [MDIA]. (2019). *Malta ethical AI framework.* https://www.mdia.gov.mt/malta-ai-strategy/

McCain, T. (2005). Teaching for tomorrow: Teaching content and problem-solving skills. Thousand Oaks, CA: Corwin

Milton, J., & Al-Busaidi, A. (2023). New role of leadership in AI era: Educational sector. In *SHS Web of Conferences 156*, 09005. EDP Sciences. https://doi.org/10.1051/shsconf/202315609005

Minstry for Education, Sport, Youth, Research and Innovation [MEYR]. (2024). *Digital Education Strategy 2024–2030. Public Consultation Document.* Direcorate for Digital Literacy and Transversal Skills (DDLTS), https://education.gov.mt/wp-content/uploads/2024/04/Digital-Education-Strategy-Consultation-Document-ENG-Version-3.pdf

Mollick, E. (2024). *Co-intelligence: Living and working with AI.* Penguin Random House: Ebury Publishing

Mollick, E.R., & Mollick, L. (2023). *Using AI to implement effective teaching strategies in classrooms: Five strategies, including prompts*. The Wharton School Research Paper. http://dx.doi.org/10.2139/ssrn.4391243

Olusola Ayeni, O., MohD Al Hamad, N., Nneamaka Chisom, O., Osawaru, B., & Adewusi, O.E. (2024). A review of personalized learning and educational technology. *GSC Advanced Research and Reviews, 18*(02), 261–271. https://doi.org/10.30574/gscarr.2024.18.2.0062

Pope Francis. (2023, March 27). *Address of his Holiness Pope Francis to Participants in the 'Minerva Dialogues'*. https://www.vatican.va/content/francesco/en/speeches/2023/march/documents/20230327-minerva-dialogues.html

Pope Francis. (2024, January 1). *Artificial Intelligence and Peace.* https://www.vatican.va/content/francesco/en/messages/peace/documents/20231208-messaggio-57giornatamondiale-pace2024.html

Prensky, M. (2010). *Teaching digital natives: Partnering for real learning.* Thousand Oaks, CA: Corwin.

Redecker, C., & Punie, Y. (Ed) (2017). *European Framework for the Digital Competence of Educators – DigCompEdu.* Publications Office of the European Union.

Shelton, K., & Lanier, D. (2024). *The promise and perils of AI in education: Ethics and equity have entered the chat.* Elevate Education: Lanier Learning

Srinivasan, R., & Chander, A. (2021). Biases in AI systems. *Communications of the ACM, 64*(8), 44–49. https://doi.org/10.1145/3464903

Tarisayi, K.S. (2024). Strategic leadership for responsible artificial intelligence adoption in higher education. *CTE Workshop Proceedings, 11*, 4–14. https://doi.org/10.55056/cte.616

The Sacred Congregation for Catholic Education. (1977, §25–32). *The Catholic School.* https://www.vatican.va/roman_curia/congregations/ccatheduc/documents0./rc_con_ccatheduc_doc_19770319_catholic-school_en.html

Treiman, L.S., Ho, C.J., & Kool, W. (2024). The consequences of AI training on human decision-making. *Proceedings of the National Academy of Sciences, 121*(33). https://doi.org/10.1073/pnas.2408731121

Tyson, M.M., & Sauers, N.J. (2021). School leaders' adoption and implementation of artificial intelligence. *Journal of Educational Administration, 59*(3): 271–285. https://doi.org/10.1108/JEA-10-2020-0221

United Nations Educational Scientific Cultural Organisation [UNESCO]. (2024a, May 16). *Use of AI in education: Deciding on the future we want.* https://www.unesco.org/en/articles/use-ai-education-deciding-future-we-want

United Nations Educational Scientific Cultural Organisation [UNESCO]. (2024b). *AI competency framework for teachers.* https://doi.org/10.54675/ZJTE2084

United Nations Educational Scientific Cultural Organisation [UNESCO]. (2024c). *AI competency framework for students.* https://doi.org/10.54675/JKJB9835

United Nations Educational Scientific Cultural Organisation [UNESCO]. (2021). *AI and education: Guidance for policy-makers.* https://doi.org/10.54675/PCSP7350

United Nations Educational Scientific Cultural Organisation [UNESCO]. (2023). *Global education monitoring report, 2023: technology in education: a tool on whose terms?* https://doi.org/10.54676/UZQV8501

University College London [UCL]. (2024) *Using AI tools in Assessment.* Retrieved October 15, 2024, from https://www.ucl.ac.uk/teaching-learning/generative-ai-hub/using-ai-tools-assessment

Vallor, S. (2015). Moral deskilling and upskilling in a new machine age: Reflections on the ambiguous future of character. *Philosophy & Technology*, *28*(1), 107–124. https://doi.org/10.1007/s13347-014-0156-9

Vatican Council II. (1965, October 28, §21). *Declaration on Christian Education: Gravissimum Educationis. The Holy See.* https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_decl_19651028_gravissimum-educationis_en.html

Venkatesh, V., Morris, M.G., Davis, G.B., & Davis, F.D. (2003). User acceptance of information technology: Toward a unified model. *MIS Quarterly*, *27*(3), 425–478. https://doi.org/10.2307/30036540

Voogt, J., & Pareja Roblin, N. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies*, *44*(3), 299–321. https://doi.org/10.1080/00220272.2012.668938

Walter, Y. (2024). Embracing the future of artificial intelligence in the classroom: The relevance of AI literacy, prompt engineering, and critical thinking in modern education. *International Journal of Educational Technology in Higher Education*, *21*(1), 15. https://doi.org/10.1186/s41239-024-00448-3

Wang, Y. (2021). Artificial intelligence in educational leadership: A symbiotic role of human-artificial intelligence decision-making. *Journal of Educational Administration*, *59*(3), 256–270. https://doi.org/10.1108/JEA-10-2020-0216

Watkins, S. (2018). Artificial intelligence: A boon or a bane for educational leaders in educational research. *Journal of Leadership Studies*, *12*(3). https://doi.org/10.1002/jls.21601

Willage, A. (2024). *From virtual tutors to accessible textbooks: 5 ways AI is transforming education*. World Economic Forum.

https://www.weforum.org/agenda/2024/05/ways-ai-can-benefit-education/

Wong, C.P., & Ng, D. (2020). The roles of school leaders in developing future-ready learners: the case of Singapore. *International Journal of Education Management, 35*(1), 249–269. https://doi.org/0.1108/IJEM-06-2020-0283

Zajda, J. (2010). *Global pedagogies: Schooling for the future (Vol. 12).* Springer Science & Business Media.

Żammit, J. (2023). Harnessing the power of ChatGPT for mastering the Maltese language: A journey of breaking barriers and charting new paths. In A. Adadi & S. Motahhir (Eds.), *Machine intelligence for smart applications* (Vol. 1105). Springer, Cham. https://doi.org/10.1007/978-3-031-37454-8_8

Zawacki-Richter, O., Marín, V.I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education – where are the educators? *International Journal of Educational Technology in Higher Education, 16*(39). https://doi.org/10.1186/s41239-019-0171-0