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Theresia Y. Setyawan
Yogyakarta State University/Sanata Dharma University

Chatarina A. Budiningsih
Yogyakarta State University

Sugeng B. Wahyono
Yogyakarta State University

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The Ignatian Cybergogical Experience Model: Fostering Competence, Conscience, Compassion, and Commitment in the Digital Age

Theresia Y. Setyawan[1], *Chatarina A. Budiningsih*[2] *and Sugeng B. Wahyono*[2]

Abstract: Despite advances in educational technology, learning models that effectively integrate digital tools to develop not only competence but also learners' conscience, compassion, and commitment remain limited. This article introduces the Ignatian Cybergogical Experience (ICE) model, a novel framework designed to foster these four essential characteristics in digital learning environments. Rooted in the Catholic Intellectual Tradition, the model deliberately integrates Ignatian Pedagogy's proven framework for values formation and reflective practice with cybergogy's capacity to engage digital learners through technology-mediated experiences. This synergistic blending addresses critical limitations in existing approaches: the ICE model simultaneously develops technological competence and moral character, which neither traditional values-based education nor pure cybergogical approaches achieve independently. Grounded primarily in existentialist-humanistic philosophy and connectivism-constructivism theories, the ICE model emphasizes holistic learner development through experiential learning, structured reflection, and meaningful action. The model comprises eight specific steps: context, connection, construction, reflection I, reconnection, action, evaluation, and reflection II. These are organized into three cyclical phases: prelection, active learning, and repetition. By providing concrete strategies such as case studies, immersive learning, project-based learning (PBL), and service-learning projects (SLP), the ICE model offers educators a comprehensive approach to cultivating in learners both technological proficiency and the values of competence, conscience, compassion, and commitment essential for digital age citizenship.

Keywords: Ignatian Pedagogy, cybergogy, learning model, values formation, digital learning

1 Yogyakarta State University/Sanata Dharma University
2 Yogyakarta State University

Introduction

In an era in which nearly every aspect of life has been affected by technological advances, the capacity to adapt and learn continuously becomes an essential requirement for any individual. People must always be ready to relearn and expand their knowledge so they can adjust and thrive in their ever-changing environment. However, individuals today face obstacles that their predecessors may never have faced. The present generation is immersed in technology like never before and grows up in a diverse and interconnected world. Unlike previous generations who interacted mainly face-to-face, they now spend more time interacting digitally. Accordingly, they must keep learning to constantly adapt, internalize values, and develop skills to succeed in the present environment and thus become lifelong learners.

Lifelong learning includes the ability to learn autonomously from and with others. A lifelong learner has to be responsible and committed to their continuous learning. They also need to be able to communicate and collaborate smoothly and effectively. Therefore, becoming a lifelong learner requires the development not only of one's intellectual abilities but also of values such as responsibility, commitment, and respect. As detailed by Foster (2012), a lifelong learner has adequate competence in their chosen field, has a conscience to sort, choose, and act properly and responsibly, has a compassionate concern for others and their surrounding world, and accordingly has a strong commitment to live these values and do their best during their lifetime.

While fostering these values is crucial, evidence suggests they have not been fully internalized. Studies on academic integrity issues highlight growing global concerns about conscience (Holden et al., 2021; Khadilkar, 2018; Sorea et al., 2021). A lack of compassion is evident in reports by the United Nations Educational and Cultural Organization (UNESCO, 2019) and Programme for International Student Assessment (PISA) 2018 results (Organisation for Economic Co-operation and Development, 2019) revealing global increases in peer and cyberbullying. PISA 2018 results also highlight learners' lack of commitment, particularly toward environmental concerns, suggesting that while most learners have positive attitudes toward the environment, fewer demonstrate strong awareness and willingness to take concrete actions.

These challenges point to a critical gap in current educational approaches. Traditional pedagogical methods, while effective in developing cognitive competencies, often struggle to simultaneously cultivate the moral and social dimensions necessary for holistic learner development (Mountin & Nowacek, 2012). Meanwhile, technology-enhanced learning approaches, though successful in engaging digital-native learners, frequently prioritize technical skills and content delivery over values formation and reflective practice (Nemec, 2021). This disconnect between values-based education and technology-enhanced learning creates a pedagogical gap that neither approach can adequately address independently.

Ignatian Pedagogy, with its centuries-old tradition of holistic education, excels at developing a learner's competence, conscience, compassion, and commitment through experience, reflection, and action (Boston College, 2003). However, it originated before digital technologies and requires adaptation to effectively engage present-day learners immersed in virtual environments (Ariyachandra, 2010; Pousson & Myers, 2018). Conversely, cybergogy—a learning framework designed specifically for technology-mediated education—effectively engages learners through digital tools and promotes cognitive, emotional, and social learning (Wang & Kang, 2006). Yet it often lacks the depth of values integration and reflective practices essential for developing learners' moral and ethical dimensions (Muresan, 2015).

The Ignatian Cybergogical Experience (ICE) model represents a deliberate integration of these two complementary pedagogies to address their individual limitations. The learning model leverages the strengths of both approaches: Ignatian Pedagogy's proven framework for values formation and reflective practice, and cybergogy's capacity to engage digital learners through technology-mediated experiences. This integration is not merely adding technological tools to the classical Ignatian method, nor simply overlaying values education onto digital learning. Rather, it is a synergistic blending that creates a new pedagogical approach specifically designed for the digital age.

The ICE model accomplishes several critical objectives that neither pedagogy may achieve alone. First, it provides meaningful digital learning experiences grounded in values formation, ensuring that technological engagement serves deeper educational purposes beyond skills acquisition (Buxton & Ellison, 2015). Second, it makes Ignatian Pedagogy's reflective and transformative practices accessible and relevant to digital-native learners by embedding them within familiar technological contexts (Schaefer et al., 2017). Third, it addresses moral and ethical challenges unique to digital environments such as cyberbullying, academic dishonesty, and digital citizenship through a framework combining technological competence with conscience development (Kim, 2021). The ICE model is needed because current approaches to digital education often fail to develop the whole person. It offers a solution to these issues by creating a learning framework that is both technologically relevant and values-centered, preparing learners to navigate digital environments with competence, conscience, compassion, and commitment to positive action.

Literature Review

Ignatian Pedagogy

Ignatian Pedagogy grows out of the Catholic Intellectual Tradition, which represents a rich, centuries-old heritage of integrating faith and reason, contemplation and action, and personal formation with social responsibility (Morey & Piderit, 2006). This tradition emphasizes the inherent dignity of every person, the pursuit of truth through rigorous inquiry, and the conviction

that education should form not merely skilled professionals but also morally responsible citizens committed to the common good (Deavel, 2021). The Catholic Intellectual Tradition holds that all truth is ultimately unified and that knowledge serves its highest purpose when directed toward human flourishing and the service of others (O'Brien, 2002).

Within this broader Catholic tradition, Ignatian Pedagogy represents a distinctive approach that emerged from the Spiritual Exercises developed by Saint Ignatius of Loyola in the 16th century. While building upon the Catholic faith and reason, Ignatian Pedagogy adds several unique dimensions that distinguish it from other Catholic educational traditions. Unlike the Benedictine tradition's emphasis on contemplative study and liturgical prayer, or the Franciscan tradition's focus on simplicity and care for creation, Ignatian Pedagogy is characterized by its dynamic integration of contemplation and action—often described as "contemplatives in action" (O'Malley, 1993). This distinctive approach emphasizes discernment, the examination of conscience, and the concept of *magis*—always striving for the greater good and continuous improvement by being, doing, and giving more (Boston College, 2003; Mescher, 2018).

What makes Ignatian Pedagogy particularly appropriate for the ICE model is its inherently experiential and reflective nature, which aligns naturally with recent understandings of effective learning. The Ignatian approach does not merely transfer knowledge but creates conditions for learners to encounter, reflect upon, and respond to experiences in ways that transform their understanding and character (Modras, 2004). This pedagogical method is built on the belief that God can be found in all things and that learning occurs through the integration of cognitive, affective, and spiritual dimensions (Kolvenbach, 2001). The Ignatian emphasis on *cura personalis* (care for the whole person) recognizes each learner's unique context, gifts, and needs, making it inherently adaptable to diverse learning environments including digital ones. Moreover, Ignatian Pedagogy's commitment to forming "men and women for and with others" provides a clear ethical framework that addresses the moral challenges of digital citizenship (Arrupe, 1974).

The implications of Ignatian Pedagogy for other theological and educational traditions are also significant. They demonstrate how venerable spiritual practices can be adapted to modern educational contexts without losing their essential character, and offer a model for how values-based education can be structured and assessed through concrete practices (context, experience, reflection, action, evaluation) that other traditions might adapt to their own frameworks. For Protestant traditions emphasizing personal conversion and social witness, Lutheran traditions stressing vocational calling (Benne, 2001), or Orthodox traditions with their rich contemplative heritage, the Ignatian approaches of discernment, structured reflection, and action might offer more pathways to enrich their educational and pedagogical practices (Bebbington, 1989; Shanbour, 2016). For secular institutions seeking to develop ethical reasoning and social responsibility, Ignatian Pedagogy demonstrates how these goals can be systematically pursued

through experiential and reflective learning, even when the explicitly spiritual dimension is adapted to humanistic frameworks (Korth, 1993).

Ignatian Pedagogy is based on several principles: that learning should take place in a specific *context* rooted in previous knowledge and skills and resulting from new *experiences*; that it is dependent upon and deepened by *reflection* on those experiences; and that it should be made meaningful by putting new knowledge and skills into *action* and reinforced by assessment and *evaluation*. These principles are reflected in the four main characteristics of Jesuit education: *prelection* – introducing learners to new topics grounded in relevant contexts; *active learning* – engaging learners in discussions, problem-solving activities, and projects; *reflection* – encouraging reflection on experiences and connecting them to existing knowledge; and *repetition* – motivating learners to apply learned knowledge and skills in practice (Metts, 1991).

These interconnected principles and characteristics develop the learner's competence, conscience, compassion, and commitment. Competence is developed as learners gain deeper understanding by skillfully analyzing problems, developing context awareness, and evaluating their decisions and actions. Conscience is formed through constant reflection on learning experiences, considering multiple points of view, and examining ethical implications. Compassion is promoted through engagement in real-world issues and acts of empathy and caring for the greater good (Beirão, 2019; Geger, 2012). The sense of purpose then fuels their commitment to applying their knowledge and skills conscientiously and compassionately (Foster, 2012).

Cybergogy

Cybergogy has emerged alongside technological advances and innovations in education (Jazeel, 2020; Ratnani et al., 2020). The term "cybergogy" was coined by Wang and Kang (2006) as a portmanteau of "cyber" (relating to computer networks and virtual environments) and "pedagogy" (the art and science of teaching). It represents a learning framework specifically designed for the digital age, aiming to actively engage learners by incorporating technology to optimize cognitive, emotional, and social learning. Unlike traditional pedagogy developed for face-to-face classroom settings, or andragogy focusing on adult learning principles, cybergogy addresses the unique characteristics and requirements of learning in virtual, technology-mediated environments.

At its core, cybergogy acknowledges that learning in digital environments requires distinct strategies compared to conventional classrooms (Hanafi, 2021). Wang and Kang (2006) identified several key principles that distinguish cybergogy from other educational frameworks. First, it emphasizes the creation of engaging virtual learning experiences that leverage the interactive and multimedia capabilities of digital technologies. Second, it promotes active participation and collaboration among learners through networked communication tools, recognizing that technology can facilitate connections that transcend geographical and temporal boundaries. Third,

it acknowledges that learners in digital environments often have greater autonomy and control over their learning pace, path, and preferences, requiring teachers to shift from direct instruction to facilitation and guidance roles.

The cybergogical framework is built on the understanding that effective technology-mediated learning must address three interconnected dimensions of learner development. The cognitive dimension involves the construction and acquisition of knowledge through digital resources, interactive simulations, and multimedia content. The emotional dimension recognizes that learners in virtual environments need support for motivation, self-regulation, and persistence, as physical distance from instructors and peers can create challenges for emotional engagement (Amiruddin et al., 2023; Asad & Malik, 2023). The social dimension emphasizes the importance of building learning communities and networks through online collaboration, discussion forums, and peer interaction, which are essential for meaning-making and knowledge construction in digital spaces (Muresan, 2015; Wang & Kang, 2006).

However, while cybergogy provides a robust framework for technology-enhanced learning, it has limitations when implemented independently. Critics note that cybergogical approaches, in their focus on technological engagement and digital skills, may inadequately address the formation of deeper values such as ethical reasoning, social responsibility, and moral commitment (Muresan, 2015). The framework's emphasis on learner autonomy and self-direction, while empowering, can also lead to fragmented learning experiences that lack the reflective depth and values integration characteristic of more holistic educational approaches.

Integrating cybergogy with the elements of experience, action, and reflection in Ignatian Pedagogy facilitates the acquisition and development of knowledge and skills, including social and emotional skills, required in digital or virtual spaces. A learning model combining elements of Ignatian Pedagogy and cybergogy empowers learners to navigate the complexities of the digital world by developing a strong moral foundation and a solid sense of social responsibility (Mountin & Nowacek, 2012) through internalization of values such as conscience, compassion, and commitment. A sense of interconnectedness and solidarity with diverse communities across the globe is also promoted though global connections and collaborative learning that go beyond conventional classroom boundaries (Kim, 2021). Over time, integrating the two approaches promotes learners' empathy and compassion, and encourages them to take meaningful actions and make positive changes.

Theoretical Foundations of the ICE Model

The ICE model rests on multiple theoretical foundations that together create a coherent framework for values-centered digital learning. These foundations both emerge from and extend Ignatian's integration of faith and reason, while drawing upon contemporary learning theories that emphasize learner autonomy, social construction of knowledge, and transformative learning.

Philosophical and Humanistic Foundations

The ICE model is grounded in both existentialist philosophy and humanistic psychology, which share a fundamental view of learners as autonomous agents capable of making meaningful choices and taking responsibility for their own development (Flynn, 2006; Schunk, 2012). This philosophical stance aligns closely with the Ignatian spiritual tradition's emphasis on personal discernment and freedom—the belief that individuals, created in the image of God, possess the capacity and responsibility to examine their experiences, discern God's movement in their lives, and freely choose actions that serve the greater good (Modras, 2004). Within the model, learners are encouraged to express themselves freely, delve into individual learning experiences, and devise personal ways to interpret these experiences in the context of real actions. Teachers assume facilitative roles, creating collaborative learning environments that empower learners while providing mentorship that encourages reflection and discernment. The humanistic principle of self-actualization (Maslow, 1999) resonates with the Ignatian concept of *magis*—the continuous striving to become more fully human and use one's gifts in the service of others.

Psychological Foundations: Connectivism-Constructivism

The psychological basis of the ICE model draws primarily on connectivism-constructivism, which understands learning as a process in which individuals construct meaningful knowledge through networked connections with others (Liu & Li, 2021; Siemens, 2008). This theory proves particularly suitable for digital learning environments where technology enables connections that transcend traditional classroom boundaries. The connectivist-constructivist framework operates through three interconnected stages: connection (forming relationships with learning communities through digital platforms); construction (actively building knowledge through collaborative engagement); and reconnection (returning to the learning network for feedback and refinement). This psychological foundation complements the Catholic Intellectual Tradition's understanding that truth is discovered not in isolation but through dialogue and community (Deavel, 2021; O'Brien, 2002). Teachers function as facilitators of these networks, serving as expert consultants, administrators fostering learning communities, and mentors helping learners construct networks aligned with their prior knowledge and interests (Siemens, 2008).

Sociological and Andragogical Foundations

From a sociological perspective, the ICE model draws on symbolic interactionism theory, which conceptualizes learning as meaning-construction through communication, interaction, and relationships with others and the environment (Barr et al., 2021; Go & Atienza, 2019). This sociological view resonates with the Catholic principle of solidarity—that humans are fundamentally relational beings whose development occurs within communities and whose responsibilities extend to the common good. The model also incorporates andragogical principles

that view learners as autonomous individuals capable of managing, collaborating with, and deriving meaning from their learning experiences (Knowles, 1978). Andragogy emphasizes transformative learning guided by teachers through real-world problem solving and reflective, action-oriented processes (Spector, 2016; Thompson, 2017). Teachers serve as transformative facilitators who design experiences that stimulate active knowledge construction and help learners re-evaluate their assumptions, beliefs, and values while exploring new perspectives (Slavich & Zimbardo, 2012).

These interwoven theoretical foundations create a comprehensive framework that supports the ICE model's distinctive characteristics. The existentialist-humanistic philosophical base establishes learner autonomy and growth as central values, echoing Ignatian spirituality's emphasis on personal discernment and the *magis* spirit. The connectivist-constructivist psychological foundation provides mechanisms for knowledge construction in digital environments while maintaining the communal dimension essential to Catholic education. The sociological and andragogical foundations ensure that learning is both personally meaningful and socially embedded, preparing learners to become transformative agents in their communities. Together, these foundations support a learning model that is technologically sophisticated yet values-centered, individually empowering yet community-oriented, and intellectually rigorous yet spiritually grounded.

Conceptual Framework of the ICE Model

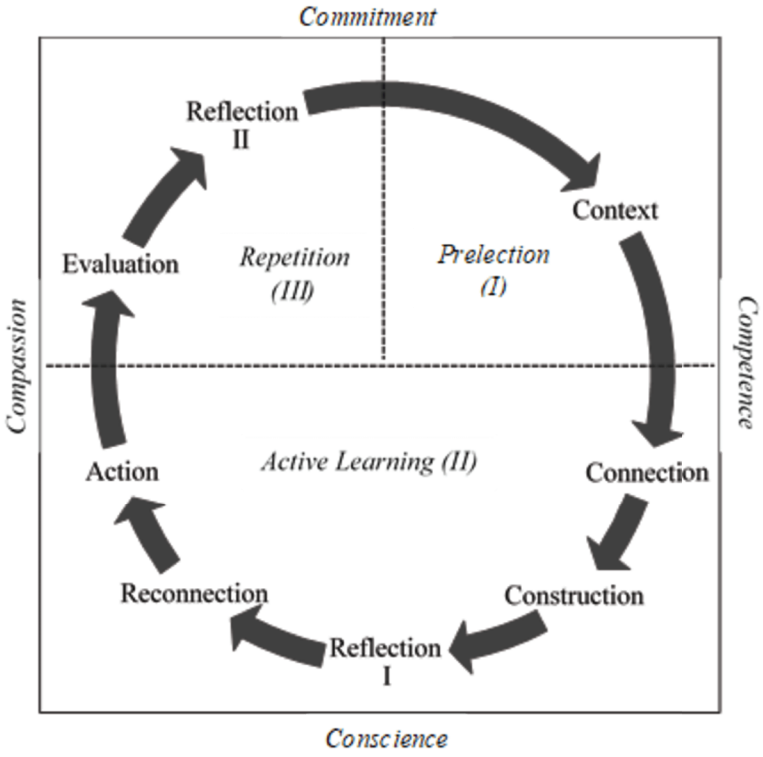
Building upon these theoretical foundations, the conceptual basis of the ICE model is formed by integrating Ignatian Pedagogy with cybergogy. The combination highlights the main elements of real-world learning experiences and the principles of Ignatian Pedagogy and cybergogy. While the model refers to Ignatian Pedagogy emphasizing the importance of experience, action, and reflection in learning, its cybergogical aspects lie in the integration of relevant technology and digital learning environments with well-informed learning methods, strategies, and practices.

The ICE model combines values-based learning with current technology to create real and meaningful learning experiences for digital learners. It proposes a structured yet flexible approach that maintains the essential elements of Ignatian Pedagogy (experience, reflection, and action) while leveraging the engagement strategies and technological affordances of cybergogy. The model applies a holistic, experiential, and technology-integrated approach to facilitate a balanced and reflective learning process and foster the learner's competence, conscience, compassion, and commitment. Specifically, the model proposes that effective digital learning must be contextually grounded, collaboratively networked, constructively experiential, reflectively transformative, action-oriented, and cyclically iterative.

To achieve these aims, the ICE model proposes eight specific steps (syntax) of learning: context, connection, construction, reflection I, reconnection, action, evaluation, and reflection II. These are organized into three phases of prelection, active learning, and repetition (Figure 1). These steps and

Figure 1

The ICE Learning Cycle



phases create a comprehensive learning cycle that can be implemented across various educational contexts, from individual courses to entire curricula.

Phase 1: Prelection

Step 1 – Context. The learning cycle begins with the prelection phase in which learners recall and activate their prior knowledge, skills, and values, and find their connections with the current learning objectives. Teachers might use digital tools such as concept mapping software, online surveys, or discussion forums to help learners articulate what they already know and identify gaps in their understanding. This contextual grounding ensures that subsequent learning builds meaningfully on learners' existing frameworks while considering their diverse backgrounds and perspectives.

Phase 2: Active Learning

Step 2 – Connection. Moving into the active learning phase, learners begin to form connections with learning communities and networks through communication, collaboration,

or exchange of ideas. In a digital environment, this might involve joining online communities of practice, participating in virtual discussion groups, or connecting with experts and peers through social learning platforms. The cybergogical dimension is particularly evident here, as technology enables connections that transcend geographical limitations and provides access to diverse perspectives and expertise.

Step 3 – Construction. During the construction phase, learners actively construct their understanding based on their previous learning experiences and their interactions within their learning communities or networks. This construction occurs through hands-on, authentic activities that harness digital tools and resources such as collaborative project development, virtual laboratory experiments, multimedia presentations, or immersive virtual reality experiences. The key is that learners are actively creating, experimenting, and building knowledge rather than merely consuming information.

Step 4 – Reflection I. Following the construction phase, the first reflection session provides structured time for learners to gain conceptual and metacognitive insights into their learning experiences. This reflection is guided by questions encouraging learners to consider: What did I learn? How does this connect to what I already knew? What ethical questions does this raise? How does this learning relate to my values and community needs? This might be facilitated through digital journaling platforms, video reflection logs, or reflective portfolios. The Ignatian dimension is prominent here, as learners examine not just what they have learned, but the deeper significance and implications of that learning.

Step 5 – Reconnection. After the first reflection session, learners reconnect with their learning communities and networks to share their insights and obtain feedback from community members and teachers or facilitators. This reconnection allows learners to test and refine their understanding through dialogue, exposes them to alternative perspectives, builds skills in giving and receiving constructive feedback, and strengthens the learning community by creating a culture of shared inquiry. In digital environments, this might occur through peer review systems, online collaborative annotation tools, or asynchronous discussion forums.

Step 6 – Action. Based on the feedback and suggestions received during reconnection, learners process and transform their learning experiences into feasible real-world actions. This action phase embodies the Ignatian principle of being "men and women for and with others" by requiring learners to demonstrate commitment through concrete engagement. Actions might include developing community service projects, creating educational resources to address social issues, advocating for policy changes, or applying skills in authentic contexts. Technology facilitates this action phase by enabling learners to reach broader audiences, collaborate across distances, and document their impact.

Phase 3: Repetition

Step 7 – Evaluation. In the evaluation phase, learners move into the repetition phase by reviewing and evaluating the entire learning process and their chosen plan of action. This evaluation is both formative and summative, examining not just outcomes but also the quality of the learning process itself. Learners consider: How effective was my action? What worked well and what could be improved? How did I grow through this experience? This evaluation might be conducted through digital portfolios that compile artifacts and evidence of learning, rubrics that assess both competence and character development, or presentations to authentic audiences.

Step 8 – Reflection II. After the evaluation phase, the second reflection is conducted on the entire learning cycle to gain personal insights about what values were obtained and what learners will do to internalize and live these values (commitment). This deeper, more integrative reflection asks learners to consider: How has this learning changed me? What values have I developed or strengthened? How will I continue to live these values? What commitments am I making for the future? This final reflection often results in learners articulating personal commitments, setting goals for continued growth, and identifying ways they will integrate their learning into their ongoing life and work. It completes the current learning cycle while simultaneously laying the foundation for the next cycle, embodying the lifelong learning orientation central to both Ignatian Pedagogy and the current demands of digital citizenship.

The phases and steps of the ICE model can be seen as a cyclic process. The cyclic learning process signifies that learning begins with the contextual stage and culminates at the reflective stage which subsequently serves as the basis for the contextual stage of the next learning cycle. This cyclical nature reflects the reality that learning is not a linear process with a fixed endpoint, but rather an ongoing spiral of deepening understanding, developing competence, forming conscience, fostering compassion, and building commitment. These four essential characteristics are progressively developed through repeated cycles of the model. Competence grows as learners engage with increasingly complex problems and sophisticated tools. Conscience sharpens as repeated reflection helps learners internalize ethical principles and develop stronger moral reasoning. Compassion expands as learners repeatedly connect with diverse communities and engage in actions that benefit others. Commitment strengthens as learners see the impact of their actions and experience the satisfaction of living according to their values, motivating continued engagement in the next learning cycle.

Advantages of the ICE Model

The ICE model emerges from a confluence of the Catholic Intellectual Tradition and contemporary learning theories, seeking to address the practical challenge of forming whole persons in digital learning environments. It offers several distinctive advantages over existing educational approaches. Unlike traditional online learning that prioritizes content delivery and

technical skill development, the ICE model systematically integrates values formation throughout the learning process. Where pure cybergogical approaches may produce technologically proficient learners who lack ethical grounding, and traditional values-based education may fail to engage digital-native learners, the model bridges this gap through deliberate pedagogical integration.

The ICE model's key advantages include: (1) simultaneous development of competence and character through technology-mediated experiences; (2) structured reflection that transforms digital interaction from surface-level engagement to deep ethical inquiry; (3) cyclical reinforcement that progressively deepens values internalization through repeated learning cycles; (4) adaptability across diverse educational contexts while maintaining core commitments to holistic formation; and (5) concrete operational steps that make values formation measurable and assessable in digital environments. Most significantly, the ICE model addresses what existing approaches cannot: the formation of digitally competent learners who are also morally grounded, socially responsible, and committed to positive action—embodying the competence, conscience, compassion, and commitment that are essential for meaningful participation in an interconnected, technologically mediated world.

Discussions and Implications for Practice

Experience is at the forefront of the ICE model and should be understood as more than simply acquiring information or exposure to new phenomena. It includes actively engaging, reflecting, and constructing meaning for deeper understanding and personal growth. During the experiential phase, learners are not passive recipients but active participants who explore, analyze, discuss, problem solve, and grapple with newly learned concepts. This experiential emphasis reflects both the Ignatian spiritual tradition of finding God in all things through reflection on lived experience and the connectivist-constructivist principle that meaningful learning emerges through active engagement with authentic contexts and communities.

To facilitate this experiential phase, learners should be exposed to concrete and meaningful learning experiences. The following are the strategies to develop the four essential characteristics (competence, conscience, compassion, and commitment) that the ICE model seeks to foster.

Case Studies

Case studies serve as powerful vehicles for developing multiple dimensions of learner growth. They allow learners to apply theoretical knowledge in practical contexts, thereby building competence in critical thinking, problem solving, and decision making through engagement with authentic scenarios. Well-designed case studies provide opportunities to identify and resolve ethical dilemmas (Farmer, 2019; Luegenbiehl & Rockwell, 2017), directly contributing to the development of conscience through ethical reasoning and moral discernment. When case studies involve human impacts and social dimensions, they cultivate compassion by requiring learners to

consider multiple perspectives and the effects of decisions on vulnerable populations. The iterative process of analyzing cases, reflecting on implications, and proposing justified actions strengthens commitment as learners practice translating values into concrete recommendations.

Immersive Learning Through Virtual Simulations and Virtual Realities

Virtual simulations and virtual realities make learning environments more immersive and experientially rich. These technologies replicate real-world scenarios and simplify complex concepts, promoting deeper understanding and effective knowledge retention (Zhang & Bowman, 2022). Beyond developing technical competence, virtual environments present learners with safe spaces for practice and skills development, boosting their confidence to act compassionately in real-world contexts (Beatrice et al., 2024; Peisachovich et al., 2022). These technologies also enable learners to experience different perspectives that allow able-bodied individuals to experience disability, thereby fostering conscience through critical awareness of systemic inequalities and cultivating compassion through embodied understanding of others' experiences. The reflective debriefing that follows immersive experiences becomes crucial for consolidating learning and connecting experience to commitment for real-world action.

Project-Based Learning (PBL)

PBL proves effective for developing the interconnected competencies and values emphasized by the ICE model. It improves academic achievement and develops higher-order skills (Zhang & Ma, 2023) by actively engaging learners in knowledge construction through communication and collaboration. When projects address authentic community needs or global challenges, they simultaneously develop competence in project management and disciplinary skills, conscience through grappling with complex ethical dimensions of real problems, compassion through meaningful engagement with affected communities, and commitment through sustained effort toward positive impact. In digital environments, PBL gains additional dimensions through global collaboration tools, enabling learners to work with peers across geographical and cultural boundaries, thus embodying the "men and women for and with others" ideal in concrete practice.

Service-Learning Projects (SLP)

SLP represent the fullest expression of the ICE model's integration of competence, conscience, compassion, and commitment. These projects contribute to holistic learner development across cognitive, affective, and social domains. In addition to developing learners' academic, social, and civic growth (Bengic-Colak et al., 2023), service learning fosters personal attributes such as leadership, professional confidence, and character strengths (Gerdes et al., 2023; Lin et al., 2023). They help learners develop critical awareness about issues such as sustainability and social justice (Castro et al., 2020), directly cultivating both conscience and compassion. The commitment

dimension emerges as learners move from abstract awareness to concrete action, experiencing firsthand the challenges and rewards of working for the common good. For educational institutions beyond the Catholic tradition, SLP can be framed within their own theological or philosophical commitments while maintaining the essential structure of reflection-informed and value-driven community engagement.

In all these strategies, experience is not limited to doing or experiencing. It includes how we deal with what happens to us. Reflection becomes an essential part of experience because, while learning starts with experience, it cannot actually occur without reflection (Go & Atienza, 2019). In digital environments, reflection can be facilitated through diverse media—written journals, video reflection logs, audio recordings, digital portfolios, and asynchronous forums. Structured reflection prompts should explicitly guide learners to examine not only what they have learned (competence) but also how their values are being shaped (conscience), how their empathy and understanding of others is developing (compassion), and what concrete commitments they are making for future action (commitment).

Potential Impacts of the ICE Model

The ICE model is designed to impact teaching and learning processes in ways that develop the whole person in the following ways.

Developing Competence and Deeper Learning

The integration of technology can significantly enhance the development of intellectual and practical competencies. Technology integration increases learner participation and engagement (Balalle, 2024; Kulshreshtha et al., 2023), creating conditions for deeper learning when digital and physical learning environments are integrated. Deeper learning increases creative expression and fosters self-efficacy (Sharma et al., 2023; Sliwka et al., 2024) because it supports the construction of enduring knowledge (National Research Council, 2012). Furthermore, appropriate technologies enable the design of personalized learning environments that tailor content to learners' individual styles (Laak & Aru, 2024), fostering self-directed learning and autonomous strategy selection (Ingkavara et al., 2022; Li et al., 2023). This personalization reflects the Ignatian principle of *cura personalis* adapted to digital contexts.

Forming Conscience and Ethical Reasoning

The ICE model's integration of structured reflection and ethical inquiry creates unique opportunities for developing conscience—the capacity for moral discernment. Digital learning environments can provide safe spaces for learners to grapple with ethical dilemmas through case studies without real-world consequences. The model's emphasis on examining experiences from multiple perspectives and questioning underlying assumptions cultivates critical consciousness—

the ability to analyze power structures, recognize injustice, and envision alternatives (Jemal, 2017). Asynchronous online discussions can enable deeper ethical reflection than time-pressured classroom conversations, as learners have time to consider arguments carefully. Digital portfolios can document learners' ethical development over time, making visible the evolution of their moral reasoning.

Fostering Compassion and Global Citizenship

Contemporary technologies can uniquely promote the growth of compassion—empathetic concern for others that motivates caring action—through global learning and perspective taking. The use of digital platforms promotes intercultural sensitivity and critical perspectives on global issues (Guo-Brennan, 2022). Global learning empowers learners to navigate complex challenges while promoting civic responsibility and awareness of shared humanity (Kahn & Agnew, 2017). Digital technologies enable direct connection with those different from learners' own contexts, cultivating compassion by making distant or abstract others concrete and present. However, teachers must intentionally design these interactions to move beyond superficial engagement toward genuine relationship building that respects the dignity and agency of all participants, embodying the Catholic principle of solidarity and the Ignatian ideal of accompaniment.

Building Commitment and Social Justice

The ICE model provides learners with opportunities to develop genuine commitment—sustained dedication to living one's values. Through reflective practices that question actions, values, and assumptions (McClure, n.d.) learners develop critical consciousness that recognizes their own capacity to address real-world problems. When learners connect to real-world issues through authentic projects and choose to take meaningful action, they empower themselves to make positive impacts and foster a sense of social justice and agency (Chupp & Joseph, 2010). Digital technologies facilitate commitment by enabling learners to document their actions and allow sustained engagement beyond the temporal limits of a single course. The model specifically supports commitment by helping learners identify concrete ways to integrate their learning into ongoing life and work, embodying the *magis* spirit of continuous growth in service of others.

Potential Challenges of Implementing the ICE Model

The implementation of the ICE model faces both technical-operational and values-based challenges.

Digital Distractions

Technology integration can pose significant distractions that undermine deep learning (Dontre, 2021; Goundar, 2014). To mitigate these, teachers should encourage learners' self-control and

awareness of how fragmented attention affects learning and wellbeing (Pérez-Juárez et al., 2023; Peter et al., 2018). Teachers should provide explicit guidance on mindful technology use and create structured learning activities with clear expectations. Importantly, addressing digital distraction is about empowering learners to self-regulate, embodying the model's foundation of autonomous, responsible choice.

Innovative Assessment Strategies

The integration of technology requires inventive assessment strategies that capture dimensions that resist simple quantification such as conscience, compassion, and commitment (Chen, 2023; Neumann et al., 2019). This requires combining multiple approaches: digital portfolios that document growth, rubrics that assess values integration, peer and self-assessment that develops metacognitive awareness, and authentic performance tasks (Ahmed & Sidiq, 2023). The challenge is creating assessments that are rigorous and credible while remaining true to the holistic, formative nature of Ignatian Pedagogy.

Teacher Competencies and Professional Development

Teachers must develop competencies not only in educational technologies but also in facilitating values formation in digital spaces (Akram et al., 2022; Balmes, 2022; UNESCO, 2018). For educators in Jesuit institutions, this requires deep understanding of Ignatian Pedagogy and spirituality. For educators in other traditions seeking to adapt the model, it requires thoughtful translation of the ICE framework into their own theological or philosophical contexts.

Digital Divide and Equity

Digital learning can create or worsen inequities in access to education, threatening the ICE model's foundation in Catholic social teaching and its commitment to serving all learners, especially the marginalized (Afzal et al., 2023; Miras et al., 2023). To bridge this inequity, policymakers and educational institutions must prioritize technology inclusion strategies, ensuring equitable access to connectivity and devices (Liu, 2021; Mathrani et al., 2022). Addressing the digital divide is not merely a logistical challenge but a moral imperative consistent with the model's foundation in justice and solidarity.

Authenticity in Virtual Environments

A significant challenge is ensuring that conscience and compassion develop authentically where physical presence is limited. The mediated nature of online interaction can create emotional distance that makes it easier to judge others harshly or treat learning about injustice as merely intellectually rather than morally demanding (Sarıca, 2023). To address this, teachers must design online experiences that humanize others through digital storytelling, and synchronous group

discussions. Digital storytelling can provide emotional connection and humanize abstract concepts in ways traditional communication cannot (Sarıca, 2023; Robin, 2016). The goal is to create digital learning environments characterized by genuine relationships where others are encountered as subjects worthy of respect.

Virtual Reflection that Leads to Real-World Commitment

Another critical challenge is performative reflection, where learners display required emotional responses to satisfy requirements without achieving authentic character transformation (Macfarlane, 2015; Parker et al., 2020). To bridge this gap, the ICE model must insist on action and evaluation phases. Learners should develop concrete action plans specifying what they will do and how they will assess impact. This approach aligns with transformative learning theory, which emphasizes that authentic learning requires commitment, emotional awareness, and integration of critical reflection with experiential learning and social action (Mezirow, 1991).

Spiritual/Transcendent Dimension Across Diverse Contexts

A final challenge concerns the adaptability of the ICE model across diverse educational contexts. The model emerges from Catholic-Ignatian tradition where the spiritual dimension is foundational and explicit. For religious institutions outside the Catholic tradition, the challenge is theological translation—adapting Ignatian concepts while maintaining the model's essential character. Ignatian Pedagogy is profoundly human and consequently universal (International Commission on the Apostolate of Jesuit Education, 1993). For secular contexts, the challenge is maintaining the model's emphasis on virtue formation, ethical reflection, and transcendent purpose without explicitly religious language. The Ignatian Examen, for example, constitutes a signature pedagogy appropriate for any educational pursuit committed to intellectual and moral development (Mountin & Nowacek, 2012). At its core, Ignatian Pedagogy seeks to develop people of competence, conscience, compassion, and commitment (Kolvenbach, 2005), requiring ongoing dialogue and humility among educators across all traditions.

Conclusions and Recommendation

The ICE model's distinctive contribution to education in the digital age lies in its systematic integration of what existing approaches treat separately. Unlike traditional online learning focused solely on content delivery, or values-based education disconnected from digital realities, the model provides a coherent framework where technological engagement and values formation reinforce each other. Its cyclical structure ensures progressive deepening of values alongside skills development, while its concrete operational steps make character formation both intentional and assessable—addressing the critical gap in current digital education.

The practical implementation of the ICE model requires careful attention to both opportunities and challenges. The strategies outlined (case studies, immersive learning, project-based learning, and service learning) provide concrete pathways for creating meaningful experiences when implemented with intentional focus on developing competence, conscience, compassion, and commitment. The potential impacts demonstrate how digital technologies, when integrated within a coherent values-centered framework, can enhance rather than undermine holistic human formation. However, the challenges require ongoing attention, innovation, and institutional commitment if they are to be addressed effectively. By proactively engaging these challenges and harnessing the model's significant affordances, educators can create digital learning environments that form persons capable of meaningful contribution to an interconnected, technologically mediated world while remaining grounded in timeless values of truth, compassion, justice, and service. Rigorous expert validation and empirical testing across diverse educational contexts will be the next step to affirming the model's theoretical coherence, pedagogical soundness, and transformative potential in fostering holistic learner development in digital age education.

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