

Global Harwell: Should It Be Our Shared Global Educational Goal?

Tak-Wai Chan, National Central University, chan@cl.ncu.edu.tw
Chee-Kit Looi, The Education University of Hong Kong, cklooi@eduhk.hk
Su Luan Wong, Universiti Putra Malaysia, suluan@upm.edu.my
Wenli Chen, Nanyang Technological University, wenli.chen@nie.edu.sg
Siu-Cheung Kong, The Education University of Hong Kong, sckong@eduhk.hk
Ben Chang, National Central University, bchang.tw@gmail.com
Ying-Tien Wu, National Central University, ytwu@cl.ncu.edu.tw
Ju-Ling Shih, National Central University, juling450@gmail.com
Fu-Yun Yu, National Cheng Kung University, fuyun.ncku@gmail.com
Weiqin Chen, Oslo Metropolitan University, weiche@oslomet.no
Lung-Hsiang Wong, Nanyang Technological University, lunghsiang.wong@nie.edu.sg
Hyo-Jeong So, Ewha Womans University, hyojeongso@ewha.ac.kr
Xiangen Hu, The Hong Kong Polytechnic University, xiangenu@gmail.com
Mas Nida Md Khambari, Universiti Putra Malaysia, nidakhambari@gail.com
Sahana Murthy, Indian Institute of Technology Bombay, sahanamurthy@iitb.ac.in
Hiroaki Ogata, Kyoto University, hiroaki.ogata@gmail.com
Lina Na Li, Xi'an Jiaotong-Liverpool University, na.li@xjtlu.edu.cn
Shengquan Yu, Beijing Normal University, yusq@bnu.edu.cn
Yen-Cheng Yeh, National Central University, charles@cl.ncu.edu.tw

Abstract: Regional conflicts, nuclear threats, resource depletion, climate change, and societal polarization—these global crises have escalated sharply in recent years. For the first time in history, humanity faces urgent questions about the very survival of present and future generations. As educational researchers, we are compelled to reflect: What is the true purpose of education, and what can we do to make a difference? Over the past few years, a group of researchers in Asia have explored the possibility of establishing a global educational goal—one centered on global harmony and wellbeing. Such a goal could offer a unifying vision and direction for education systems worldwide. This symposium aims to provide a platform for researchers around the world to engage in meaningful dialogue and establish a shared consensus on the future of education and coordinated actions moving forward.

Introduction

As recently highlighted by leaders of the International Society of the Learning Sciences: “Can we develop partnerships, processes, and learning environments that reduce divisiveness and engender abilities to talk, work, and learn across differences? Can we design to disrupt othering and hate and to promote empathy and care?” (Duncan, Danish, & Ma, 2023) If our answer to these questions is “we can,” then we need a globally shared goal to drive collaborative thinking, address shared concerns, build common values, and take coordinated action—unifying our efforts for a better world. These concerns resonate with researchers in Asia.

Grounded in dialogues and reflections within this scholarly community in Asia, and informed by publications from UNESCO and the OECD, the goal is made explicit—global harmony and global wellbeing are recognized as objectives that offer widespread benefit. It signals that, despite the differences, we are all working towards a world that prioritizes harmony, wellbeing, equity, justice, inclusivity, and shared values. The ‘global’ aspect is especially salient as we are living in a Seamless AI World, a real world where almost everything is seamlessly connected, including physical and virtual spaces, and AI-empowered. In such a world, the question arises: “Who is shaping the world—humans or AI?”

Most importantly, all the challenges we face are real and pressing. Education, we believe, is the most vital sector of society in shaping a better future for our world. At this defining moment in human history, educators are called not only to reflect on our journey thus far—but also to actively shape the road ahead.

For this symposium—and as an ongoing endeavor—we are structuring a set of questions as titles for various papers. By inviting responses to these questions—plausible, though potentially incomplete or tentative—we aim to foster global awareness, reflection, and purposeful dialogue. This initiative aspires to spark ideas, encourage academic publications, inspire meaningful actions, and mobilize collective efforts toward a shared global educational goal, welcoming contributions from researchers of diverse backgrounds.

Paper 1: What is the motivation of developing a shared global education goal?

Tak-Wai Chan, Chee-Kit Looi, SuLuan Wong, Ben Chang, Ying-Tien Wu, Ju-Ling Shih, Wenli Chen, Siu-Cheung Kong, Fu-Yun Yu, Yen-Cheng Yeh

Today, even as human lifespans have increased, millions have perished before us in a short span due to COVID-19. While digitization allows for global connection and communication, we frequently find ourselves in conflict over divergent beliefs. Online games offer engaging experiences yet concerns about addiction among children persist. Artificial intelligence holds the promise of enhancing our lives but risks undermining human dignity and carries the potential for serious harm. The rise of the metaverse could signal a bright future or lead us into unknown dangers. Although we applaud technological progress, we also confront grave issues such as wealth inequality, societal division, climate change, dwindling resources, and the mass extinction of species. Daily, we witness in real-time the horrors of war. The increasing frequency of conflicts around the world has brought us to a precarious point: the ominous possibility of World War III or a nuclear catastrophe that could mark the end of humanity. For the first time, there is a profound concern over whether we and the future generations will survive on this planet.

A letter, believed found in a Nazi concentration camp at the close of World War II, is directed to Teachers:

Dear Teachers:

I am a survivor of a concentration camp. My eyes saw what no man should witness: gas chambers built by learned engineers, children poisoned by educated physicians, infants killed by trained nurses, women and babies shot and burned by high school and college graduates.

So, I am suspicious of education.

My request is: help your students become human. Your efforts must never produce learned monsters, skilled psychopaths, educated Eichmanns. Reading, writing, arithmetic are important only if they serve to make our children more human.

Indeed, what is the purpose of going to school if education cannot shape our world into a place of peace and safety? Why should future generations learn about knowledge and technology if these human creations cannot foster a civilized world for tomorrow? If knowledge and technology become disconnected from human values, can we truly live in a harmonious world and achieve wellbeing? What does the future hold for humankind? Should all these ‘why people learn’ issues from a global perspective be a fundamental responsibility for every educator? We must admit that our education has long been primarily concerned with *what* and *how* people learn, but not enough with *why* they learn.

In his keynote at AIED2007, Tak-Wai Chan (2007) posted "*The Global Educational Goal Problem—Rethinking Educational Goals from a Global Perspective*" as one of the grand challenges for our research community. He argued that “nuclear holocaust, earth resource exhaustion, mass extinction of species, polarization of society, etc.” have already emerged as global crises, raising concerns about whether the next human generation will survive on this planet. Yet, he emphasized, “We researchers are the designers of education and, hence, the future society. We are very powerful—too powerful!” Chan acknowledged that when he initially raised this issue, he had no clear idea of what a possible solution might look like. In retrospect, have we as researchers truly considered our educational goals from a high-level perspective and in a broad, inclusive sense? If not, can we confidently claim to understand the significance of our research’s contribution to the future of education? Or are we, perhaps, simply allowing ever-advancing technology to steer our research? This issue is fundamental; it lies at the very core of why we do what we do.

At its core, educational research is about uncovering the depths of human instinct, character, identity, and existence. But today, our endeavor is only meaningful when we not only support students in acquiring knowledge and skills for economic participation, but also genuinely contribute to uplifting all of humanity.

As researchers in our field, we are not experts in religion, politics, or other fields. However, drawing on our knowledge, experiences, educational concepts, and ancient philosophical teachings, we can discuss a potential universal educational goal—without factoring in religious doctrines, ideologies, or biases.

Emerging as a potential global educational goal, Global Harwell (combining ‘harmony’ and ‘wellbeing’) originates from nascent ideas developed by researchers, mainly in Asia (Chan, 2023). The term ‘our’ in this proposal’s subtitle represents humanity, embracing all educational stakeholders, including UNESCO, OECD, non-profits, educators, researchers, students, and parents. With the ISLS2025 theme aligning closely, a symposium at ICLS2025 offers an excellent opportunity for diverse researchers to exchange insights.

Paper 2: What are wellbeing and harmony from the perspectives of developing a shared educational goal worldwide?

Wei Qin Chen, Tak-Wai Chan, Chee-Kit Looi, SuLuan Wong, Ying-Tien Wu, Ju-Ling Shih, Ben Chang, Wenli Chan, Jon Mason

Both UNESCO and OECD have published documents on harmony and well-being, such as *For a World of Harmony* (Ji, 2011) and *Society at a Glance* (OECD, 2024). Beyond these, when considering a global educational goal, we must reflect on what most people aspire to achieve in their lives. Likely, happiness, health, and wealth are among aspirations. This leads us to humanistic psychologist Maslow's work (1943) on human needs—a hierarchy comprising physiological, safety, belongingness and love, esteem, and self-actualization. It also brings us to the work of contemporary positive psychologists on wellbeing. According to Cambridge Dictionary, wellbeing refers to “the state of feeling healthy and happy.” In positive psychology, it denotes a broad and multifaceted concept encompassing an individual's holistic state of happiness, health, prosperity, and the pursuit of goals and dreams, spanning the physical, mental, emotional, social, and financial aspects of one's life. For Aristotle, *eudaimonia* suggests that genuine happiness is achieved through virtuous living and realizing one's potential, prioritizing a meaningful life over mere pleasure or wealth. Indeed, the concepts of human needs, wellbeing, flourishing, and eudaimonia are interwoven. Seligman's PERMA model (2011) consists of five elements: positive emotions, engagement, positive relationships, meaning, and accomplishment. PERMA's ‘positive emotion’ and ‘positive relationships’ align with Maslow's ‘belongingness and love’ and ‘esteem,’ respectively, while ‘accomplishment’ corresponds to ‘self-actualization.’ These elements of wellbeing—along with health, financial security, and other factors—collectively contribute to an individual's sense of happiness, satisfaction, and fulfillment, which define their quality of life. Furthermore, we may consider four levels of wellbeing: individual, family, society, and global wellbeing. For example, global wellbeing refers to the wellbeing of everyone in the world, societal wellbeing to that of everyone in a society, and so forth (see Figure 1).

Harmony, per the Cambridge Dictionary, is “a situation in which people are peaceful and agree with each other, or when things seem right or suitable together.” This includes feelings of calmness, amity with others, concord between countries, and consonance in our environment. We can categorize harmony into two types: environmental harmony and human harmony (see Figure 1). Environmental harmony pertains to both natural and artificial environments, including physical and virtual spaces supported by digital technology, where we live. Currently, environmental harmony is threatened by factors such as climate change, natural disasters, pandemics, starvation, biodiversity loss, and the depletion of fossil fuels. Addressing these issues poses significant challenges.

Wellbeing, in a broad sense, overlaps—or may even encompass—harmony. In either case, wellbeing is impossible without harmony, making it a necessary condition for achieving wellbeing. Like wellbeing, there are four levels of human harmony: individual, family, society, and global (see Figure 1). Henceforth, ‘Harwell’—a blend of ‘harmony’ and ‘wellbeing’—will be used throughout the article.

Figure 1
Harmony & Wellbeing (Harwell)

Harmony	Wellbeing
Human Levels <ul style="list-style-type: none">• Individual Harmony• Family Harmony• Societal Harmony• Global Harmony	Human Levels <ul style="list-style-type: none">• Individual Wellbeing• Family Wellbeing• Societal Wellbeing• Global Wellbeing
Environmental Elements Eradication of: <ul style="list-style-type: none">• Climate Change• Natural Disasters• Pandemics• Starvation• Biodiversity Loss• Resources Depletion•	Wellbeing Elements <ul style="list-style-type: none">• Positive Emotion• Engagement• Meaning• Positive Relationship• Accomplishment• Health• Financial Security

Paper 3: Why are benevolence, equity, justice and the middle way considered as essential elements to the Global Harwell Goal?

Wenli Chen, Tak-Wai Chan, Shengquan Yu, Siu-Cheung Kong, Lina Na Li

In today's turbulent world, it is wise to draw on the wisdom of ancient philosophical teachings, such as those in Confucianism and Classical Greek philosophy. Thus, we propose *benevolence*, *equity*, *justice*, and *the middle way* or *the golden mean* (BEJM) as essential elements for achieving *human harmony*, outlined as follows:

Benevolence: The virtues of compassion, empathy, inclusivity, a heart full of love and generosity, a willingness to help those in need, and treating others with sincerity and respect.

Equity: To ensure that individuals or groups receive fair treatment based on their specific circumstances and needs, which may involve offering additional assistance to those who are disadvantaged, thereby creating a fair outcome for all.

Justice: Moral correctness that embodies ethical behavior and virtuous values, with a clear sense of right and wrong, upholding truth and integrity while avoiding wrongdoing, regardless of personal gain or loss, and prioritizing the overall benefits of others or society.

The middle way or the golden mean: A moderate and steady approach that avoids extremes, neither going to excess nor falling short, but acting appropriately according to the specific situation to find the optimal balance when handling matters.

While benevolence forms the foundation of all virtues, equity and justice are crucially needed in today's chaotic world. Additionally, the middle way, or golden mean, encourages us to seek an appropriate and balanced approach in handling all matters. We elaborate further on these elements of human harmony in Table 1.

Table 1
Confucian and Greek philosophical perspectives on BEJM

	Confucianism	Greek Philosophy
Benevolence	<i>Benevolence</i> (仁, <i>rén</i>) is the essence of human goodness, built on kindness and empathy that foster harmony in relationships, shaping both personal conduct and unity of family, society and nationality. Benevolence is a lifelong journey toward moral self-improvement and respectful treatment of others.	<i>Benevolence</i> is part of <i>philia</i> (friendship) and <i>eudaimonia</i> (flourishing). Aristotle saw it as essential to a balanced life, where kindness and goodwill extend beyond personal connections to society, linking personal happiness with social responsibility.
Equity	<i>Equity</i> (公, <i>Gōng</i>) in Confucianism, although not central, reflects fairness that respects individual differences. Confucius valued equity in governance, encouraging leaders to avoid favoritism to ensure fair treatment. In particular, he advocated universal access to education.	<i>Equity</i> (ἐπιείκεια, <i>epieikeia</i>) tempers strict justice, allowing compassion in applying laws. Aristotle saw equity as necessary for adjusting rigid interpretations to ensure fairness, blending justice with mercy to serve the common good.
Justice	<i>Justice</i> (義, <i>yì</i>) in Confucianism is tied to righteousness and integrity, prioritizing the common good over self-interest, particularly in governance. This virtue fosters stability and sound moral decisions, supporting a trustworthy society.	<i>Justice</i> (dikaiosyne) is fundamental, ensuring harmony within the self and society. Plato saw it as an internal and a societal balance, while Aristotle regarded it as the highest social virtue, essential for ethical behavior and societal order.
The Middle Way/ The Golden Mean	<i>The Middle Way</i> (中庸, <i>zhōng yōng</i>) embodies balance, moderation, and appropriateness in thought and action. It teaches one to avoid extremes, act harmoniously in various situations, and cultivate moral character through self-discipline, cultivating societal harmony, inner peace, and global cooperation.	<i>The Golden Mean</i> (μεσότης, <i>mesotes</i>), as proposed by Aristotle, emphasizes that virtue lies between two extremes—excess and deficiency. By promoting a balanced approach to life, it fosters inner harmony (psychological equilibrium) and supports a well-functioning society (moral stability).

In Greek philosophy and Confucianism (Cohen et al., 2016), benevolence, the foundation of harmony, fosters compassion. While equity ensures fairness and justice upholds righteousness, together they cultivate

harmony. Promoting balance, the middle way or golden mean sustains harmony. These concepts appear in both Western (Greek) and Eastern (Chinese) traditions, highlighting their universal appeal. While distinct cultural contexts shape how these virtues are applied, together they offer complementary perspectives on human values. Many cultures uphold similar virtues, including the Golden Rule: “Do not treat others in a way you wouldn’t want to be treated,” or, in its positive form, “Treat others as you would like to be treated.” Now more than ever, these values require global emphasis and application.

Why ‘global’ harmony? Global harmony refers to environmental harmony and human harmony at all levels, as well as wellbeing attained by everyone worldwide. The ‘global’ aspect is crucial for two main reasons. First, as we advance into a digital future, the world is getting ‘smaller’—people, regardless of distance, can now communicate as if face-to-face due to rapid connectivity advancements. This enables impactful ideas to spread quickly. Second, to cultivate human harmony, one must work from the ‘inside-out,’ beginning by bettering oneself, nurturing a caring family, incubating a concordant society, and fostering a peaceful and collaborative global community. However, due to the same cause—the ever-faster pace of interactions within the global community—we must also work simultaneously from the ‘outside-in’: progressing from global to societal, family, and individual levels. While individual and family care are innate capabilities inherited from our ancestors, the emphasis on fostering harmony at societal and global levels must be amplified in the future. In fact, from local to global and global to local, organizations like UNESCO and OECD have long emphasized these concerns—most notably through the Sustainable Development Goals (SDGs), which promote environmental and human harmony.

Paper 4: What does it mean to have or agree on a shared global educational goal, and are there better alternatives?

Jon Mason, Chee-Kit Looi, Tak-Wai Chan, Wenli Chen

Agreeing on a global educational goal means establishing a universal vision for education transcending regional, cultural, and political differences. It provides a shared direction for initiatives, fostering collective commitment to a common outcome. This goal does not diminish localized objectives addressing specific cultural or regional needs; rather, it offers a broader framework that includes and elevates these unique aims.

In the context of Global Harwell, establishing this as a global educational goal signifies worldwide commitment to prioritizing harmony and wellbeing in education. This reflects efforts to embed these values into all facets of education—from curricula and teaching methods to school culture and community engagement. Ultimately, it aims to foster global citizens dedicated to a harmonious, sustainable world, with cultural diversity and intercultural understanding as key pillars. Such aspirations have also been articulated by others. UNESCO’s 17 SDGs is the most prominent contemporary example. Notably, notions of ‘character attributes’ sit alongside a range of literacies and core competencies in frameworks depicting these skills (World Economic Forum, 2016).

We may also ask: As an educational goal shared globally, are there any better alternatives to Global Harwell? Currently, we are not entirely certain whether Global Harwell can serve as an overarching educational goal shared worldwide. There may be better alternatives, and we are actively searching for them. If we find a few, their coverage will possibly overlap with that of Global Harwell; if none are found, Global Harwell may represent the common core of all educational goals across different cultures.

Paper 5: How can Global Harwell be integrated into our educational systems?

Chee-Kit Looi, SuLuan Wong, Lung-Hsiang Wong, Fu-Yun Yu, Hyo-Jeong So, Mas Nida Md Khambari

The integration of Global Harwell into existing educational systems requires various approaches that incorporate both curriculum and instructional design, as well as stakeholder engagement. These approaches must recognize the diverse curriculum frameworks and emphasize the concepts of harmony and wellbeing. The core principles of Global Harwell—such as benevolence, equity, justice, and balance—can be embedded into the existing curricula through interdisciplinary themes (Drake & Reid, 2018). For example, the addition of global citizenship modules into courses like social studies and ethics, may drive students to consider justice and equity in the local and global contexts (Davies, 2006). Similarly, courses related to the environment could integrate the concept of ‘environmental harmony’—providing students the opportunities to understand the relationship between individual actions and global wellbeing. Through such thematic inclusions, Global Harwell’s ideals can become part of the foundational knowledge taught at all levels of education. Given the varying levels of emphasis on standardized assessments across education systems, such integration should also consider alternative ways to assess students’ engagement with Global Harwell’s principles, such as project-based learning, portfolio assessments or cross-contextual formative assessments. In essence, the revision of learning outcomes and

assessments of courses to align with Global Harwell's principles and the development of interdisciplinary subjects that explore global issues are possible integration strategies.

Educators can also apply the virtue of benevolence in classroom interactions by fostering respectful dialogue, encouraging students to appreciate diverse perspectives, and guiding them to act with empathy in collaborative learning activities. Additionally, the middle way can inform curriculum design by emphasizing balanced approaches to problem-solving, encouraging students to navigate conflicts and ethical dilemmas with moderation and fairness.

Another critical consideration is fostering learner engagement by tailoring educational content to emphasize Global Harwell's relevance in everyday life. Educators can help learners contribute to the Global Harwell goal by offering practical activities that highlight the interconnectedness of local and global communities (Billig et al., 2005). Service-learning projects, for example, might be used to foster a sense of social responsibility and justice, enabling students to take on community challenges that resonate with Global Harwell's principles. By integrating digital learning tools, including AI-assisted simulations or collaborative online platforms, students can also explore real-world scenarios that promote environmental and social harmony. The hands-on experiences will lead to students to gain insights of how their personal actions impact social and environmental harmony bridging academic learning with real-world impact (Eyler & Giles, 1999).

Indeed, educators and students play a pivotal role in achieving the Global Harwell goal. Wong et al. (2023) stressed that it is the teachers' responsibility to create a synergy between themselves and their students to create a harmonious learning environment. Teachers require professional development to acquire the necessary pedagogical skills and knowledge to integrate Global Harwell into their teaching practice (Wong et al., 2023). In particular, they could be trained to model Global Harwell virtues within the classroom, promoting an inclusive and empathetic learning environment (Gay, 2018). They need to incorporate practices that recognize and respect students' diverse backgrounds, promoting equity in participation and assessment, and encouraging respectful discourse. Students, in turn, learn to practice these values within their school communities, gradually carrying the Global Harwell's principles into their future professional and personal lives. To support this, school-wide initiatives that foster shared values—such as peer mentoring programs, student-led wellbeing initiatives, or whole-school environmental projects—can reinforce the integration of Global Harwell beyond individual lessons. To support this, school-wide initiatives that foster shared values—such as peer mentoring programs, student-led wellbeing initiatives, or whole-school environmental projects—can reinforce the integration of Global Harwell beyond individual lessons. In essence, students need to be in harmony with themselves, the people around them and also the environment (Wong et al. 2023).

With Global Harwell successfully integrated into education, future learners would emerge as individuals with a strong sense of ethical responsibility, equipped to navigate a complex world with empathy and justice, while excelling in academic knowledge. Students would also sustain their lifelong learning and creative habits to enjoy a life of satisfaction and harmony (Looi et al., 2023; Chan et al., 2018), better prepared to contribute to a peaceful, inclusive, and sustainable global society, reflecting the transformative potential of this educational goal.

Paper 6: What potential challenges or barriers might arise in the pursuit of realizing Global Harwell? How can stakeholders collaborate to overcome resistance and foster meaningful progress towards a Global Harwell world?

Fu-Yun Yu, Sahana Murthy, SuLuan Wong, Wenli Chen, Hyo-Jeong So, Mas Nida Md Khambari, Hiroaki Ogata

Even if we can all agree that Global Harwell is a universally shared educational goal, we can still anticipate some potential obstacles or challenges in our pursuit of it. First and foremost, for those in education systems with an examination-driven orientation, especially many in Asia (Chan et al., 2018) or those in Western cultures that particularly value individualism (Humphrey & Bliuc, 2022), students are prone to adopt performance-oriented goals. Situated in such educational and cultural contexts, conceivably, the values and elements of Global Harwell (e.g., positive emotions, engagement, positive relationships, meaning, accomplishment, compassion, gratitude, empathy, inclusiveness, mutual respect, benevolence, equity, justice, and the middle way) are more likely to be neglected and harder to be taken in by different involved stakeholders.

Conflicts often arise between global and local educational goals due to differing priorities and frameworks. On a local level, region or country-specific goals tend to focus on immediate, tangible outcomes such as performance in high-stakes exams, which dominate the daily routines of schools. These examinations often reinforce a system where policy goals are shaped by instrumental and economic logic, emphasizing measurable results that align with national economic priorities. This tension underscores the challenge of reconciling global

goals with localized priorities driven by economic and practical constraints. Another related issue is the marginalization of school subjects and curricular that emphasize global citizenship, interest-driven learning, and personal well-being in the school education system. These topics, which foster holistic development and prepare students to be active global citizens, are marginalized by more mainstream subject areas valued in the current high-stake exams. This line of thought raises a series of questions, possibly more, warranting serious attention from researchers and governing bodies at all levels:

- With academic excellence being placed at the forefront and deeply wired in such an orientation and educational system, how can the essential values and elements of Global Harwell be adequately and effectively addressed at the individual, family, societal, and global levels (through formal and informal programs, initiatives, activities, and designs)?
- How can various stakeholders be involved and collaborate to overcome resistance and foster meaningful progress for healthy, better, balanced human development and toward a more interconnected societal and harmonious world?
- While some constructs and concepts of benevolence, like equity, compassion, inclusiveness, and empathy, seem to be in contrast with excellence, are they really incompatible educational goals that cannot be highlighted and attained at the same time for students and organizations?
- With Global Harwell as the goal, what measures can be built at different levels in the systems, to increase heightened awareness, broader acceptance, and greater impact by all stakeholders?
- How can the attainment of different objectives of Global Harwell be validly assessed and incorporated (as part of the student developmental profile) to assist whole-person development?
- How can educators and policymakers design and implement culturally responsive pedagogies and curriculum that integrate the values of Global Harwell while respecting the diversity of local traditions, practices, and societal norms?

Paper 7. Should Global Harwell be the foundation of AI development?

Siu-Cheung Kong, Tak-Wai Chan, Chee-Kit Looi, Xiangen Hu, Lina Na Li

What role will digital technologies play in achieving Global Harwell in the Seamless AI World (SAIW)? Digital technologies, particularly AI and the metaverse, hold transformative potential for realizing the vision of Global Harwell (Al-Adwan et al., 2023; Kong & Yang, 2024). In SAIW, an interconnected era powered by AI and advanced networks, the planet appears to ‘contract,’ with geographic and cultural divides diminishing. The essence of SAIW lies in its ‘seamlessness,’ characterized by continuity (activities transcending time and space) (Chan et al., 2006; Wong & Looi, 2011), accessibility (enabled by AI), and AI-human interactions. These dimensions enable digital technologies to transcend boundaries, fostering global collaboration in addressing challenges such as climate change, social justice, and public health (Bailenson, 2018). For example, simulated metaverse experiences enhanced by AI allow learners to engage deeply with these pressing global issues while collaborating on worldwide curricula embedded with the principles of Global Harwell.

However, this interconnectedness also introduces risks (ill-seamlessness) that must be carefully managed to prevent unintended harm. The role of advanced technologies in education should extend beyond knowledge acquisition, fostering ethical, empathetic, and socially aware individuals. Without the intentional integration of technologies, such as mixed reality (VR and AR), robotics, IoT, quantum computing, blockchain, 6G, AI, and the metaverse, these advancements risk undermining human dignity, virtue cultivation, and other higher goals of humanity, ultimately jeopardizing the true purpose of education.

A key aspect of SAIW is the emergence of artificial companions (2)—advanced AI entities, such as robots or virtual beings, powered by Artificial General Intelligence (AGI) or Strong AI. These entities demonstrate human-level or superior intelligence, ethical reasoning, emotional intelligence, and social awareness. They could integrate the lifelong experiences of the humans they interact with, assuming diverse roles at different life stages. Self-driving cars and drones have already marked the dawn of the Robot Companion Age, profoundly reshaping society, workplaces, and both human-AI and human-human relationships. In 1946, the first computer was created. Today, almost everyone owns one. It may not take another 80 years—perhaps just 10 to 20 years, or a bit longer—before everyone owns one or several AGI-powered robot companions, known as General Artificial Companions (GACs). With 8 billion people today, their presence could effectively double the ‘population’ to 16 billion.

The General Artificial Companions Hypothesis (GAC Hypothesis) posits as follows:

In the Seamless AI World, as AI companions evolve and advance, individuals’ GACs will contribute 50% or more to the development of Global Harwell as their core values, as evidenced by their daily behaviors (Chou et al., 2025).

But who is shaping the world: humans or AI? If it is humans, then Global Harwell must be the foundation of AI development. Furthermore, authentic GACs must be designed by people who genuinely embrace the principles of Global Harwell as the core values of their lives. These individuals must first undergo a transformative journey grounded in human engagement and education. Only then can the GAC Hypothesis be validated.

Could the GAC Hypothesis be the Holy Grail of AI—the ultimate, long-sought goal of its development? If so, the day it is proven will mark both a technological triumph and a turning point for humanity.

Final remarks

Looking back, what has brought our world to the brink of a crisis threatening human existence? History helps us stay grounded in the present—and see further ahead. One primary reason lies in the rapid and continuous knowledge creation and technological advancement over the past few centuries. Beginning in the 18th century, the first Industrial Revolution brought machinery; the Second introduced electricity and mass production; the Third ushered in computers; and now, the Fourth is driven by artificial intelligence and automation. In such a world, a nation's pursuit of economic growth increasingly depends on the knowledge and skills of its people to keep moving forward. From this perspective, education has played a significant role. If the systems we have nurtured have led us to this point—where inequality widens, ecosystems collapse, and ethics struggle to keep pace with innovation. Is it our duty as educators to take responsibility? Without a doubt. Education shapes minds, values, and ultimately, the choices societies make. Now, as humanity stands at a defining crossroads, educators must not only reflect on how we got here—but also take on a greater role of guiding the future.

To forge ahead, we must recognize that the education we provide today will determine humanity's future. In the next two decades, today's students will become society's pillars, carrying forward the characters and values formed in their first 20 years. Embracing Global Harwell as an educational goal during this formative period, the world will reflect these values while mitigating potential misuse of knowledge and technology that could undermine them. This is our vision for future generations.

Designing education is equivalent to designing the future of the world. Educational researchers, especially those adopting technologies in education, take on an even greater responsibility to lead the change of education and, consequently, of the world. Standing as a beacon of hope for the future, education is, as Mandela said, "The most powerful weapon which you can use to change the world." Given the current conditions and needs, Global Harwell could be what education seeks today. Our collective and bold determination to achieve this goal may herald the arrival of a new epoch in educational history, bringing Immanuel Kant's *Perpetual Peace* (1795) to humanity in the process of fostering a Harwellian Globe—generation by generation, and forever.

Yet the future will not improve on its own—it may deteriorate rapidly unless we act together. The critical state of our shared humanity compels us to act without delay. Act now!

Endnotes

- (1) The idea of adopting harmony—harmony with oneself, with others, and with nature—as an educational goal emerged during discussions among Ying-Ting Wu, Ju-Ling Shih and Tak-Wai Chan around 2021, as they explored the values and ethos for a mini-experimental school inspired by Interest-Driven Creator Theory. The Global Harwell concept gradually developed and evolved as more international researchers joined the conversation. A website (<https://globalharwellgoal.org/>) was subsequently created to document the outcomes of these ongoing discussions.
- (2) Motivated by the educational promise of machine learning, Chan and Baskin (1988) proposed the idea of artificial learning companions—computers designed to act as peer-like partners in learning. Drawing inspiration from the Chinese proverb "Studying with the Prince," this concept aimed to enhance student learning through simulated companionship. For a comprehensive review of subsequent developments, see Chou et al. (2025).

References

- Al-Adwan, A. S., Li, N., Al-Adwan, A., Abbasi, G. A., Albelbis, N. A., & Habibi, A. (2023). Extending the Technology Acceptance Model (TAM) to predict university students' intentions to use Metaverse-Based learning platforms. *Education and Information Technologies*, 28, 15381-15413.
- Bailenson, J. (2018). *Experience on demand: What virtual reality is, how it works, and what it can do*. W. W. Norton & Company.
- Billig, S. H., Root, S., & Jesse, D. (2005). *The impact of participation in service-learning on high school students' civic engagement*. CIRCLE.
- Chan, T. W. (2023). *Global Harwell—Should it be our ultimate educational goal worldwide? Keynote speech at ICCE2023, Japan*. Retrieved October 11, 2025, from Global Harwell website: <https://globalharwellgoal.org/keynote.html>

- Chan, T. W. (2007). *Three orientations and four problems of technology enhanced learning*. Keynote speech at AIED2007, Los Angeles. Retrieved October 11, 2025, from Global Harwell website: <https://globalharwellgoal.org/documents.html/>
- Chan, T. W. & Baskin, A. B. (1988). Studying with the prince: The computer as a learning companion. In *Proceedings of the International Conference on Intelligent Tutoring Systems* (Vol. 194200), ITS'88, 194-200.
- Chan, T. W., Looi, C-K, Chen, W., Wong, L-H, Chang, B., Liao, C. C. Y., Cheng, H., Chen, Z-H, Liu, C-C, Kong, S-C, Jeong, H., Mason, J., So, H-J, Murthy, S., Yu, F. Y., Wong, S. L., King, R. B., Gu, X. Q., Wang, M. H., ... Ogata, H. (2018). Interest-driven creator theory: Towards a theory of learning design for Asia in the twenty-first century. *Journal of Computers in Education*, 5(4), 435–461.
- Chan, T. W., Roschelle, J., Hsi, S., Kinshuk, Sharples, M., Brown, T., Patton, C., Cherniavsky, J., Pea, R., Norris, C., Soloway, E., Balacheff, N., Scardamalia, M., Dillenbourg, P., Looi, C. K., Milrad, M., & Hoppe, U. (2006). One-to-one technology-enhanced learning: An opportunity for global research collaboration. *Research and Practice in Technology Enhanced Learning*, 1(1), 3-29.
- Chou, C.-Y., Chan, T.-W., Chen, Z.-H., Liao, C.-Y., Shih, J.-L., Wu, Y.-T., Chang, B., Yeh, C. Y. C., Hung, H.-C., & Cheng, H. (2025). Defining AI companions: A research agenda—From artificial companions for learning to general artificial companions for Global Harwell. *Research and Practice in Technology Enhanced Learning*, 20, 032. <https://doi.org/10.58459/rptel.2025.20032>
- Cohen, S. M., Curd, P., & Reeve, C. D. C. (2016). *Readings in ancient Greek Philosophy: From Thales to Aristotle*. Hackett Publishing Company, Inc.
- Davies, L. (2006). Global citizenship: Abstraction or framework for action? *Educational Review*, 58(1), 5-25.
- Duncan, R. G., Danish, J., & Ma, J. Y. (2023). *On the devastation in the Middle East and our responsibility for a better future*. Email from presidents of the International Society of the learning Sciences to all society members. Oct 12, 2023.
- Drake, S. M., & Reid, J. (2018). *Interweaving curriculum and classroom assessment: Engaging the 21st century learner*. Oxford University Press.
- Eyler, J., & Giles, D. E. (1999). *Where's the learning in service-learning?* Jossey-Bass.
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.
- Humphrey, A., & Bliuc, A.-M. (2022). Western individualism and the psychological wellbeing of young people: A systematic review of their associations. *Youth*, 2, 1-11. <https://doi.org/10.3390/youth2010001>
- Ji, L. (2011). *For a world of harmony*. UNESCO: United Nations Educational, Scientific and Cultural Organization.
- Kant, I. (1795). *Perpetual peace: A philosophical sketch*. Retrieved October 11, 2025, from Global Harwell website: http://fs2.american.edu/dfagel/www/Class%20Readings/Kant/Immanuel%20Kant,%20_Perpetual%20Peace_.pdf
- Kong, S. C., & Yang, Y. (2024). A human-centered learning and teaching framework using generative artificial intelligence for self-regulated learning development through domain knowledge learning in K-12 settings. *IEEE Transactions on Learning Technologies*, 17, 1588-1599.
- Looi, C.-K., Wong, S. L., Kong, S.-C., Chan, T.-W., Shih, J.-L., Chang, B., Wu, Y.-T., Liu, C.-C., Yeh, C. Y. C., Chen, Z.-H., Chien, T.-C., Chou, C.-Y., Hung, H.-C., Cheng, H., & Liao, C. C. Y. (2023). Interest-driven creator theory: Case study of embodiment in an experimental school in Taiwan. *Research and Practice in Technology Enhanced Learning*, 18, 023. <https://doi.org/10.58459/rptel.2023.18023>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
- OECD (2024). *Society at a glance 2024: OECD social indicators*. OECD Publishing.
- Seligman, M. (2011). *Flourish*. Free Press.
- Wong L. H., & Looi, C. K. (2011). What seems do we remove in mobile-assisted seamless learning? A critical review of the literature. *Computers & Education*, 57(4) 2364-2381.
- Wong, S. L., Khambari, M., & Tang, S. H. (2023). Role of seamless learning in enhancing Interest-Driven Creator Theory. In J. L. Shih, A. Kashihara, W. Chen, H. Ogata (Eds.), *Proceedings of the 31st International Conference on Computers in Education* (pp.760-764). Asia-Pacific Society for Computers in Education, Matsue, Japan. <https://doi.org/10.58459/icce.2023.1453>

Acknowledgements

We thank the following researchers for their support for this collective Global Harwell endeavor: Maiga Chang, Young Hoan Cho, Ronghuai Huang, Heisawn Jeong, Akihiro Kashihara Yu-Ju Lan, Chen-Chung Liu, Tanja Mitrovic, Kenji Morita, Jun Oshima, Junije Shang, and Masanori Sugimoto. We also thank Shui Chuen Lee for his comments and input on the wisdom of ancient philosophical teachings.