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# ‘Global Harwell’ in an Examination-Driven Education System and an Excellence-Pursuing Society: Possible? How? Better with Digital Technologies?

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**Abstract:** Under the societal and cultural structure where education systems are heavily driven by examinations (especially in Asia) and the pursuit of excellence reigns supreme, competing for limited educational, environmental/natural, and capital resources is prevalent and appears unavoidable. Although great socioeconomic development and scientific advances have been achieved, it inevitably comes with adverse consequences (e.g., alarmingly increasing rates of anxiety and depression, diminishing learning interest and confidence, social inequity, conflicts, divisiveness, and lack of inclusiveness). The focus of this panel is if and how ‘Global Harwell’ (a term combining ‘harmony’ and ‘wellbeing’) can direct all stakeholders involved in education to a universally shared educational goal. This panel invites a group of international scholars to share their practices and research findings on how the values, principles, concepts, and elements of ‘Global Harwell’ (e.g., positive emotions, engagement, positive relationships, meaning, accomplishment, compassion, gratitude, empathy) can be or are being actualized in educational systems, with technologies playing a supporting or an essential role at the global, societal, family, and/or individual levels, for ultimate student wellbeing and a harmonious world.

**Keywords:** Harmony, initiatives, shared global educational goal, technology-enhanced practice, wellbeing

## 1. Introduction

In education systems with an examination-driven orientation, especially many in Asia (e.g., Japan, South Korea, Singapore, India, China, Hong Kong, and Taiwan) (Chan et al., 2018), students are prone to adopt a performance-oriented goal, which is negatively associated with subjective wellbeing (e.g., depressive symptoms, school-related burnout) (Tuominen-Soini et al., 2008). In the midst of pursuing academic performance and excellence, the pressure to achieve is experienced by many students and noticed by their parents. Consequently, depression has become increasingly common among the student population and continues to be on the rise, as revealed by several large-scale surveys and reports. For instance, according to the results of a fall 2022 Pew Research Center mental health survey of parents with children younger than 18, 40% of the surveyed parents reported that they are ‘extremely’ or ‘very’ worried about their children struggling with anxiety or depression (Pew Research Center, 2023). In a survey conducted in 2018 targeting teens aged 13~17, 70% of the respondents

said that anxiety and depression is a ‘major’ problem among their peers (Pew Research Center, 2019). According to the 2016 National College Health Assessment, nearly two-thirds of the participating college students expressed ‘overwhelming’ anxiety (American College Health Association, National College Health Assessment, 2016).

In addition to the emotional stress and health problems (e.g., frequent panic attacks, stomach problems, shortness of breath, headaches, and fatigue), students are having high anxiety and low confidence toward the study subject even when they perform well, as revealed in international assessments, such as the Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) (Mullis et al., 2020; OECD, 2023). This situation warrants serious attention from the academics and governing agents. Recently, the frequent conflicts among nations have caused great turmoil and distress, calling for a collective, coordinated effort from the research community. This effort is urgently needed to ensure and promote individual wellbeing and harmony at the global, societal, family, and individual levels.

In this regard, ‘Global Harwell’ highlighting harmony and wellbeing to direct all stakeholders involved in education to the universally shared educational goal is targeted in this panel. As for a start, issues centering around ‘where, with whom, how, and why to learn,’ particularly, ‘why Global Harwell’ that have spurred collaborative discussion and endeavor among groups of international researchers are reviewed and explicated, with the role of AI technology and challenges during the pursuing process also introduced by Tak-Wai Chan. Afterwards, five panelists share their approach(es), program(s), initiative(s), strategies, and research endeavor(s), which demonstrate or experiment how the values, principles, concepts, and elements of Global Harwell (e.g., positive emotions, engagement, positive relationships, meaning, accomplishment, compassion, gratitude, empathy, inclusiveness, mutual respect) are being practiced in and integrated into their existing educational systems (e.g., curriculum and instructional design, teacher professional development, and educational policies), mostly with technologies playing a supporting or an essential role at different levels (e.g., individual classroom, school, department) for ultimate student wellbeing and a harmonious world. For this, Sahana Murthy and Su Luan Wong share a couple of school or university-based case studies from Indian and Malaysian educational systems on how such programs, initiatives, and designs align with the Global Harwell Goal and how various aspects of Global Harwell (e.g., positive emotions, positive relationships, engagement, meaning, accomplishment, empathy) are meaningfully integrated to support such goal actualization. Then, Wenli Chen and Hyo-Jeong So share their work on how to strike a balance between nurturing some targeted 21<sup>st</sup> century skills and promoting students’ wellbeing, with the power of digital technologies. Specifically, Wenli Chen address the many facets and issues involved in technological and pedagogical designs for collaborative learning, with ‘resilient’ collaborative learners and ‘positive well-being’ at heart whereas Hyo-Jeong So present two empirical studies exploring human – AI collaboration design and approaches for creative problem solving, with fostering ‘learner agency’ during the process at the core. Last, but not the least, Hiroaki Ogata share his widely adopted system, SCROLL, by Japanese educators and demonstrate how the language learning needs of refugees can be satisfied by SCROLL to ensure the values of Global Harwell Goal, including ‘inclusiveness’ and ‘equity’ are better promoted in education with technologies.

## **2. Abstracts of Individual Panelists’ Presentation**

### *2.1 Global Harwell as a Shared Global Educational Goal (Tak-Wai Chan)*

Over the last few decades, groups of international researchers have developed a series of ideas about the future of education. In the 2000s, they focused on envisioning the future learning environment (where and with whom to learn) with the emergence of mobile computing, leading to the concept of Seamless Learning. During the 2010s, their discussions centered on learning design theory, specifically how to design learning activities for future

education (how to learn), resulting in the establishment of the Interest-Driven Creator Theory. In the current decade, they focus on the purpose of learning (why to learn), culminating in the concept of Global Harwell—a potential shared global educational goal. In summary, they have pondered from where and with whom people learn, to how people learn, and ultimately why people learn—for what purpose people learn.

Why Global Harwell? The world is on the verge of catastrophe. Humanity is grappling with unprecedented challenges, including millions of deaths from COVID-19, the impacts of climate change, resource depletion, environmental pollution, widening wealth gaps, concerns about AI's adverse societal impacts, and worries over escalating global conflicts. Considering all of these, we may ask: If our planet becomes unsuitable for human habitation, if AI dominates the world, if a nuclear apocalypse occurs, and if a Third World War breaks out causing the world to end, then what is the purpose of humans creating knowledge and technology? What is the meaning of going to school? Is it still worthwhile to teach students what we have been teaching them?

In this panel, I will briefly introduce the concept of Global Harwell and outline the portrait of future global citizens in the AI era. I will discuss the role of AI technology, particularly the advent of AI companions, in shaping this perspective. Additionally, I will address the questions and challenges that we must confront in pursuing Global Harwell.

## *2.2 Designing Towards Global Harwell: Cases from the Indian Educational System (Sahana Murthy)*

The proposal for the Global Harwell initiative poses the question: Should Global Harwell be our shared global educational goal? One way to engage with this question is to look into instances wherein Global Harwell is indeed an educational goal and try to understand how various aspects of harmony and well-being are addressed in design and implementation. In this talk, I will share cases from India which align towards the Global Harwell Goal. These include efforts both at the school and higher education levels such as the Happiness Curriculum for Delhi government schools, a case from Management education and one from my own department. I hope these instances will contribute towards the conversation on 'is Global Harwell possible and how'.

## *2.3 Balancing Harmony and Wellbeing in Malaysian Classrooms: Anecdotal Insights (Su Luan Wong)*

Examination-driven education systems are still common in many Asian countries, including Malaysia. Oftentimes, Malaysian students face immense pressure to achieve high academic performance. This pressure can lead to a negative impact on their subjective wellbeing. Students cope with this pressure by adopting performance-based goals that prioritize good grades over holistic learning experiences. In Malaysian classrooms, I have observed similar patterns and taken proactive steps to foster harmony and enhance student wellbeing in both undergraduate and postgraduate courses that I teach. Using 'Global Harwell,' which emphasises harmony and wellbeing, I have devised many techniques to encourage positive feelings, engagement, and meaningful relationships to improve learning and support. For instance, I have implemented ungraded in-class activities, enabling students to interact with the learning materials without the fear of negative evaluation. This low-stakes environment encourages students to participate actively and express their thoughts freely. I have witnessed students expressing increased enthusiasm during ungraded activities, which has led to a more supportive classroom atmosphere.

Additionally, I have created multiple assignment choices to cater to diverse learning preferences and interests. This strategy is informed by the principles of the Interest Driven Creator Theory, that posits that when students' interest in learning is triggered, they create new knowledge to become habitual interest driven creator learners (Wong et al., 2023). Such flexibility empowers students to take ownership of their learning which is crucial for them to gain a sense of harmony.

I have also incorporated the HyFlex learning environment into my classroom instruction, which combines in-person and online learning modalities. HyFlex further supports student engagement by accommodating various learning styles and circumstances (Teh et al., 2023). HyFlex learning offers students reduced stress due to its flexibility in attending lectures physically or synchronously, and the ability to follow lectures asynchronously through recorded video lectures.

I strive to create a learning environment that balances between academic success and “student harwell” in my teaching practices. Through “student harwell”, educators may enhance the learning experience for students. It is important that we continue to explore and share effective practices on “student harwell”, for a more fulfilling educational journey. In conclusion, the integration of harmony and wellbeing into Malaysian classrooms has shown potential in addressing the challenges posed by examination-driven education systems.

#### *2.4 Preparing Future Ready Collaborative Learners to Harmonize the World: Technological and Pedagogical Design (Wenli Chen)*

To prepare for future workforce, the students need to learn how to talk and listen, argue, negotiate ideas and orientations, respect and navigate the differences between themselves and others, and build on each other’s ideas to achieve greater work to benefit the community and society. In today’s inter-connected yet fragmented world, collaboration is more crucial than ever. Collaborative learning will help build resilience and community in students and teachers. With the rapid development of technologies, how to design and implement effective and meaningful collaborative learning experiences and environments is pertinent for educators and researchers. How to design the learning to achieve the balance between deep cognitive learning and joy of learning? How to balance the human aspect and technology aspect to synergize the collaboration between human and technology? How to optimize the use of technology but avoid the overreliance on technologies? This talk will discuss the various dimensions of issues in CSCL design with the aim to maximize the benefits while minimize the risks to promote resilient collaborative learners with positive well-being.

#### *2.5 Learner Agency in Creative Problem Solving with Generative AI (Hyo-Jeong So)*

Creativity has always been described as a uniquely human trait that cannot be easily automated. However, with the rise of generative artificial intelligence (GenAI) such as ChatGPT, concerns are growing about whether GenAI will replace humans in various tasks and jobs. These concerns seem valid given recent data and reports indicating a gradual decline in certain jobs that are easily automated (Di Battista et al., 2023). Frey and Osborne (2017) argue that three types of tasks remain difficult to automate: perception and manipulation tasks, creative intelligence tasks, and social intelligence tasks. Additionally, Eapen et al. (2023) suggest that the potential of GenAI lies not in replacing human creativity but in augmenting it to create unimaginable solutions. Accepting that AI performance may surpass human performance in many tasks—an idea reflected in the phrase “education losing the race with technology” (OECD, 2023)—the ultimate goal of education should shift significantly to help students coexist and collaborate with AI.

To prepare students for such collaboration, this presentation shares key findings from two recent studies on creative problem solving (CPS) conducted in Korea. The first study examines how students perform CPS tasks with GenAI. Using the PISA 2022 Creative Thinking Assessment tasks, this study reveals that students exhibit different patterns of using prompts, categorized by their dependency on responses generated by ChatGPT (GenAI-centered vs. Own idea-centered). The second study proposes a new interface design for the Co-Author (Lee et al., 2021) environment, which supports collaborative writing with GenAI. This new interface includes two key functions: (a) an argumentation outline to help students generate their own ideas before using GenAI, and (b) a similarity viewer to help students become more aware of and intentional about using sentences from GenAI. Through the illustration of these two studies, I highlight the need to optimize the balance between

GenAI and human capabilities and emphasize the critical importance of fostering learner agency in the CPS process.

## 2.6 *The Role of Learning Logs for Well-being and Harmonized World (Hiroaki Ogata)*

Learning Log is defined as a record of personal learning experiences. We developed SCROLL for capturing, sharing and analyzing learning logs. This talk will introduce how SCROLL may support learners to be well-being and make the world harmonized. For example, by sharing learning logs of refugees, SCROLL can support their language learning based on their needs. Also, by analysing the learning log data, SCROLL can give personalized positive feedback to each student.

## 3. Conclusion

Pursuing excellence and equipping students with 21<sup>st</sup> century skills continue to serve as the educational goals of many institutes and organizations worldwide. Nonetheless, student wellbeing demands the same, if not more, attention from the stake-holders for student whole person development and global harmony. In this panel, how innovative learning environments and systems leveraging digital technologies are pedagogically designed for the attainment of various essential elements of 'Global Harwell' is shared and demonstrated through cases, empirical studies, and developed systems by our invited panelists who drawn upon case studies or empirical studies from India, Malaysia, Singapore, Korea, and Japan.

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